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THE US AIR FORCE MISHAP PREVENTION PROGRAM

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This instruction implements Air Force Policy Directive (AFPD) 91-2, *Safety Programs.* It establishes mishap prevention program requirements, assigns responsibilities for program elements and contains program management information. Requirements in this publication are mandatory, unless indicated otherwise. It applies to all Regular Air Force (RegAF), Air Force Reserve Command (AFRC) and Air National Guard (ANG) military and civilian personnel. For the purposes of this instruction, ANG and Air Force Reserve Command (AFRC) are included in all references to Major Commands (MAJCOMs). At enduring and contingency locations outside the United States, follow the requirements in this instruction so long as they do not conflict with applicable requirements from any of the following: host nation requirements made applicable by international agreement, Overseas Environmental Baseline Guidance Document (OEBGD) standards, country-specific Final Governing Standards (FGS), Geographic Combatant Command policy, environmental annex to operational order (OPORD), operational plan (OPLAN) or other operational directive. This instruction implements North Atlantic Treaty Organization (NATO)

Standardization Agreements (STANAGs) 3101, *Exchange of Safety Information Concerning Aircraft and Missiles,* 3102, *Flight Safety Cooperation in Common Ground/Air Space,* 3531, *Safety Investigation and Reporting of Accident/Incidents Involving Military Aircraft and/or Missiles.* Send major command, field operating agency and direct reporting unit (MAJCOM/FOA/DRU) supplements to HQ Air Force Safety Center (HQ AFSEC)/SE Org Box, 9700 G Avenue, Kirtland AFB NM 87117-5670, for coordination and approval before publication. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication;* route AF Form 847s from the field through the appropriate functional's chain of command. All requests for changes, interpretations or clarifications concerning this publication must be forwarded through the MAJCOM/FOA/DRU safety organization, who, in turn, as applicable, will forward to HQ AFSEC. The authorities to waive wing/unit level requirements in this publication are identified with a Tier (T-0, T-1, T-2, T-3) number following the compliance statement. See AFI 33-360, *Publications and Forms Management,* for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records,* and disposed of in accordance with Air Force Records Disposition Schedule (RDS). This instruction requires collecting and maintaining information protected by the Privacy Act of 1974 (5 U.S.C. 552a, DoDD 5400.11 and DoD 5400.11-R, *DoD Privacy Program*) and AFI 33-332, *Air Force Privacy and Civil Liberties Program.*

No Technical Order (TO), Instruction or Operating Instruction can address every hazard or potential hazard that may arise from a specific task or combination of tasks. Where situations exist that are not covered by existing directives, use a Risk Management (RM) process to assess risk associated with those situations and determine adequate safeguards or procedures to manage the risk. Refer to AFPAM 90-803, *Risk Management (RM) Guidelines and Tools,* for guidance on using the RM process.

Note 1: The RM process may not be used to violate any laws, directives or other regulatory guidance. Normal waiver or variance procedures must be followed in all cases (refer to this instruction). Outside of Air Force guidance, the Air Force does not have authority to grant exemptions and waivers for statutory and regulatory requirements that have risk-related exposure elements or standards. All other waivers, variances or change requests must be properly vetted through appropriate agencies for approval.

Note 2: The use of the name or mark of any specific manufacturer, commercial product, commodity or service in this publication does not imply endorsement by the Air Force.

(PACAF) This supplement implements and extends the guidance of Air Force Instruction (AFI) 91-202, *The US Air Force Mishap Prevention Program.* The purpose of this supplement is to establish policy and procedures unique to Pacific Air Forces (PACAF). This supplement applies to all in PACAF and to Air Force Reserve members assigned to PACAF units or activities. It does not apply to Air Force Reserve Command (AFRC) or Air National Guard (ANG) personnel. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records,* and disposed of in accordance with

the Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using AF Form 847, *Recommendation for Change of Publication*; route the AF Form 847 from the field through the appropriate functional chain of command. This publication may be supplemented at any level, but all direct supplements must be routed to the OPR of this publication for coordination prior to certification and approval.

(PACAF) The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360, *Publications and Forms Management*, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items.

SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. This revision establishes the Air Force Safety Management System (AFSMS) as the framework for the mishap prevention program. **Chapter 1,** *Program Overview,* introduces and provides the interface of the AFSMS within the mishap prevention program. **Chapter 3,** *Safety Assurance,* has been rewritten to ensure cohesion of the Air Force Inspection System and the required safety oversight process as it relates to Air Force safety assurance. **Attachment 17,** *Annual AFSMS Review Plan,* has been added identifying the annual review requirements for the AFSMS. Additionally, this revision incorporates Inspector General-driven waiver/tier classification throughout the publication.

(PACAF) This document has substantially revised and must be completely reviewed. This revision updated paragraph numbers to match parent AFI and associated AFGM2016-01. Additional changes include mandating tracking of safety-related training in AFSAS, to include annual Safety Privilege training. Attachment 18 has been updated to show suggested mishap response kits, rather than mandatory minimums.

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Chapter 1

PROGRAM OVERVIEW

1.1. Purpose. The purpose of the Air Force Mishap Prevention Program is to minimize the loss of Air Force (AF) resources and protect Air Force personnel from death, injuries or occupational illnesses by managing risks on- and off-duty. This program is aligned and framed using the Air Force Safety Management System (AFSMS) as the core structure. It applies to all AF organizations. **Note:** While Occupational Safety and Health Administration's (OSHA)Voluntary Protection Program (VPP) is recognized as a form of the Safety Management System (SMS), and it is closely aligned with the AFSMS, units employing VPP will still follow the USAF mishap prevention program guidance contained within this instruction.

1.2. AFSMS Vision. The AFSMS vision is for the Air Force to be a world leader in safety management and provide care for our Airmen and our environment to meet our air, space and cyberspace missions. Accordingly, the Air Force is committed to the following three priorities:

1.2.1. Compliance. Comply with all safety and regulatory guidelines.

1.2.2. Risk Reduction. Protect our assets, personnel and material by effectively identifying and managing risks.

1.2.3. Continuous Improvement. Instill a culture that encourages and supports continuous improvement.

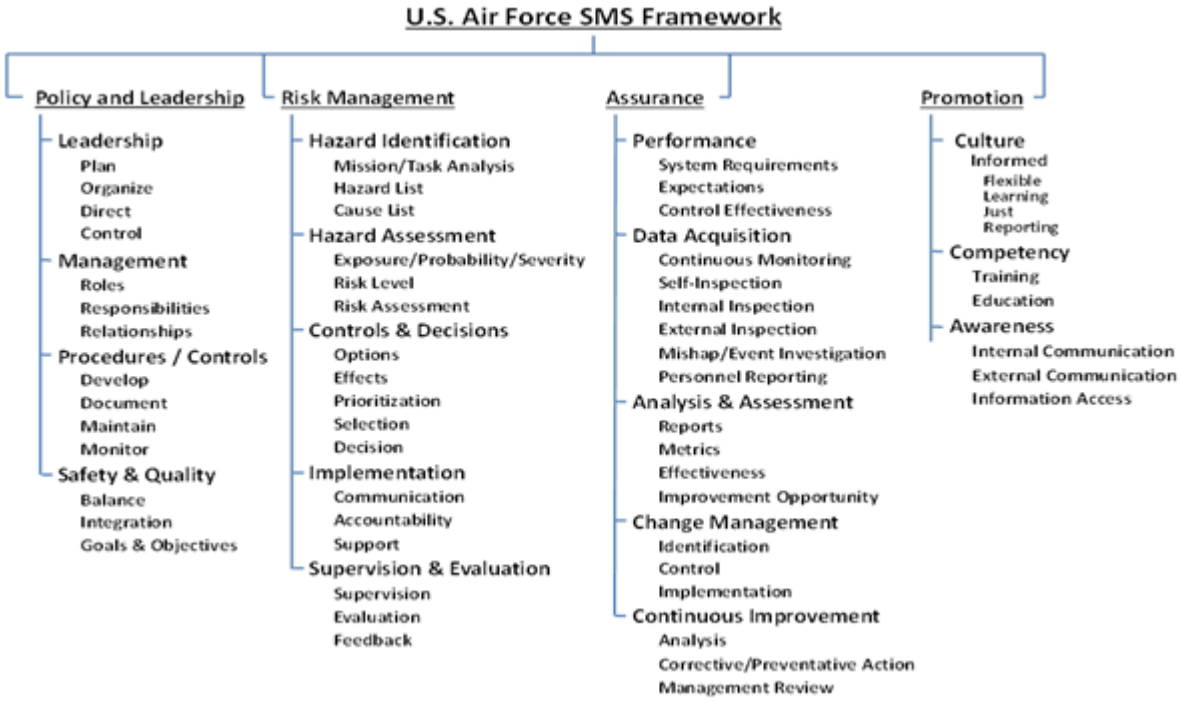
1.3. Use of AFSMS in the Mishap Prevention Program. Mishap prevention activities are assigned to one of the four Safety Management System (SMS) pillars as depicted in **Figure 1.1.** Commanders at all levels are responsible for developing and implementing a mishap prevention program utilizing the AFSMS Pillars.

Figure 1.1. AFSMS Pillars.

1.3.1. The purpose of the AFSMS is to utilize the four pillars as depicted in **Figure 1.2** as a framework for structuring the AF mishap prevention programs and activities used to minimize risk and reduce the occurrence and cost of injuries, illnesses, fatalities and property damage. Managing mishap prevention activities requires goal setting, planning, executing and measuring performance utilizing continuous improvement processes such as described in paragraph **1.5.**

1.3.2. Leadership implements the AFSMS by providing guidance and goals, establishing safety responsibility and accountability, applying risk management to all activities, and promoting the AFSMS throughout the organization. This implementation establishes the AFSMS pillars that prevent mishaps and preserve combat capability.

Figure 1.2. The AFSMS Framework.



1.4. AFSMS Pillars.

1.4.1. Policy and Leadership. Safety policy provides the framework to build a sound and proactive mishap prevention program. Active leadership involvement in the implementation and execution of the AFSMS supported at all levels of command is critical. The following are a description of policy and examples of leadership engagement:

1.4.1.1. Safety Policy. Policies form the foundation for the AFSMS, providing expectations and requirements for integrating AFSMS into the Air Force safety mission, vision, goals and objectives. Air Force Safety Policy is established through Air Force Policy Directives, and implementation is directed through Air Force Instructions (AFIs), Manuals (AFMANs) and Pamphlets (AFPAMs), defining the directives, policies, procedures and organizational structures necessary to implement the AFSMS vision.

1.4.1.2. Leaders have overall responsibility for safe operations and must clearly establish safety responsibility and accountability throughout the organization, communicating their

commitment to the safety and health of our Airmen. Safety staffs at all levels assist commanders with the implementation and integration of safety management elements into all activities.

1.4.1.3. Leaders will set safety policies and goals, and lead the mishap prevention program SMS implementation, communicating safety management throughout the organization by identifying and controlling safety risk, applying management principles and promoting a strong safety culture.

1.4.1.4. Leadership engagement examples include, but are not limited to:

1.4.1.4.1. Commitment and Responsibility.

1.4.1.4.1.1. Directing the organization to implement and maintain an AFSMS.

1.4.1.4.1.2. Providing leadership and assuming overall responsibility.

1.4.1.4.2. Accountability and Authority.

1.4.1.4.2.1. Establishing a documented safety policy and ensure the policy is communicated to Airmen.

1.4.1.4.2.2. Holding Airmen at all levels accountable for effective AFSMS implementation.

1.4.1.5. Airmen Participation. Airmen are required to be actively engaged in the mishap prevention program. The organization shall establish and implement processes to ensure effective participation by its Airmen at all levels. Proper use of the AFSMS elements ensures Airmen engagement enhances the systems' effectiveness and drives continuous improvement. Examples include but are not limited to:

1.4.1.5.1. Encouraging and supporting Airmen participation in the AFSMS.

1.4.1.5.2. Providing input to safety committees.

1.4.1.5.3. Conducting safety briefings.

1.4.1.5.4. Conducting safety-related inspections and assessments through recurring unit-level safety inspections and briefings.

1.4.1.5.5. Hazard identification and risk assessments.

1.4.1.5.6. Safety and health-related training.

1.4.1.5.7. Job Safety Analyses.

1.4.1.5.8. Utilizing safety feedback mechanisms to communicate unit safety concerns to leadership.

1.4.2. Risk Management (RM). Risk management is the key to mishap prevention. The Air Force's five-step deliberate RM process (**Figure 1.3**) is the core of the Air Force safety and mishap prevention program. RM will be utilized to the maximum extent possible to identify and assess hazards from which mitigating controls are developed. Control measures selected for implementation are then continuously monitored and analyzed to assess their effectiveness. Should there be deviations from expectations, new control measures will be implemented and the process continues. The Real-time RM (RTRM) Process, also known as the ABCD Model, is founded on the 5-Step RM Process. Streamlining the steps is essential

in situations where risk decisions need to be made quickly and in real-time. The RTRM Process provides individuals with an easy to remember mnemonic that walks them through the essential steps of the RM wheel to: Assess the situation, Balance controls, Communicate, and Decide and debrief the RM decision; hence, ABCD Model. Much more detail is available in AFI 90-802, *Risk Management,* and AFPAM 90-803, *Risk Management (RM) Guidelines and Tools.*

Figure 1.3. The Air Force 5-Step RM Process.

1.4.3. Assurance. Safety assurance is the evaluation, review and monitoring that assures commanders the elements of the mishap prevention program are being implemented, and guides continuous improvement efforts. Assurance programs measure whether organizations conform to standards and are making progress toward established goals. Assurance is enhanced using the following elements:

1.4.3.1. Evaluation and Reporting Action. Evaluate AFSMS conformance and performance through monitoring, measurements, mishap or near miss investigations, inspections, assessments and evaluations. Corrective action must be taken when non-conformance with AFSMS processes or execution of the AFSMS is identified.

1.4.3.1.1. Inspection and Assessment Process. Identify potential hazards and confirm risks during inspections and self-assessments. The Inspection and Assessment Processes focus on compliance and conformance with AFSMS and performance results achieved.

1.4.3.1.2. Safety assurance processes will concentrate on validating, through collection and analysis of objective evidence and/or data (i.e., documents, records, metrics, inspection, evaluation), that operation, process, or system expectations continue to be met or exceeded.

1.4.3.1.3. Safety assurance data acquisition will be obtained from numerous sources, including continuous program monitoring/measurement, self-inspection, independent internal process/program evaluation, external inspection/evaluation (Unit Effectiveness Inspection [UEI], Management Inspection [MI], etc.), mishap/event investigation and internal reporting systems (Hazard Reports, Airman Safety Action

Program [ASAP] reports, High Accident Potential Reports, Management Internal Control Toolset [MICT], etc.). Ensure acquired data is actionable and adequately measures operation, program process and/or system performance.

1.4.3.2. Monitoring. Commanders will determine whether the system is performing effectively and meeting regulatory requirements by monitoring the status of corrective and preventive actions, injury/illness metrics, findings of incident investigations (including near misses and close calls), inspections, assessments, audits activities, performance measures and trend analysis.

1.4.3.2.1. Sustained and Continuous Improvement Expectations. To be effective, monitoring should ensure the necessary information is available for leadership to evaluate the continuing suitability, adequacy, and effectiveness of the AFSMS. It should also help commanders set improvement targets.

1.4.3.3. Leadership Review (AFSMS Management Review). The review is for leadership and applicable process owners to conduct a strategic and critical evaluation of the conformance and performance of the AFSMS and to recommend improvements. Results and action items from this review shall be documented, prioritized, communicated to affected organizations and tracked to completion. See **Attachment 17.**

1.4.3.3.1. Implementation Expectations. After reviews, communicate expectations to each Airman and incorporate these expectations into actionable tasks with clear deliverables, and estimated completion dates. Additionally, revise program and/or system requirements, as needed.

1.4.3.4. Miscellaneous safety assurance considerations:

1.4.3.4.1. Design Review and Management of Change. This process to identify and take appropriate steps to prevent or otherwise control hazards at the design and redesign stages using tools such as System Safety or RM. Commanders, supervisors and planners will utilize change management tools, such as Plan, Do, Check, Act (PDCA), RM or AFSO21 to assess and address change-induced risks associated with operations and contingencies.

1.4.3.4.2. Procurement. Identify and evaluate potential hazards prior to purchasing products, goods and/or services. Ensure procedures and requirements are communicated to suppliers and service providers.

1.4.3.4.3. Contracts. As appropriate, include safety processes in the Performance-Based Work Statement (PWS) for contracted work.

1.4.3.4.4. Emergency Preparedness. Periodically evaluate plans IAW AFI 10-2501, *Air Force Emergency Management Program Planning and Operations.*

1.4.3.4.5. Early Intervention of Hazards. Participate in existing Air Force proactive safety programs, such as Air Force Combined Mishap Reduction System (AFCMRS) and ASAP, that provide early identification and intervention for hazards. Use such programs to identify, measure and mitigate hazards; revisit existing risk controls; and determine the effectiveness of newly implemented risk mitigations. Jointly use traditional mishap investigation data sources, i.e., Air Force Safety Automated

System (AFSAS), and proactive safety data sources, e.g., Military Flight Operations Quality Assurance (MFOQA), to measure the risk posed by hazards to operations.

1.4.3.4.6. Consultation. Safety professionals provide consultation services in regards to all aspects of safety. This includes by request, through assurance processes and/or any other opportunities.

1.4.4. Promotion, Training and Education. Ensure Airmen are provided safety awareness information, organizations have embedded ongoing training into the AFSMS, and organizations have implemented effective risk control measures.

1.4.4.1. Training and Competence. AF personnel (military, civilian) and advisory and assistance services contractors shall know the mishap prevention program requirements that apply to their daily duties. Records of training are generated and maintained as directed by this instruction and other guidance.

1.4.4.2. Communications and Awareness. AF personnel shall understand AFSMS practices regarding possible hazard identification, control and reporting procedures. Additionally, they shall understand where and how they can practically participate in the AFSMS.

1.4.4.3. Safety Culture. The ideal safety context for maximizing mishap reduction through the AFSMS should be defined as an Informed Culture; comprised of a Just Culture, Reporting Culture, Learning Culture and Flexible Culture, as described in the elements of this section.

1.4.4.3.1. The foundation of an Informed Culture is a Just Culture, which encourages personnel to provide safety-related information without fear of reprisal. A Just Culture should be continuously promoted and reinforced through leadership actions throughout organizations by encouraging members to address hazards and mitigate risk without fear of adverse actions. Commanders must encourage reporting for safety analysis and mishap prevention purposes, while establishing clear guidelines on acceptable and unacceptable behavior. In a Just Culture, the immediate response by personnel who become aware of a hazard should be to find “what happened and why,” versus “who to blame and punish.” Leaders in a Just Culture should understand and promote the notion that more can be learned through full reporting and detailed investigation than blame and punishment. A Just Culture fosters partnerships for identifying hazards and the root causes of events where safety was diminished. All personnel must clearly understand and recognize that it is unacceptable to punish all errors and unsafe acts regardless of their origins and circumstances while it is equally unacceptable to give blanket immunity from sanctions to all actions that could, or did, contribute to diminished safety. Commanders may not use safety investigation reports for any purpose except mishap prevention, but other investigations may be used as a basis for command disciplinary action, as appropriate.

1.4.4.3.2. As the second component of an Informed Culture, a Reporting Culture should be continuously promoted and reinforced by leadership actions throughout organizations by understanding the importance of voluntary reporting of safety threats and errors in ensuring the persistent capability of airpower.

1.4.4.3.3. As the third component of an Informed Culture, a Learning Culture should be continuously promoted and reinforced by leadership actions throughout organizations by showing a willingness to change procedures and practices based on uncovered hazards and mistakes before a mishap results.

1.4.4.3.4. As the fourth component of an Informed Culture, a Flexible Culture should be continuously promoted and reinforced by leadership actions throughout organizations by empowering personnel to recommend procedural and behavioral changes to manage risk.

1.4.4.4. Airmen Participation. Airmen must be actively engaged in the mishap prevention program. Each organization shall establish and implement processes to ensure effective participation by its Airmen at all levels. The AFSMS ensures Airmen engagement enhances the systems' effectiveness and drives continuous improvement.

1.5. Continuous Improvement. The AFSMS implements and supports a continuous improvement process by creating the framework to review safety conformance and performance. It creates deliberate opportunities to refine and refocus suboptimal elements as trends develop, interventions are successful or fail, new technology is introduced. While **Figure 1.2** depicts continuous improvement under the Assurance pillar, there is, in fact, a benefit of continuous improvement through execution of the mishap prevention program using all pillars of the SMS. Leaders from the squadron to the headquarters will use the PDCA methodology to ensure that continuous improvement is being accomplished. PDCA is an iterative four-step management method used for the control and continuous improvement of processes and products.

1.5.1. Plan. Establish the objectives and desired end state. Study programmatic shortfalls, emerging trends and/or changing conditions. Outline possible countermeasures and the necessary policy, programs, processes and actions necessary to deliver results IAW the expected outcome (the target or goals). By establishing output expectations, the completeness and accuracy of the specification becomes a part of the targeted improvement.

1.5.2. Do. Implement the plan, execute the process and make the product. Collect data for charting and analysis in the following "CHECK" and "ACT" steps.

1.5.3. Check. Study the actual results (measured and collected in "DO" above) and compare against the expected results (targets or goals from the "PLAN") to ascertain any differences. Look for deviations in implementation from the "PLAN" and "DO" parts of the cycle that may have affected execution. Charting data can make it much easier to see trends over several PDCA cycles and convert the collected data into information. Information is what you need for the next step "ACT."

1.5.4. Act. Request corrective actions on significant differences between actual and planned results. Analyze the differences to determine their root causes. Determine where to apply changes that will include improvement of the process or product. At the conclusion of the reviews in this part of the cycle, there should be evidence of the future direction of the SMS and any needed changes to the policy, priorities objectives, resources or other SMS elements.

1.6. Mishap Prevention Program Disciplines (Aviation, Ground, Weapons, Space, etc.). Each mishap prevention program discipline will direct more specific functional management responsibilities and RM processes via AFIs, standards and manuals. Air Force Host and Tenant safety offices will implement these programs IAW this instruction. Any inter-

organization and inter-service agreements will be addressed in formal support documents. Regardless of any support agreement or executive agency guidelines, requirements for this instruction must be satisfied. The mishap prevention program will address: **(T-1)**

1.6.1. Target groups at increased risk for mishaps, injury or illness as directed by the commander.

1.6.2. Processes for tracking and trending incidents, as well as methods for determining program effectiveness.

1.6.3. Funding for safety programs.

1.6.4. Metrics for measuring performance (See examples in **Chapter 5**).

1.6.5. Safety goals, objectives and milestones that support Air Force established goals.

1.6.6. Methods to identify and disseminate safety "best practices."

1.7. Air Force Occupational Safety and Health (AFOSH) Guidance and Applying Standards. AFOSH guidance must be followed at all times and is the minimum guidance necessary to provide a safe and healthful work environment for all Airmen and other Department of Defense (DoD)/government personnel working on Air Force installations. Air Force activities must comply with OSHA requirements at all times unless the military-unique exemption applies according to DoDI 6055.1, *DoD Safety and Occupational Health Program,* paragraph E3.4.5. AFOSH requirements shall provide equal or greater protection than applicable federal regulatory standards. All Air Force units must comply with applicable safety guidance during all Air Force operations. The Air Force may develop supplementary or alternative guidance where inadequate or no federal regulatory standards are applicable. MAJCOMs, DRUs and FOAs may supplement AFOSH guidance when additional or more stringent safety, fire prevention or health criteria are required. When there is conflicting guidance, apply that guidance which provides the most protection. **Note:** Individual 91-series safety AFOSH Standards were consolidated into AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*. However, occupational health-related standards remain documented in the 48-series AFOSH Standards. Safety offices will maintain (or have access to) a reference library to include national consensus standards and other mission-related technical and safety guidance. **(T-1)**

1.7.1. AFOSH guidance sources include:

1.7.1.1. Regulatory Federal Standards. The Air Force complies with applicable Department of Labor (DoL) OSHA , Nuclear Regulatory Commission and Department of Transportation standards incorporating specific requirements by reference into AFOSH guidance or technical orders (TOs).

1.7.1.2. AFOSH Standards and Guidance. Air Force published guidance is located at **http://www.e-publishing.af.mil**. The Air Force publishes industrial and general ground safety guidance as Air Force instructions, which implement applicable OSHA standards. In some cases, AFOSH guidance supplement OSHA standards or cover areas not addressed by OSHA, e.g., uniquely military equipment, systems and operations. Area-specific instructions and technical data include other safety criteria. When AFOSH guidance or safety criteria do not cover a situation, use non-Air Force standards including national consensus standards, professional safety and health standards, and other federal agency standards. When there is conflicting guidance, use the guidance that provides the

most protection. Refer conflicts between OSHA, AFI, AFOSH guidelines and TOs to AFSEC/SE through the appropriate MAJCOM/FOA/DRU safety office for resolution. **(T-0)**

1.7.1.3. TOs and manufacturers' guidance (e.g., Safety Data Sheets [SDS]) for specific processes, aircraft and equipment.

1.7.1.4. Reference library maintained by the installation ground safety manager to include national consensus standards and other technical and safety guidance.

1.7.2. Joint-Use Workplaces. Personnel from different DoD Components or other federal agencies working in the same workplace shall be governed by OSHA standards and any applicable alternate standards or host-agency standards, e.g., Air Force safety requirements.

1.7.3. Military-Unique Situations. OSHA standards do not apply to military-unique workplaces, operations, equipment and systems. However, DoD and Air Force policy is that OSHA standards shall apply when practicable and consistent with military requirements, unless HQ AFSEC or AFMSA/SG3P approves a variance or exemption.

1.7.4. Variances and Exemptions. The affected work center shall process a request for variance when it is impractical or impossible to meet OSHA standards or AFOSH requirements due to operational needs, mission impact or technical reasons. Variances are temporary and are normally granted for periods not to exceed five years. Exemptions grant permanent relief from a requirement and may be approved when the applicant can substantiate that their proposed methods, equipment or facilities protect the worker as well or better than the AFOSH requirements or applicable OSHA Standards. AFSEC and Air Force Medical Support Agency (AFMSA) may grant variances or exemptions to AFOSH and environmental requirements, and AFI 91-203 guidance that are more stringent than applicable OSHA requirements. Neither AFSEC nor AFMSA has the authority to grant a variance or exemption to an applicable OSHA standard. Only OSHA can grant waivers or exemptions to applicable Title 29 (OSHA) requirements, even if they are included in AFOSH guidance. AFSEC will serve as the liaison between OSHA and the Air Force when seeking OSHA safety-related waivers or exemptions. **Note:** A unit's inability to fund corrective actions does not constitute sufficient justification to request a waiver, variance or exemption. Request extensions for variances through MAJCOM/FOA/DRUs to HQ AFSEC/SEG or AFMSA/SG3/5, as applicable and appropriate. **(T-0)**

1.7.4.1. Variance/Exemption Process.

1.7.4.1.1. Affected work center personnel shall implement interim control measures and notify the installation ground safety (or tenant unit safety, if applicable), fire or health officials to validate the effectiveness of interim controls. With effective controls in place, the work center will coordinate the variance/exemption package with installation ground safety (or tenant unit safety, if applicable), fire and health officials. **(T-0)**

1.7.4.1.2. The installation safety office (or tenant unit safety, if applicable) will assemble a detailed staff package that identifies the request, rationale why the standard cannot be followed, interim control measures, drawing, maps, etc., and forward the request to MAJCOM/FOA/DRU headquarters through appropriate command safety, fire or health channels. Any tenant unit safety staff working a

variance or exemption will coordinate the product with the host safety office before sending it forward to the tenant unit's higher headquarters. **(T-0)**

1.7.4.1.3. The MAJCOM/FOA/DRU safety staff reviews and, if recommended for approval, forwards requests to AFSEC/SEG (safety-related issues), Air Force Civil Engineering Center (AFCEC)/CC (fire prevention and facilities-related issues) or AFMSA/SG3/5 (health-related issues), as appropriate, for final approval. **Note:** Requests received without MAJCOM/FOA/DRU coordination will be returned to requestor without action.

1.7.4.1.4. The MAJCOM/FOA/DRU/installation ground safety manager maintains a master file of approved variances or exemptions that apply respectively to the entire Air Force or MAJCOM/FOA/DRU/AF/installation as long as they are in effect and for one year thereafter. The safety manager distributes copies of variances and exemptions to fire protection, health and functional managers, as needed. Select variances can be found at the AFSEC/SEG website: **https://cs3.eis.af.mil/sites/OO-SE-AF-18/SEGS/default.aspx**. Functional managers or supervisors, as appropriate, must train affected employees and employee representatives on approved variances, exemptions or any special procedures required; such training will be documented. Post copies of approved variances and exemptions in affected work areas until integrated into the Job Safety Training Outline (JSTO). **(T-0)**

1.7.4.2. Written variance or exemption requests must contain: **(T-0)**

1.7.4.2.1. A description of the situation identifying the OSHA standard, AFOSH requirement or AFI 91-203 paragraph and specific reason(s) compliance is not possible or practical.

1.7.4.2.2. The number of personnel exposed to the operation or condition on a regular basis and any major items of Air Force property involved.

1.7.4.2.3. The description and risk assessment of permanent control measures planned, date they will be in place and any interim control measures used to protect personnel, equipment or property.

1.7.5. Safety Changes to Technical Orders. Process recommended changes to TOs IAW TO 00-5-1, *Air Force Technical Order System*. Send a copy of recommended changes to AFMC/SEG and AFSEC/SEG.

1.7.6. Changes to Directives. Submit requests for changes to occupational safety and health (OSH) guidelines in Air Force instructions through command channels to the directive OPR. Safety, fire and health reviews, as appropriate, shall be accomplished at each level of command between the requester and the directive OPR. Send a copy of recommended changes to HQ AFSEC/SEG, AFCEC/CEXF, and/or AFMSA/SG3/5, as applicable. **(T-0)**

1.7.7. Occupational Health. Ensure commanders, supervisors, workers and occupational environmental health subject matter experts utilize a Plan, Do, Check, Act system to assess health risks in the workplace.

1.8. Program Responsibilities.

1.8.1. The Assistant Secretary of the Air Force for Installations, Environment and Energy (SAF/IE).

1.8.1.1. The SAF/IE is the Department of the Air Force's Designated Agency Safety and Health Officer (DASHO). The SAF/IE delegates program responsibilities, except the DASHO duties, to the Deputy Assistant Secretary for Environment, Safety and Infrastructure (SAF/IEE).

1.8.1.2. Provides policy, guidance, direction and oversight of all matters pertaining to the formulation, review and execution of plans, policies, programs and budgets relative to the mishap prevention and ESOH programs.

1.8.1.3. Conducts program management reviews (PMR) of the Air Force ESOH programs, at least annually, with AF/SE and AF/SG. Reports the progress of the Air Force ESOH programs to the Deputy Undersecretary of Defense (Installations and Environment) (DUSD [I&E]), as requested.

1.8.1.4. Establishes AFSMS strategic goals and objectives, develops performance measures and assigns responsibilities in coordination with AF/SE.

1.8.1.5. Conducts Headquarters United States Air Force (HQ USAF) Environment, Safety, and Occupational Health Council (ESOHC) meetings IAW AFI 90-801, *Environment, Safety, and Occupational Health Councils.*

1.8.1.6. Collects, analyzes and reports AF-wide performance information to Office of the Secretary of Defense (OSD) IAW DoDI 6055.01, *DoD Safety and Occupational Health (SOH) Program,* DoDI 6055.04, *DoD Traffic Safety Program,* and DoDI 6055.07, *Mishap Notification, Investigation, Reporting, and Record Keeping,* as applicable.

1.8.1.7. Establish procedures for communication with interested external parties.

1.8.1.8. IAW Headquarters AF Mission Directive (HAFMD) 1-18, has authority over the AF RM Process as described in DODI 6055.01, *DoD Safety and Occupational Health (SOH) Program*, and AFI 90-802.

1.8.2. The Assistant Secretary of the Air Force for Acquisition (SAF/AQ):

1.8.2.1. Develops policy and provides guidance to ensure that technical and engineering criteria for developing and acquiring Air Force systems and equipment that conforms with OSHA standards, and AFI, AFOSH, explosives and system safety requirements as well as other applicable safety criteria to ensure safe systems and equipment are developed by the Air Force.

1.8.2.2. Coordinates guidance and federal acquisition regulations involving AFOSH matters with AF/SE, SAF/IE and Air Force Surgeon General (AF/SG).

1.8.2.3. Ensures program developmental and sustaining engineering activities include the identification and elimination of hazards when possible and the mitigation of risks for hazards that cannot be eliminated throughout the life cycle of a system or facility including operational experience, mission changes, environmental effects or system modifications.

1.8.2.4. Provides policy guidance to ensure hazards associated with decommissioning or disposal of a system are identified.

1.8.2.5. Develops Air Force policy and guidance for the implementation of safety and health requirements during acquisition and sustainment life cycle management. Ensures

contracts include applicable Federal Acquisition Regulation/DoD Federal Acquisition Regulation Supplement/Air Force Federal Acquisition Regulation Supplement (FAR/DFARS/AFFARS) safety clauses..

1.8.2.6. Includes ESOH RM concepts and responsibilities in the education and training of acquisition personnel.

1.8.3. The Assistant Secretary of the Air Force for Financial Management and Comptroller (SAF/FM):

1.8.3.1. Determines process for Risk Assessment Code (RAC) funding visibility, priority and implementation procedures for funding the abatement of safety, fire and health hazards.

1.8.3.2. Encourages use of the RAC system on Resource Allocation Programming Information Decision System (RAPIDS) used during the corporate budgeting process.

1.8.3.3. Includes ESOH RM concepts and responsibilities in the education and training of financial management/comptroller personnel.

1.8.3.4. Ensures scoring of ESOH risk data analysis for financial project management and programming.

1.8.4. The Air Force Surgeon General (AF/SG):

1.8.4.1. Establishes goals, objectives, policy and standards for occupational and environmental health.

1.8.4.2. Ensures Air Force occupational and environmental health policies meet or exceed OSHA and other applicable requirements.

1.8.4.3. Develops health-related policies which support the Air Force mishap prevention program.

1.8.4.4. Develops and facilitates use of human factors standards in mishap prevention. Ensures use of tools that address human error identification and reduction related to fatigue, stress and other emotional, psychological or physiological factors.

1.8.4.5. Provides subject matter experts (SMEs) in human factors.

1.8.5. The Deputy Chief of Staff Logistics, Installations and Mission Support (AF/A4):

1.8.5.1. Ensures maintenance and logistics policy address and comply with all applicable safety and health standards.

1.8.5.2. Ensures Air Force procedures for storing, handling, using and transporting hazardous materials and disposing of wastes comply with transportation regulations environmental statutes and occupational regulations.

1.8.5.3. Ensures civil engineering procedures, operations, technical publications and designs for new construction meet or exceed OSHA and AFOSH standards, as well as explosives and other safety criteria.

1.8.5.4. Ensures that policy addresses and mitigates the potential for human error associated with logistics and engineering activities.

1.8.5.5. Integrates ESOH RM and risk reduction into the sustainment decision-making process.

1.8.5.6. Incorporates AFSMS principles in policies, procedures and training.

1.8.5.7. Determines process for RAC funding visibility, priority and implementation procedures within the Integrated Priority List corporate process for funding safety, fire and health hazards abatements.

1.8.6. The Deputy Chief of Staff Personnel (AF/A1):

1.8.6.1. Develops policy on personnel matters relating to safety.

1.8.6.2. Provides guidance for commanders and supervisory personnel to meet accountability and performance requirements for the AFOSH program.

1.8.6.3. Serves as the OPR for Federal Employees' Compensation Act (FECA) at the Air Staff level.

1.8.6.4. Establishes a process through which Airmen are evaluated on Safety and Occupational Health (SOH) duties and responsibilities within the applicable appraisal system.

1.8.6.5. Provides guidance to ensure supervisory personnel appraisals address SOH conformance and reflect responsibility for the management of SOH programs in their area of responsibility. Such appraisals should specifically include an evaluation of their SOH program management performance.

1.8.6.6. Incorporates AFOSH program orientation into training programs for new civilian employees.

1.8.7. Headquarters, Air Force Directorate of Test and Evaluation (AF/TE). Provides direction and guidance to ensure test organizations assess safety standards and hazards prior to testing.

1.8.8. The Deputy Chief of Staff for Operations (AF/A3).

1.8.8.1. Develops policy and guidance for use and management of AF-operated operational ranges.

1.8.8.2. Ensures applicable environmental, safety and operation health programs and requirements are incorporated within operational range AFPDs and AFIs.

1.8.9. The Air Force Chief of Safety (AF/SE):

1.8.9.1. Is the OPR for Air Force safety programs.

1.8.9.2. Directs implementation of Public Law, Executive Orders, Department of Defense Directives (DoDD) and Department of Defense Instructions (DoDI) on safety.

1.8.9.3. Directs implementation of the Air Force Mishap Prevention Program within the framework of the AFSMS.

1.8.9.4. Emphasizes safety management strategies to drive safety management system requirements.

1.8.9.5. Provides direct liaison with MAJCOM Directors of Safety on safety management system implementation by providing training, SMEs and incorporating AFSMS principles into existing training courses.

1.8.9.6. Serves as the lead agent for the overall cross-functional integration and sustainment effort of AF RM processes and procedures IAW AFI 90-802 requirements.

1.8.9.7. Attends or delegates attendance to the Joint Service Safety Council.

1.8.9.8. Chairs or delegates chairmanship of the AF Senior Safety Advisory Council.

1.8.10. The Air Force Safety Center (HQ AFSEC), under the command of the AF/SE:

1.8.10.1. Develops, implements and oversees Air Force Mishap Prevention Programs within the framework of the AFSMS.

1.8.10.2. Develops safety programs, policies, goals, objectives and establishes guidelines to support and assess effectiveness of the AFSMS.

1.8.10.3. Acts as liaison for safety matters with DoD components, federal agencies and private sector groups.

1.8.10.4. Prepares and publishes Air Force Instructions covering Air Force-unique operations and provides implementation guidance for applicable standards.

1.8.10.5. In conjunction with AF/SG, develops special guidance for Air Force operations where OSHA, AFI and AFOSH guidance is not available or is inadequate.

1.8.10.6. Serves as the approving authority and repository for all safety-related variances within the Air Force.

1.8.10.7. Coordinates testing to ensure Air Force compliance with DoD Explosives Safety standards.

1.8.10.8. Develops procedural rules to ensure compliance with DoD and Department of Energy (DOE) rules related to nuclear systems.

1.8.10.9. Coordinates, facilitates, develops and provides safety education and training where appropriate.

1.8.10.10. In coordination with MAJCOMs, ensures identified safety hazards and deficiencies are managed within the hazard abatement program (**Chapter 12**).

1.8.10.11. Performs safety evaluations of MAJCOMs at least every 36 months.

1.8.10.12. Conducts Safety Program Evaluations of FOAs and DRUs with a safety staff at least once every 24 months. In conjunction with a Unit Effectiveness Inspection (UEI), qualified safety personnel must evaluate safety program management. The “boots on the ground” portion of the evaluations will be conducted as a UEI or Management Inspection (MI) IAW AFI 90-201. During the UEI, the Air Force Inspection Agency (AFIA) will sample inspection areas where there is the most risk to mission accomplishment. All safety inspection areas marked as “mandatory” in Attachment 3 of AFI 90-201 will be evaluated during all UEIs. At the discretion of AFIA leadership, AFSEC may accompany MI teams to conduct the safety checklist for a SPE. If this is to be the case, the affected safety office will be notified prior to the MI that the MI will include the SPE. Additional

information should be reviewed as needed to conduct a more complete safety program management evaluation. These items include, the annual AFSMS Management Review, trends in MICT and mishaps, results of OSHA inspections, and results of any commander-requested safety staff assistance visits conducted since the last safety program evaluation. **(T-0)**

1.8.10.13. Conducts Organizational Safety Assessments (OSA) of organizations or wings, as requested by commanders.

1.8.10.14. Reviews records disposition for functional records IAW AFMAN 33-363, *Management of Records*.

1.8.10.15. Provides and maintains a centralized suite of mishap reporting, data collection and analytical tools or resources for use at all levels of the Air Force Safety enterprise.

1.8.10.16. Conducts specialized analyses and studies at the request of the Congress, Chief of Staff, Air Force Chief of Safety, Headquarters Air Force and MAJCOM Commanders.

1.8.10.17. Provides discipline specific SME in safety and the AFSMS.

1.8.10.18. Coordinates with applicable agencies to ensure safety requirements and issues (e.g., safety related FAR clauses) are addressed in guidance and directives.

1.8.10.19. Serves as consultants on assessments, evaluations and mitigation of human factors and human performance hazards.

1.8.10.20. Performs Air Force level trend analysis and publishes results.

1.8.10.21. Serves as safety consultants for safety related investigations.

1.8.10.22. Maintains and upgrades AFSAS program, database and all associated information technology (IT) tools necessary for AFSAS operation and maintenance.

1.8.10.23. IAW AFI 90-802, serves as the lead agent for the overall cross-functional integration and sustainment effort of AF RM processes and procedures.

1.8.10.24. Conducts the AF Senior Safety Advisory Council.

1.8.10.25. Conducts the AF Ground Safety Corporate Committee.

1.8.10.26. Conducts the AF Space Safety Councils.

1.8.11. MAJCOM/DRU/FOA/Numbered Air Force (NAF)/Center Commanders:

1.8.11.1. Direct implementation and provide resources for the mishap prevention program within the framework of the AFSMS.

1.8.11.2. Establish and maintain a safety program that provides a safe and healthful workplace. Ensure command guidelines meet or exceed applicable safety program requirements.

1.8.11.3. Ensure subordinate commanders enforce compliance with safety requirements.

1.8.11.4. Ensure a process is in place for new commanders to receive training on their safety responsibilities.

1.8.11.5. Develop procedures to identify command mishap trends and direct actions and resources in order to establish goals and objectives to reverse identified adverse mishap trends.

1.8.11.6. Ensure safety program performance is included in rating of subordinate commanders, and senior civilian supervisory personnel's performance using guidance provided by AF/A1.

1.8.11.7. Establish funding priorities for hazard abatement projects during the MAJCOM corporate planning, programming and budgeting process.

1.8.11.8. Coordinate safety directives, instructions and supplements with HQ AFSEC. Subordinate unit supplements will be approved by their parent command. MAJCOM programming plans, safety annexes, CONOPs, etc., should be shared with HQ AFSEC and MAJCOM safety staffs as cross-feed items. When such documents impact other commands, coordination with HQ AFSEC is required. **(T-1)**

1.8.11.9. Ensure command personnel are aware of commander's goals and related expectations for safety.

1.8.11.10. Ensure contracts include provisions requiring contractors to maintain an effective safety and health program on Air Force-owned sites that complies with applicable DoL, DoD and Air Force safety standards.

1.8.11.11. Ensure all personnel are provided requisite formal and informal training courses, educational programs and other activities to enable them to meet their respective mishap prevention responsibilities.

1.8.11.12. Chair the MAJCOM Environment, Safety and Occupational Health Council according to AFI 90-801.

1.8.11.13. Support and ensure installations execute cooperative efforts to reduce injuries and illness across the Air Force by implementing safety and occupational health management systems throughout the Air Force.

1.8.12. MAJCOM/DRU/FOA/NAF/Center Safety Staffs:

1.8.12.1. Oversee implementation for the mishap prevention program within the framework of the AFSMS.

1.8.12.2. Evaluate management, implementation and effectiveness of the Air Force Mishap Prevention Program within the command IAW AFI 90-201, *The Air Force Inspection System*, and **Chapter 3** of this instruction. Ensure the evaluation criteria includes a qualitative rating system (e.g., 2-tier, 5-tier, etc.) with written criteria, to measure compliance, conformance and performance of the safety programs and AFSMS.

1.8.12.3. Report results directly to MAJCOM/DRU/FOA/NAF/Center Commander. Based on assessment/evaluation result, identify opportunities for continuous improvement.

1.8.12.4. Track program evaluation deficiencies and monitor corrective actions until closure.

1.8.12.5. Review and analyze applicable mishap reports from other organizations for lessons learned. Distribute mishap prevention data and other safety related communications to subordinate units. **Note:** Lessons learned can be viewed via AFSAS.

1.8.12.6. Assist and advise commanders and supervisors at all levels to understand their responsibility to ensure plans, procedures, facilities, equipment modifications/acquisitions, hardware, software and operations receive a safety review and incorporate effective RM, hazard elimination/mitigation and mishap reduction features.

1.8.12.7. Represent the cross-functional interest of their command during applicable councils, committees and meetings, e.g., Senior Safety Advisory Council (SSAC), Ground Safety Corporate Committee (GSCC), Non-Nuclear Munitions Safety Board, Explosives Safety Committee.

1.8.12.8. Coordinate with appropriate staff agencies to ensure explosives site plans comply with explosives and other safety criteria. Forwards explosives site plans for review and coordination to HQ AFSEC/SEW IAW AFMAN 91-201, *Explosives Safety Standards*.

1.8.12.9. Advocate for funding of safety training for command safety personnel. Maintain a current list of safety training courses required/completed by each career safety professional, as defined by paragraph **2.1.2,** to include name of course(s), date courses completed and courses required. MAJCOMs/FOAs/DRUs can delegate tracking of training.

1.8.12.9.1. **(Added-PACAF)** Safety personnel shall record safety-related training in their AFSAS Training Module. Chiefs of Safety are responsible for ensuring their personnel's training records are kept up to date. (**T-3**)

1.8.12.10. Advocate safety training and required funding to assist command safety personnel in meeting their continuing education unit (CEU) requirements through various funding sources available, i.e., civilian personnel, base level civilian training, AFPC, Federal Safety and Health councils, as well as organizational funding.

1.8.12.11. Evaluate local On-the-Job Training (OJT) and continuation training of safety personnel during program evaluations.

1.8.12.12. For all mishap investigations conducted by subordinate units, safety investigation boards or a single investigating officer, ensure compliance with the reporting criteria outlined in AFI 91-204, *Safety Investigations and Reports,* and the applicable manuals: AFMAN 91-221, *Weapons Safety Investigations and Reports,* AFMAN 91-222, *Space Safety Investigations and Reports,* AFMAN 91-223, *Aviation Safety Investigations and Reports,* and AFMAN 91-224, *Ground Safety Investigations and Reports.*

1.8.12.13. Review mishap investigation reports for thoroughness and accuracy, to include Class A and B mishaps investigated below the MAJCOM level. Ensure the findings, causes and recommendations of reports comply with the direction in AFI 91-204.

1.8.12.14. Ensure a process is in place to identify, train and track training of potential safety investigation board members within the MAJCOM staff.

1.8.12.15. Ensure individuals on the MAJCOM staff with access to privileged safety information receive annual training on the proper handling procedures and document the training.

1.8.12.15.1. **(Added-PACAF)** Individuals with elevated mishap roles in AFSAS shall have 'Safety Privilege' training documented in their training record in AFSAS. (**T-2**)

1.8.12.15.2. **(Added-PACAF)** Unit Administrators shall remove mishap roles from AFSAS account holders who are missing documentation or are overdue annual training. (**T-2**)

1.8.12.16. Assist commanders and functional managers on implementation and integration of RM language into command operations and instructions to include RM and risk assessment processes.

1.8.12.17. Develop supplements for AFI and AFOSH guidance when command-unique operations exist. Submit supplements to HQ AFSEC for approval prior to publication. Supplements should delineate methods for accomplishing safety program management responsibilities to include, at a minimum, guidance on:

1.8.12.17.1. The process for scheduling and conducting commander-requested Staff Assistance Visits (SAVs) for subordinate units.

1.8.12.17.1.1. **(Added-PACAF)** When requested, MAJCOM/NAF Safety offices will complete a SAV of subordinate safety offices IAW para 3.11.

1.8.12.17.2. Conducting analysis at the installation level and below; resources available to identify and analyze mishap trends and guidance on how to present this data to subordinate units and commanders for mishap prevention.

1.8.12.17.3. Command mishap reporting procedures. Tracking of all open Class A/B mishap safety recommendations with OPR within their command to closure IAW AFI 91-204. For Class C and D mishaps, and Class E events, the MAJCOM/FOA/DRU will develop internal procedures IAW AFI 91-204 for units to effectively manage final disposition of recommendations.

1.8.12.17.4. Reviewing safety alert messages (which could come from a number of sources, e.g., manufactures, users, Program Managers) and ensuring all subordinate units take appropriate actions.

1.8.12.17.5. Coordinating and processing annual and recurring safety awards IAW AFI 36-2833, *Safety Awards.*

1.8.12.17.6. Providing command unique training to subordinate units' safety staff.

1.8.12.17.7. Responsibilities and/or expectations of the NAFs in regards to the management and implementation of the Air Force Mishap Prevention Program.

1.8.12.17.8. Providing unique requirements to subordinate units for implementation into local Air Force Supervisor Safety Training (SST) classes.

1.8.12.18. Provide direction and guidance identifying documentation, by discipline, that must be uploaded in unit MICT. Refer to AFI 90-201 and AFI 33-360, *Publications and Forms Management,* for additional guidance.

1.8.13. Air Force Materiel Command (AFMC) and Air Force Space Command (AFSPC):

1.8.13.1. Develops policy and provides guidance on applying System Safety management and engineering.

1.8.13.2. Identifies and corrects product safety deficiencies, gives technical assistance to mishap investigation boards, and implements corrective action involving materiel safety aspects of mishap reports as required by AFI 91-204. Manages budgets provided for mishap investigation support.

1.8.13.3. Ensures system, aviation, space, ground, directed energy and weapons/explosives safety experts are consulted very early in the life cycles of acquisition programs.

1.8.13.4. Maintains a master hazard abatement program for centrally procured systems and equipment applied to end products.

1.8.13.5. Ensures design criteria complies with: commercial standards, military requirements and joint standards, as well as applicable AFOSH and/or OSHA requirements.

1.8.13.6. Periodically reviews design handbooks, TOs, military specifications, military standards and allowance standards (AS) to ensure safety and health criteria and procedures in those documents comply with safety guidance. Ensures human factors and reduction of human error potential are factored into the system design, through the use of System Safety Groups, Human Factors review, etc., and based upon inputs from System Safety and Human Systems Integration (HSI) activities.

1.8.13.7. Monitors the Government Industry Data Exchange Program, distributes information and corrective action to eliminate or reduce use of hazardous products.

1.8.13.8. Develops and encourages use of human factors standards in mishap prevention.

1.8.13.9. Ensures use of tools that address human error identification and reduction related to fatigue, stress and other emotional, psychological or physiological factors.

1.8.14. Air Education and Training Command (AETC):

1.8.14.1. Reviews new and revised technical training course specialty and job qualification training objectives and outlines to ensure safety requirements are being met.

1.8.14.2. Ensures mishap prevention programs and RM concepts are embedded in technical training and Professional Military Education (PME).

1.8.14.3. Incorporates AFOSH program orientation into training programs for officer and enlisted accessions and new civilian employees.

1.8.14.4. Develops and oversees safety training guidance for the development and management of formal technical training (non-flying), OJT, ancillary and additional duty training, automated training record and learning management systems, and Mission Readiness Training (MRT).

1.8.15. Installation Commanders (Host):

1.8.15.1. Direct implementation and provide resources for the mishap prevention program within the framework of the AFSMS. **(T-1)**

1.8.15.2. Provide safe and healthful workplaces for all installation personnel. **(T-0)**

1.8.15.3. Ensure leadership at all levels is held accountable for enforcing safety and occupational health standards. Based on assessment/evaluation results, identify continuous improvement opportunities, goals and objectives via the Annual AFSMS Plan. **(T-1)**

1.8.15.4. Promote safety and occupational health awareness (e.g. culture, environment and atmosphere) and enforce personal accountability. **(T-2)**

1.8.15.5. Encourage and support Airmen participation in safety and health program activities.

1.8.15.6. When appropriate, provide incentives to Airmen for participation in Airmen-led safety and health program activities. See AFI 65-601 V1, *Budget Guidance and Procedures,* for guidance regarding promotional or incentive gifts and awards, including exceptions. **(T-2)**

1.8.15.7. Develop and implement safety and health programs and RM processes that integrate hazard reduction and safety policy into on-duty and off-duty operations and activities. **(T-1)**

1.8.15.8. Serve as chairperson of the ESOHC, but may delegate to the vice wing commander. **(T-1)**

1.8.15.9. Review interim control measures and establish funding priorities for hazard abatement projects. **(T-2)**

1.8.15.10. Ensure safety and occupational health program requirements and mishap prevention are part of the measurement of group/squadron commanders and senior civilian supervisory personnel's performance appraisals using guidance provided by AF/A1. **(T-0)**

1.8.15.11. Minimize assigning full-time safety personnel additional duties not directly associated with duties described in 91-series directives and their supplements. **(T-3)**

1.8.15.12. Ensure functional managers and supervisors (rather than the safety staff) take actions to mitigate hazards and reduce risk. **(T-2)**

1.8.15.13. Integrate safety and occupational health into all operations and missions of the installation's organizations. **(T-1)**

1.8.15.14. Emphasize RM and personal accountability. **(T-2)**

1.8.15.15. Ensure the installation safety office has established written procedures to define how to support OSHA representative(s) during official installation visits or inquiries. These procedures will be approved by the installation commander. **(T-1)**

1.8.15.16. Publish guidance informing command personnel of expectations for safety and occupational health. **(T-1)**

1.8.15.17. Ensure commanders, functional managers, and requirements generators work with the base contracting office and the installation safety staff to ensure all contracts require contractors and subcontractors (e.g., contract aircraft maintenance and grounds maintenance) to provide a contractor safety and health plan (as applicable) and to promptly report pertinent facts regarding mishaps involving government personnel or property coincident to work performed as part of the Statement of Work that occur on or off an Air Force installation IAW AFI 91-204. **(T-1)**

1.8.15.18. Provide adequate funding and support for safety and occupational health program (e.g., funding for required safety training). See 29 CFR 1960.7, *Financial Management.* **(T-1)**

1.8.15.19. Ensure an annual AFSMS Management Review is performed by the safety staff IAW this instruction to determine AFSMS effectiveness and changes to the future program elements as a means of continual improvement. (**T-1**)

1.8.15.20. Ensure deployable safety personnel are properly trained prior to deployment.

1.8.15.21. Review and digitally sign annual (CY) OSHA 300 Log summaries for the OSHA establishment delineated in AFSAS NLT 30 April each year. This task may be delegated to the vice commander or executive director. AFSEC/SEG will collect all reports for submission to the Bureau of Labor and Statistics by 30 May each year. **(T-0)**

1.8.16. Installation Safety Office (host):

1.8.16.1. Oversees implementation of the mishap prevention program within the framework of the AFSMS. **(T-2)**

1.8.16.2. Advises commanders, functional managers, supervisors and workers on safety matters. **(T-2)**

1.8.16.3. Provides safety office member as an active participant of the FECA working group if one is held at the installation. Lends support to specific issues and assists with problem solving at other base meetings (e.g., Aerospace Medicine Council, Occupational and Environmental Health Working Group, Sports Councils). **(T-2)**

1.8.16.4. Manages proactive on-duty and off-duty safety programs. **(T-2)**

1.8.16.5. Conducts safety program assessments and inspections of their command subordinate units, both local and geographically separated. Conducts inspections of tenant units without an assigned safety staff or as otherwise specified IAW Support Agreements. The tenant unit inspection will include a validation of job safety training and documentation. Tracks open findings and discrepancies until closure. **Note:** Host will not perform safety program assessments or inspections of tenant organizations with full-time safety staffs, unless otherwise specified in host tenant support agreement. HAF, MAJCOM, Air Force Operational Test Evaluation Center (AFOTEC), NAF and Center safety offices are not configured as a traditional safety office IAW AFMS 106AXX and are, therefore, treated as a tenant unit without an assigned safety staff. They will follow the host program unless otherwise specified in a host tenant support agreement. Special consideration may also be needed for Guard or Reserve safety offices with only traditional Guardsmen or Reservists. **(T-2)**

1.8.16.6. Ensures appropriate assignment of OPRs or OCRs for mishap recommendations and that they are notified and actively manage the recommendations through closure, providing status updates as outlined in AFI 91-204. **(T-1)**

1.8.16.7. Manages installation master hazard abatement program. Assigns RACs to hazards and coordinates with health and fire protection officials when required. **(T-1)**

1.8.16.8. Processes hazard reports and manages the hazard reporting process. **(T-1)**

1.8.16.9. Conducts safety education programs and provides assistance to supervisors in developing Job Safety Training Outlines (JSTOs) and Job Safety Analyses (JSAs). Completes Part 4 of AF Form 1754, *Job Capability and Safety Analysis*, when submitted by Medical Treatment Facility (MTF). **(T-1)**

1.8.16.10. Reviews airfield waiver packages, to include airfield construction phasing/safety plans. **(T-2)**

1.8.16.11. Oversees Bird/Wildlife Aircraft Strike Hazard (BASH) programs in coordination with Airfield Manager, Operations and CE. **(T-2)**

1.8.16.12. Ensures mishaps are properly investigated and reported in accordance with AFI 91-204 and discipline specific manuals (e.g., AFMANs 91-221, 222, 223, 224). **(T-1)**

1.8.16.13. Ensures all personnel with access to privileged safety information are trained annually on the proper handling procedures and maintain training documentation. **(T-1)**

1.8.16.13.1. **(Added-PACAF)** Individuals with elevated mishap roles in AFSAS shall have 'Safety Privilege' training documented in their training record in AFSAS. (**T-2**)

1.8.16.13.2. **(Added-PACAF)** Unit Administrators shall remove mishap roles from AFSAS account holders who are missing privileged training documentation or are overdue annual training. (**T-2**)

1.8.16.14. Maintains a list of potential Safety Investigation Board (SIB) members who have completed the formal training requirements according to AFI 91-204 and discipline specific manuals (e.g., AFMANs 91-221, 222, 223, 224), and provides a copy to MAJCOM/SE when requested, through the NAF or Center safety office, as applicable. In addition, maintains a list of potential medical consultants for SIBs such as Psychologists, Flight Surgeons, and Aerospace and Operational Physiologists (AOP)/Aerospace and Operational Physiology Training (AOPT) team personnel who have completed Aircraft Mishap Investigation and Prevention (AMIP), Aircraft Mishap Investigation Course (AMIC), Mishap Investigation Non-Aviation (MINA) or the Aviation Safety Program Manager (ASPM) course. **(T-2)**

1.8.16.15. Provides identified potential Interim Safety Board (ISB) and SIB members training annually on the basics of mishap investigation. In addition, this annual training is also required for Operational Psychologists and AOPs/AOPT personnel who have completed the AMIP course, AMIC, MINA or ASPM. **(T-1)**

1.8.16.16. Develops and coordinates the Mishap Response Plan, addressing all disciplines, in conjunction with Installation Emergency Manager for integration with the

overall Installation Emergency Management Plan (IEMP). Ensures the plan defines roles, responsibilities and notification requirements for leadership and all involved agencies. Reviews other emergency plans and procedures to include, but not limited to: SAFE HAVEN, SAFE PARKING, HAZMAT and disaster response required by AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations.* Ensures safety concerns, procedures, notification, etc., are addressed. The IEMP should include elements of and reference existing plans concerning the following (**Attachment 3**): **(T-2)**

1.8.16.16.1. Disaster response required by AFI 10-2501.

1.8.16.16.2. HAZMAT response required by AFI 10-2501.

1.8.16.16.3. Response to aircraft in-flight and ground emergencies.

1.8.16.16.4. Response to severe weather watches and warnings.

1.8.16.16.5. Crash recovery plans.

1.8.16.16.6. Notifying and convening investigation boards.

1.8.16.16.7. Procedures for missing aircraft.

1.8.16.16.8. Procedures and training for extracting crewmembers from local and common transient aircraft.

1.8.16.17. Provides mishap prevention and education material to subordinate and tenant units. **(T-1)**

1.8.16.18. Accomplishes explosives siting requirements according to AFMAN 91-201, *Explosives Safety Standards.* Conducts review of base comprehensive plan map in conjunction with civil engineering. **(T-1)**

1.8.16.19. Assists responsible commanders and supervisors to ensure plans, procedures, facility and equipment modifications/acquisitions, hardware, software and operations receive a safety review based on RM and hazard elimination/mitigation. **Note:** Safety staff qualifications may preclude hardware and software safety reviews. **(T-2)**

1.8.16.20. Functions as primary point of contact for all federal and state OSHA visits to the installation. **(T-1)**

1.8.16.21. In collaboration with Bioenvironmental Engineering (BE), assists the contracting officer through the Multi-Functional Team (MFT) as needed to ensure that the contractor safety and health plan includes all required elements identified in the Performance Work Statement (PWS). The contractor is directly responsible for complying with federal and state OSHA standards for its employees. **(T-1)**

1.8.16.22. Administers the Safety Awards Program IAW AFI 36-2833. **(T-2)**

1.8.16.23. Prepares and briefs wing/installation commander's annual AFSMS Management Review to determine AFSMS effectiveness and changes to the future program elements as a means of continual improvement. This brief will, at a minimum, address the AFSMS effectiveness and any changes to the future program elements. This briefing may be conducted as part of the first ESOH Council of the new fiscal year, or at a minimum, it may be briefed by the Chief of Safety with the commander. Optimally, it should be briefed in November or December of the fiscal year. (**T-1**)

1.8.16.24. Delegated duties between host and tenants must be documented in a Memorandum of Agreement (MOA) or similar document, with tenant/joint base organizations' responsibilities spelled out. **(T-2)**

1.8.16.25. The Ground Safety Manager (GSM) will act as initial Evaluating Agent for retraining applicants. See **Attachment 14. (T-3)**

1.8.16.26. Prepare digital annual (CY) OSHA 300 Log summaries for commander signature for each OSHA establishment delineated in AFSAS NLT 30 April each year. This may be delegated to the vice commander or executive director. AFSEC/SEG will collect all reports from AFSAS for submission to the Bureau of Labor and Statistics by 30 May each year. **(T-0)**

1.8.17. Installation Contracting Office:

1.8.17.1. Directs implementation and provides resources to support the installation contracting role within the mishap prevention program. **(T-2)**

1.8.17.2. Ensures provisions of AFFARS Clause 5352.223-9001, *Health and Safety on Government Installations,* are included in and solicitations IAW AFFARS. **(T-1)**

1.8.17.3. Ensures contractor's past performance in safety is a consideration during the selection process for those contractors whose employees are expected to work on a government installation(s) more than 1,000 hours per quarter (this may include a comparison of the contractor's 3 year total case incident rate (TCIR) and 3 year days away, restricted and/or transfer case incident rate (DART) to the most recently published Bureau of Labor Statistics (BLS) national average for the specific National American Industry Classification System (NAICS) or other similar information). **(T-2)**

1.8.18. Medical Wing/Group Commanders:

1.8.18.1. Direct implementation and provide resources to support the installation medical role within the mishap prevention program. **(T-1)**

1.8.18.2. Ensure comprehensive and coordinated occupational and environmental health surveillance and education programs are established and implemented. **(T-1)**

1.8.18.3. Ensure patient safety programs are developed and fully implemented in compliance with DoD 6025.13-R, *Military Health System (MHS) Clinical Quality Assurance (CQA) Program Regulation*, AFI 44-119, *Medical Quality Operations,* and appropriate civilian standards. **(T-0)**

1.8.18.4. Ensure timely notification to installation safety office for any injury producing events that occurred to military members (both on duty and off duty), and DoD civilians on duty IAW AFI 44-102, *Medical Care Management*. At a minimum, the following medical information will be released to fulfill requirements for OSHA injury reporting as defined in DoDI 6055.07, *Accident Investigation, Reporting, and Record Keeping,* and AFI 91-204: **(T-0)**

1.8.18.4.1. Name of the injured individual,

1.8.18.4.2. Social security number,

1.8.18.4.3. Organization,

1.8.18.4.4. Date of injury,

1.8.18.4.5. Date of treatment,

1.8.18.4.6. ICD-9 diagnosis of injury, a brief description of the nature of the injury,

1.8.18.4.7. Severity of injury, whether the treatment given was greater than first aid (as defined by 29 CFR 1904.7 (b) (5) (i)), if the individual was placed on quarters (and how long) and if the individual was hospitalized and the estimated hospital duration.

1.8.18.5. Medical information will be released to safety personnel for military members treated in the MTF for on-duty or off-duty injuries, and for civilian members treated in the MTF for on-duty injuries. **(T-0)**

1.8.18.6. When the MTF discovers that injured individuals (military on duty or off duty and civilian on duty) are seen at a civilian hospital or clinic, as much injury information listed above that is obtained will be reported to safety. IAW DoD 6025.18-R, *DoD Health Information Privacy Regulation*, all disclosures to the safety office must be documented by the MTF and kept by the MTF for a period of six years. **(T-0)**

1.8.18.7. MTF Covered Entities should develop local policy in coordination with their assigned Medical Law Consultant (MLC).

1.8.18.8. Ensure occupational illnesses are thoroughly investigated and reported using the Occupational Illness Module and AFSAS. **(T-1)**

1.8.18.9. The Chief of Aerospace Medicine (SGP) or Occupational Medicine physician:

1.8.18.9.1. Provides oversight for the occupational health program and ensures medically appropriate risk assessment and medical surveillance activities are conducted IAW AFI 48-101, *Aerospace Medicine Operations*, AFI 48-145, *Occupational and Environmental Health Program*, DoD 6055.05-M, *Occupational Medical Examinations and Surveillance Manual*, and CFR Title 5 Part 339, *Medical Qualification Determinations*. **(T-0)**

1.8.18.9.2. Provides consultative services on occupational and environmental health and safety issues that affect the framework of the AFSMS. **(T-2)**

1.8.18.9.3. Provides urgent clinical services for occupational injuries and occupational illnesses in DoD civilian employees. Performs routine surveillance, periodic evaluation, fitness for duty evaluations, pre-placement evaluations and disability evaluations IAW AFI 48-101, AFI 48-145, DoD 6055.5-M and CFR Title 5 Part 339. **(T-0)**

1.8.18.9.4. Maintains a list of Flight Surgeons who are potential medical officers on ISBs or SIBs and track the dates of the AMIP training and previous SIB experience. In addition, tracks AOPs/AOPT personnel and Psychologists who have completed AMIP, AMIC, MINA or ASPM courses. Provides a list to installation Chief of Safety (COS) and MAJCOM SGP. Ensures Flight Surgeons, trained Aerospace and Operational Physiologists, AOPT personnel and Aviation Psychologists are trained annually on the basics of mishap investigation and privilege by the installation safety staff or flight safety officer (FSO). **(T-2)**

1.8.18.9.5. Attends the FECA Working Group if one is held at the installation. Medical participation in FECA program will be IAW DoD 1400.25-M, *DoD Civilian Personnel Manual*, Sub**chapter 810**, *Injury Compensation.* Participates in military and civilian lost work/duty time initiatives. **(T-1)**

1.8.18.9.6. Accomplishes additional occupational health and safety responsibilities as delineated in AFI 48-101. **(T-2)**

1.8.18.10. Flight Surgeons/AOP/AOPT Teams.

1.8.18.10.1. Direct implementation and provides resources to support the installation medical role within the mishap prevention program. **(T-2)**

1.8.18.10.2. Provide human performance and human factors analysis on identified hazards and evaluate controls to reduce or mitigate risks. **(T-2)**

1.8.18.10.3. Support the wing's aircrew flight equipment and flying safety programs. **(T-2)**

1.8.18.10.4. Assist in targeted ground safety improvements, training of wing ground safety managers and unit safety representatives in human factors and human factors hazard mitigation strategies. Provide consultant services for ground safety activities and investigations. **(T-2)**

1.8.18.10.5. Support wing RM, crew resource management, and maintenance resource management programs to optimize war fighter performance and safety in the operational environment. **(T-2)**

1.8.18.10.6. Act as Human Systems Integration consultants for aircraft, space, weapons and Warfare Centers at the wing level. **(T-2)**

1.8.18.10.7. Provide ISB/SIB members for military mishaps IAW AFI 91-204, *Safety Investigations and Reports,* and its related AF Manuals. **(T-1)**

1.8.18.11. Bioenvironmental Engineering (BE):

1.8.18.11.1. Manages the occupational and environmental health surveillance programs according to AFI 48-145, AFMAN 48-146, *Occupational and Environmental Health Program Management,* AFMAN 48-154 *Occupational and Environmental Health Site Assessment,* and AFMAN 48-155 *Occupational and Environmental Health Exposure Controls*. Identify health-related deficiencies and assign health-related RACs. **(T-1)**

1.8.18.11.2. Conducts occupational and environmental health evaluations and health risk assessments of workplaces, maintains survey reports, as required (IAW DoDI 6055.5), and provides access to all documents at request by the worker, supervisor or union representative as permitted by governance such as the Privacy Act, FOIA, etc. **(T-0)**

1.8.18.11.3. Performs health risk assessments and notifies safety office of assigned RACs within the framework of the AFSMS. **(T-1)**

1.8.18.11.4. Maintains access to pertinent health-related OSHA standards/ guidelines, AF requirements, and other OSHA guidelines pertaining to occupational health. **(T-0)**

1.8.18.11.5. Attends all DoL OSHA inspector in-briefs and out-briefs, and accompanies inspectors during all health-related inspections. **(T-1)**

1.8.18.11.6. Determines the need for and adequacy of occupational health-related personal protective equipment (PPE), engineering controls and administrative controls to reduce exposures. **(T-1)**

1.8.18.11.7. Maintains the ability to provide SDSs upon request for all hazardous materials used in the industrial workplaces on the installation. **(T-1)**

1.8.18.11.8. Provides radiological protection program management as the installation radiation safety officer, when appointed, IAW AFI 40-201. **(T-1)**

1.8.18.11.9. As needed, provides a representative to the FECA Working Group to offer BE-rated expertise. **(T-2). Note:** At non-collocated AFRC installations BE is the fulltime BE/Public Health Office that is aligned under the Mission Support Group. At collocated AFRC Wings/Groups, where active duty is host and AFRC units are tenant, BE is aligned under the active duty Military Treatment Facility (MTF). A Host-Tenant Support Agreement (HTSA) between the active duty host and AFRC tenant shall outline support provided by the active duty BE Flight to AFRC units.

1.8.18.11.10. Identify health-related RACs using the Defense Occupational and Environmental Health Readiness System (DOEHRS).

1.8.18.12. Public Health (PH):

1.8.18.12.1. Communicates occupational health education requirements and available resources to supervisors. Responsible as the initial point of contact for occupational medical monitoring. **(T-1)**

1.8.18.12.2. Reports cases of occupational illness to the installation ground safety office through AFSAS. **(T-1). Note:** At non-collocated AFRC installations PH is the fulltime BE/PH Office that is aligned under the Mission Support Group. At collocated AFRC Wings/Groups, where active duty is host and AFRC units are tenant, PH is aligned under the active duty MTF. A HTSA between the active duty host and AFRC tenant shall outline support provided by the active duty PH Flight to AFRC units.

1.8.18.12.3. Investigates and reports occupational illness IAW AFI 91-204 within the framework of the AFSMS. **(T-1)**

1.8.18.12.4. Provides a representative to actively participate in the FECA working group and the ESOHC to provide consultation on epidemiology, occupational illnesses and other occupational health program areas, where applicable IAW AFIs 48-145 and 48-101. **(T-1)**

1.8.18.13. Psychologists who are AMIP, AMIC or ASPM trained or have completed a post-doctoral fellowship in operational psychology will work in conjunction with Flight

Surgeons to provide consultant services on human factors investigations and analysis of military aircraft mishaps. **(T-2)**

1.8.19. Installation Civil Engineers:

1.8.19.1. Direct implementation and provide resources in support of the civil engineering role within the mishap prevention program. **(T-1)**

1.8.19.2. Provide cost data and status information on hazard abatement actions associated with real property facilities and real property installed equipment. Coordinate corrective actions with installation safety. **(T-2)**

1.8.19.3. Coordinate siting and construction plans with the installation safety office and ensure explosives site plans have been approved before beginning construction as required in AFMAN 91-201. **(T-1)**

1.8.19.4. Ensure an environmental review and coordinate new construction, facility modification projects or work request documents with installation safety, fire protection, environmental management and BE officials. Also, ensure they are included in associated project approval, design review meetings and acceptance inspections. **(T-2)**

1.8.19.5. Notify safety, environmental management, BE and fire protection of major base maintenance projects (e.g., digging permits, road markings, welding projects outside the civil engineering shops). **(T-2)**

1.8.19.6. Ensure RACs are incorporated into project prioritization for corrective actions. **(T-2)**

1.8.19.7. Coordinate airfield waiver packages with airfield manager, installation safety office and installation commander. **(T-2)**

1.8.19.8. Perform fire investigations IAW DoDI 6055.07 and AFI 91-204. For incidents that meet the Class C thresholds, the installation Fire Chief determines the most probable cause. For incidents that meet the Class A and B thresholds, the SIB President will request support from the MAJCOM Fire Emergency Services (FES) staff to conduct the fire investigation. Any time FES tactics or competency is at issue, the convening authority will request investigative support from the MAJCOM FES staff. **(T-2)**

1.8.19.9. Provide traffic engineering expertise. **(T-2)**

1.8.19.10. Team with the multi-functional team (MFT) to ensure contractor operations are compliant with safety and health requirements of the contract. **(T-2)**

1.8.19.11. Provide a foundation informational map and facility data (common installation picture [CIP] and real property inventory [RPI]) for safety users to apply and publish their unique map(s). Any changes to CIP or RPI data must be coordinated with the installation safety office. **(T-1)**

1.8.20. Security Forces (SF Commander):

1.8.20.1. Direct implementation and provide resources to support the security forces role within mishap prevention program. **(T-1)**

1.8.20.2. Provide a copy of SF blotter entries involving injury or death resulting from a mishap, motor vehicle mishaps (GMV/PMV), property damage as a result of a mishap,

and any others as deemed appropriate by the SF commander. Provide completed investigation reports when requested by COS or GSM. Blotter entries may be retrieved electronically or through the appropriate SF office after they have been processed. **(T-1)**

1.8.20.3. Notify command post on all safety related issues as determined in a locally devised installation notification matrix. **Note:** Report those incidents which require immediate response or follow-up action by safety or other personnel. Command Post will, in-turn, immediately notify the appropriate safety office and other agencies as required. **(T-1)**

1.8.20.4. Upon request from COS or ground safety (host or tenant unit), liaison with local or state law enforcement to obtain off-base traffic accident reports and/or data. **(T-1)**

1.8.20.4.1. Traffic accident reports may include vehicle accident involving death or serious injury to a military member, DoD civilian or dependent of active duty member.

1.8.20.4.2. Traffic accident data may include areas which are identified as high traffic incident areas or areas which travel is deemed unsafe (as deemed by the installation commander) under certain conditions.

1.8.21. Commanders below installation level:

1.8.21.1. Direct implementation and provide resources for the mishap prevention program within the framework of the AFSMS. **(T-1)**

1.8.21.2. Implement a safety and health program in their unit or area of responsibility. Where commanders are not authorized full-time safety personnel, they will appoint a primary and alternate Unit Safety Representative (USR) to assist them in implementing their safety program. USR responsibilities for managing the commander's program are identified in paragraph **2.2.** Notify the host safety office, in writing, of the appointment of USRs in order to schedule USRs for training. **(T-1)**

1.8.21.3. Ensure safety and health training and off-duty safety information and briefings are provided to all personnel based on requirements from other regulatory guidance and the specific needs of the organization. **(T-1)**

1.8.21.4. Actively implement and use RM principles at all levels within the unit. **(T-2)**

1.8.21.5. Ensure a proactive mishap prevention program is implemented to include procurement and proper use of PPE, and facility compliance with AFOSH and OSHA standards. **Note:** Overseas installations may need to apply host nation standards versus OSHA standards. **(T-2)**

1.8.21.6. Ensure all appropriate hazard abatement actions needed to control identified hazards are implemented and follow-up actions are complete. Keep fire, safety and BE offices, as appropriate, updated on all abatement actions with updates every 30 days until hazard is abated. **(T-1)**

1.8.21.7. Ensure request for equipment, products and services using purchase orders and/or Government Purchase Card are reviewed for potential safety and health impact IAW AFI 64-117, *Air Force Government-Wide Purchase Card (GPC) Program*, and AFI

32-7086, *Hazardous Materials Management*. **Note:** Ensure government purchase card program addresses requirement to coordinate purchase of hazardous chemicals, munitions and industry equipment through installation safety offices. **(T-2)**

1.8.21.8. Ensure all personnel are trained on the objectives and principles of RM in accordance with AFI 90-802. Use RM to identify, reduce or eliminate risk in all activities. **(T-1)**

1.8.21.9. Establish a management strategy integrating safety and health into all operations and missions and ensure functional managers and supervisors take actions to mitigate hazards and reduce risk. **(T-1)**

1.8.21.10. Ensure all personnel are briefed on the findings and recommendations contained in occupational and environmental health risk assessments and reports. A copy of the survey report will be posted in a conspicuous location in the work place for a period of 10 days after receipt to allow all workers free access to the findings. These reports will be maintained on file in the work place for a minimum of two years. **(T-0)**

1.8.21.11. Provide the opportunity for Airmen to participate in safety and health program activities and/or committees. **(T-1)**

1.8.21.12. Communicate safety and health expectations to personnel in their command. Hold personnel accountable for compliance with applicable standards. **(T-1)**

1.8.21.13. Are encouraged to establish an off-duty High Risk Activities (HRA) Program to ensure personnel participating or planning to participate in high-risk activities take appropriate safety measures to reduce the likelihood of their involvement in a mishap. High risk activities are defined in **Attachment 1,** while **Attachment 11** contains sample guidance for those units that may adopt the optional program. **Note:** MAJCOMs can define their own list of high risk activities. Briefings may be documented on AF Form 4391, High Risk Activities Worksheet. See **Attachment 11** for example guidance. If commanders or supervisors at any level choose to make this program mandatory it will apply only to military personnel on active duty.

1.8.21.13.1. **(Added-PACAF)** Commanders shall establish a HRA program utilizing at least the minimum activities and procedures in the most current PACAF HRA Guide. (**T-2**)

1.8.21.13.2. **(Added-PACAF)** Supervisors, or designated personnel, shall provide HRA briefings to subordinate personnel to ensure personnel take appropriate safety measures to reduce the likelihood of their involvement in a mishap. (**T-2**)

1.8.21.14. Commanders of units with motorcycle riders appoint, in writing, at least one motorcycle safety representative to coordinate the motorcycle safety program IAW AFI 91-207, *The US Air Force Traffic Safety Program.*

1.8.21.15. Where commanders below the installation level, including tenant unit commanders, have an assigned safety staff, ensure an annual AFSMS Management Review is performed by the safety staff IAW this instruction to determine AFSMS effectiveness and changes to the future program elements as a means of continual improvement.

1.8.21.16. Ensure applicable OSH guidance for the workplace and operations are available to personnel.

1.8.22. Workcenter/Shop Supervisors:

1.8.22.1. Direct implementation and provide resources for the mishap prevention program within the framework of the AFSMS. **(T-1)**

1.8.22.2. Understand and enforce the safety and health standards that apply to their areas, operations and operations involving their subordinates. Demonstrate knowledge of their roles and responsibilities with relation to risk management and mishap prevention. **(T-1)**

1.8.22.3. Use RM techniques to analyze work environment and job tasks for hazards. Conduct a JSA for each work task not governed by TO or other definitive guidance and anytime a new work task or process is introduced into the workplace to determine potential hazards. Refer to **Attachment 5,** *Job Safety Analysis* (JSA), for additional guidance. **(T-1)**

1.8.22.4. Provide and document work area specific safety, fire protection and health on-the-job training to all Air Force military and civilian employees before assigning them duty tasks requiring this specific training. Review work processes annually, when new tasks or equipment are added, or when existing tasks change, whichever comes first. **(T-0)**

1.8.22.5. Develop a work center specific JSTO based on **Attachment 4,** *Job Safety Training Outline (JSTO)*, on safety, fire protection/prevention and health requirements. Documents will be maintained and centrally located, readily available to supervisor and individual. The 16 mandatory items can be documented as one item, i.e., course code for JSTO mandatory training. Job specific items and any additional training identified in a BE survey will be documented individually, as appropriate. **(T-0)**

1.8.22.5.1. Methods of documentation may include, but are not limited to, the AF IMT 55, *Employee Safety and Health Record*, electronic mediums such as AFFORMs/MAF LOG C2/G081 or locally developed products. If the AF IMT 55 is mandated for use as the training documentation device, the entity that mandated the form usage will prescribe the requirement in writing to include entries that require signatures, e.g., HAZCOM, respirator, powered industrial trucks, lockout/tagout, fall protection, confined spaces, radiation safety, laser safety, etc. **Note:** Training requirements vary, i.e., some documents may require the signature of the supervisor or the person who conducted the training, while other documents may require the initials of the individual (trainee) and trainer/supervisor. **(T-0)**

1.8.22.5.2. Documentation will contain the following minimum data: trainee name (last, first, middle initial), type of training and date of training. Neither the trainer or trainee signature is required unless specified in writing by the applicable chain of authority. **Note:** If the Integrated Maintenance Data System (IMDS), Core Automated Maintenance System (CAMS), etc., cannot support minimum documentation requirements, then they are not suitable as a documentation product. **(T-0)**

1.8.22.6. Provide and document additional training when there is a change in equipment, procedures or processes that affect the safety, health or work environment of personnel. **(T-0)**

1.8.22.7. Exercise control over job tasks to ensure personnel follow all precautions and safety measures, including the proper use of PPE. **(T-1)**

1.8.22.8. Report all mishaps that occur on duty and all off duty mishaps involving assigned military personnel, and related subsequent Airmen absences to the supporting safety office IAW AFI 91-204. Inform the Civilian Personnel Office if a mishap involves a civilian employee and complete the required CA/LS form. **(T-1)**

1.8.22.9. Ensure AF Form 1118, *Notice of Hazard*, issued by safety, fire protection or BE officials is posted to alert Airmen to the hazardous conditions, interim control measures, and ensure actions are taken to promptly eliminate hazards and correct deficiencies. Ensure any hazards identified by an AF Form 1118 are added to the JSTO and employees are trained on the interim control measures and documented IAW **Attachment 4,** Section **A4.4. (T-1)**

1.8.22.10. At the deployed or temporary duty (TDY) location ensure subordinates receive a safety briefing from the deployed location safety staff on known hazards associated with TDY location. **(T-1)**

1.8.22.11. At deployed locations provide and document Job Safety Training as specified in paragraph **1.8.22.5.** Supervisors shall ensure copies of documented training arrive and leave with deployed personnel. **(T-1)**

1.8.22.12. Are encouraged to provide an interactive pre-departure safety briefing to all active duty military personnel, reserve component personnel in a duty status and civilian personnel performing official duties scheduled for travel outside the local area. Additionally, they are recommended to provide and encourage a departing member to complete a TRiPS survey prior to departure at **https://trips.safety.army.mil/airforce/Home.aspx**. While potentially effective for all ages, the briefing is especially targeted for personnel under the age of 26. This briefing may be documented on AF Form 4392, *Pre-Departure Safety Briefing.* See **Attachment 10** for recommended guidance.

1.8.22.13. Attend Air Force Supervisor Safety Training (SST). **(T-1)**

1.8.22.14. Conduct and document spot inspections of their work areas IAW paragraph **3.7** of this instruction. **(T-1)**

1.8.22.15. Upon notification that a military worker is pregnant, ensure that worker reports to Public Health immediately in order to ensure she receives appropriate education and a workplace evaluation. Advise pregnant civilian workers of the same opportunities, and allow her to go to Public Health is she desires to take advantage of the program **(T-1)**

1.8.22.16. Encourage and support employee participation in safety and health program activities and/or committees. **(T-2)**

1.8.22.17. Ensure personnel requiring occupational health medical examinations attend scheduled medical appointments. **(T-2)**

1.8.22.18. Ensure safety program requirements are part of measurement of non-supervisory personnel's performance appraisals using guidance provided by AF/A1. **(T-2)**

1.8.22.19. Ensure applicable OSH guidance for the workplace and operations are available to personnel.

1.8.23. Individuals:

1.8.23.1. Comply with all safety instructions, technical orders, job guides and operating procedures. Demonstrate knowledge of their roles and responsibilities with relation to risk management and mishap prevention. **(T-1)**

1.8.23.2. Consider personal safety and the safety of coworkers while performing assigned tasks as well as off-duty activities. Identify and report hazardous conditions that place Airmen or property at risk. Use the AF Form 457, *USAF Hazard Report*, when necessary. **(T-2)**

1.8.23.3. Report personal injury, property damage and any suspected exposure to biological, chemical or nuclear hazardous materials to their supervisor as soon as possible, but not to exceed 24 hours. **(T-1)**

1.8.23.4. Immediately report to their supervisor if they believe that they have a physical or mental condition that they feel may impact safe job performance. **(T-1)**

1.8.23.5. Use and maintain recommended and appropriate PPE for job tasks. Inspect and maintain PPE in accordance with TO, manufacturer's instructions or BE guidance. **(T-0)**

1.8.23.6. Apply RM principles in both on-duty and off-duty activities to enhance the safety and well-being of themselves and other personnel. **(T-2)**

1.8.23.7. Decline to perform an assigned task if they reasonably believe the task poses an imminent risk of death or serious bodily harm to themselves or others (except in a combat environment). The individual and/or local management may request an assessment by installation safety, fire protection or health professionals before proceeding. **(T-1)**

1.8.23.8. Military members will immediately notify their primary care managers of a known pregnancy and make an appointment with Public Health to initiate a workplace evaluation for exposures that may be hazardous to the fetus and determination of work restrictions. Government civilian employees are encouraged to notify their supervisor and make an appointment with Public Health for a workplace evaluation, but are not required to do so. Any worker with questions regarding how their worksite exposures can affect immediate family members (e.g. spouse, children) should contact Public Health. **(T-1)**

1.8.23.9. Have the opportunity to participate in safety and health programs without fear of coercion, discrimination or reprisal. Participation in safety committees is encouraged.

1.8.23.10. Use official on-duty time to take part in safety activities. **(T-2)**

1.8.23.11. Hand-carry or electronically transfer safety training documentation as specified in paragraph **1.8.22.5** to the new supervisor when deploying or transferring to another Air Force position/location. **(T-1)**

1.9. Waivers. When complying with official policy, guidance and/or procedures that have been designated with a Tier Waiver Authority number, i.e., T-1, T-2 or T-3 (Refer to **Attachment 1** for definitions), the unit may request a waiver IAW AFI 33-360, *Publications and Forms Management.* In addition to the waiver requirements of AFI 33-360, the following are included for this instruction:

1.9.1. Reevaluate risk throughout the waiver period and adjust risk controls as necessary IAW AFI 90-802. **(T-1)**

1.9.2. Each commander/director will keep, at a minimum, the previous commander's/director's waivers on file IAW their file plan. **(T-1)**

1.9.3. Ensure a copy of the approved waiver is sent to the OPR of the affected AFI. **(T-1)**

1.9.4. Waivers related to explosive safety must be processed IAW AFMAN 91-201. **(T-1)**

Chapter 2

SAFETY ORGANIZATION

2.1. Safety Staff. All safety disciplines will be consolidated under a single Director or COS, as applicable. Full-time safety personnel must be trained and qualified to manage safety programs, and be able to function at the staff level. Use the Air Force Manpower Standard (AFMS) 106AXX to determine the size of the safety staff. AFRC units use applicable AFRC Command Manpower Standard or Guides to determine safety staff size. All safety manpower requests or changes will be coordinated with the MAJCOM/SE before submission to the local management engineering team. Manpower variances can be submitted for safety staffs that conduct special programs IAW AFMS 106AXX. **Note:** The size of safety staffs for Joint Bases and other non-host units excluded by the AFMS 106AXX will be determined in a collaborative effort between the unit involved, the MAJCOM safety office and the applicable manpower staffs. **(T-2)**

2.1.1. Chief of Safety. The COS (or Director in a civilian-led unit or MAJCOM/FOA/DRU) reports directly to the commander and manages the mishap prevention program for the commander (e.g., installation, center, NAF/MAJCOM/FOA/DRU commanders). The COS must be qualified in a primary mission weapons system of the unit or if the COS is a civilian position, have a Safety Officer who is qualified in a primary mission weapon system. Civilian COS must meet the qualification standards for Occupational and Health professional stated in the Office of Personnel Management (OPM) classification series, GS-0018 or GS-0803. MAJCOM/FOA/DRU Directors of Safety will have previous safety experience. The AFRC equivalents to the above are AFRC Air Reserve Technician (ART) COS which are 2181-series (pilot)/2183-series (navigator) civilians. **(T-2)**

2.1.1.1. Active duty military COS will be selected from a current or previous Squadron Commander/Director of Operations/Chief of Safety list; or be a former Squadron Commander. MAJCOM/CV or above has waiver authority for this requirement. **(T-2)**

2.1.1.2. Assigned individuals must complete the Chief of Safety Course (WCIP05B) within 90 days of assuming the COS position. Air Force Reserve and ANG COSs may substitute the Air Reserve Component Chief of Safety course (ARCCOS101) and should make every effort to complete the requirement within 90 days of assuming the COS position. However, in no case will Air Force Reserve and ANG components exceed a 180 day limit. Waiver authority for this requirement is HQ AFSEC/SEF. **(T-1)**

2.1.1.3. Assigned individuals must be available to serve as COS for a minimum of one year after completion of training. **(T-1)**

2.1.1.3.1. **(Added-PACAF)** Notification/Waiver Procedures. Commanders shall notify HQ PACAF/SE of appointments of new Chiefs of Safety. (**T-2**)

2.1.1.3.2. **(Added-PACAF)** In units with multi-place aircraft, either the Chief of Safety or the FSO must be a rated aircrew member. (**T-2**)

2.1.2. Career Safety Professional. The Air Force has an enlisted safety career field (Air Force Specialty Code (AFSC) 1S0X1) and a civilian safety career field (GS-0018, Occupational Safety and Health Manager or Specialist; GS-0019, Safety Technician; GS-0017, Weapons Safety Specialist; GS-1815, Air Safety Investigator; and GS-0803, Safety

Engineer). These career safety personnel are assigned to positions authorized by the Unit Manning Document. The safety career field is addressed in AFI 36-2101, *Classifying Military Personnel (Officer and Enlisted),* and described in the Air Force Enlisted Classification Directory (AFECD). The civilian safety career program is described in AFMAN 36-606, *Civilian Career Management and Development.*

2.1.2.1. Professional Continuing Education and Training. Fulltime safety professionals working in authorized ground safety positions as depicted in the Unit Manning Document, must complete at least three safety-related CEUs per year. For courses with no assigned CEU value, one CEU is the equivalent of ten hours of course participation. **Note:** This also applies to persons such as over-hires, career broadeners, interns or similar positions working within ground safety. Other fulltime safety professionals in weapons, space and flight safety disciplines should consider similar continuing education to remain up to date in their specialty. MAJCOM/SEs or their designee may grant waivers for this requirement for reasons to include personnel on extended deployments, manning shortfalls and funding limitations. The COS will document specific circumstances and conditions when this training cannot be met. **(T-3)**

2.1.2.1.1. Professional continuing education and training is not the same as qualification training where an individual could be decertified, downgraded or unable to deploy, etc., if not trained to a specific level. The purpose of continuing education and training is to help safety professionals expand their knowledge base and stay informed on the latest technical and behavioral developments in the field of safety.

2.1.2.1.2. College, OPM and other safety professional development courses that do not award CEUs, e.g., on-line training, seminars, webinars may be used to satisfy this requirement, if approved by the MAJCOM Ground Safety Manager. **(T-3)**

2.1.2.2. **Attachment 12** and **13** contain a partial list of recommended safety courses that safety professionals should consider when meeting CEU requirements. Additionally, **Table A12.2** contains a list of AFSEC courses that will satisfy CEU requirements. Safety managers will plan, program and budget for safety resources (e.g., to include sufficient safety training to meet CEU requirements). **(T-3)**

2.1.2.3. It is highly desirable for safety professionals to obtain Occupational Health and Safety Technologist (general industry), Construction Health and Safety Technician (construction) and Certified Safety Professional certifications from the Board of Certified Safety Professionals (**www.bcsp.org**) or other recognized national/international organizations.

2.1.2.4. Ensure safety and health personnel are properly trained. 29 CFR 1960.56, *Training of Safety and Health Specialists*, DoDI 6055.1, E3.3, *Safety and Occupational Health Training, Education, and Qualifications*, 29 CFR 1960.7, *Financial Management*, AFI 36-401, *Employee Training and Development*, and AFI 36-2201, *Air Force Training Program,* discuss responsibilities for funding and ensuring safety and health personnel are properly trained to function effectively as safety and health advisors to commanders and management officials. **(T-0)**

2.1.3. Ground Safety Manager (GSM). The GSM manages the ground safety program for the Director/Chief of Safety and the commander (e.g., installation, center,

NAF/MAJCOM/FOA/DRU commanders). The GSM must be fully qualified to advise and execute decisions on safety matters for the primary mission of the unit. The GSM should complete the Safety Managers Course (AFSEC Course WCIP05D) prior to assuming a GSM position. If this is not possible they will complete the course within one year of assuming the GSM position. **Note:** Previous courses such as the Senior Safety Professional's Course or the Ground Safety Manager's Course meet this requirement. **(T-2)**

2.1.4. Flight Safety Officer (FSO). FSOs in higher headquarters positions will be rated officers or prior rated officers with experience in headquarters managed mission aircraft (not applicable [N/A] for Flight Safety Managers [FSMs]). FSOs/FSMs manage flight safety programs for Director/Chief of Safety and the commander, e.g., installation, Center, NAF/MAJCOM/FOA/DRU commanders. FSOs at squadron and installation-level must be current in a unit mission aircraft (N/A for FSMs). Once trained, individuals will fill the position for a minimum of 12 months unless waived by the MAJCOM/FOA/DRU SE. FSMs will not be assigned to fill FSO billets on bases where there are primary active flying missions and only one FSO billet. **Note:** This requirement does not apply to deployed operations. **(T-2)**

2.1.4.1. Full-time FSOs (wing level and above) must complete the Aircraft Mishap Investigation Course (AMIC, WCIP05A) and Aviation Safety Program Management course (ASPM, WCIP09B), or AFSEC-certified MAJCOM equivalent courses. FSMs will have graduated from at least one or more of the following courses: AMIC, ASPM or legacy FSO. This training should be completed within 90 days of appointment, but must be completed no later than 180 days from appointment. AFRC and ANG FSOs may fulfill this requirement by attending Aircraft Mishap Investigation Course (AMIC, WCIP05A) and the Air National Guard Chief of Safety/Air Reserve Component Chief of Safety course (ARCCOS101). **(T-3)**

2.1.4.1.1. **(Added-PACAF)** Chiefs of Safety shall notify HQ PACAF/SEF of assignments of primary-duty FSOs and Flight Safety Noncommissioned Officers (FSNCOs). (**T-2)**

2.1.4.1.2. **(Added-PACAF)** In units with multi-place aircraft, either the Chief of Safety or the FSO must be a rated aircrew member. (**T-2**)

2.1.4.2. Commanders of flying squadrons without an authorized FSO will appoint a Squadron Assigned Flight Safety Officer (SAFSO) as an additional duty. **(T-3)**

2.1.4.2.1. **(Added-PACAF)** SAFSOs will conduct RM assessments supporting their assigned unit's TDYs and exercise deployments. They will also provide on-site and/or reach-back expertise regarding safety matters. (**T-3**)

2.1.4.3. SAFSO should attend the ASPM course or AMIC course in conjunction with MAJCOM/FOA/DRU supplemental training.

2.1.5. Flight Safety Noncommissioned Officer (FSNCO). The FSNCO is an integral part of the flight safety program. Their primary duties will focus on aviation maintenance safety. Individuals selected to fill the position should be, as a minimum, a Master Sergeant or civilian equivalent, GS-0018 or GS-0803, with maintenance experience on a unit-assigned aircraft type but no less than a 7-level with two years' experience as a 7-level. Primary consideration will be to select individuals in the 2A37X (tactical aircraft maintenance) or

2A57X (aircraft maintenance) or Flight Engineer career fields. Selecting from the propulsion AFSC 2A671 is acceptable with a minimum of two years flightline experience in the unit assigned aircraft. Other maintenance career fields are not acceptable for the FSNCO position without MAJCOM/FOA/DRU SE approval. Refer to AFRC and ANG supplements to this AFI for ARC FSNCO and FSM manning descriptions. **(T-1)**

2.1.5.1. For units with assigned enlisted aircrew, the FSNCO may be an aircrew member if their flying duties do not detract from their FSNCO duties, they have prior flightline maintenance or Flight Engineer experience, they are current in a unit mission aircraft, and receive MAJCOM/FOA/DRU SE approval.

2.1.5.2. Individuals will complete the FSNCO course (L3AZR1S071-0S5A), or AFSEC-certified MAJCOM equivalent course, and attend the AMIC (WCIP05A) within 120 days of appointment. **(T-3)**

2.1.5.3. The FSNCO will be assigned the Special Experience Identifier (SEI) code of 307 and AFPC personnel records will assign a code 39 to ensure they serve in this capacity for a minimum of two years, as appropriate. Designated individuals must meet criteria IAW AFI 36-2101. **(T-3)**

2.1.6. Weapons Safety Managers (WSM). Full-time WSMs are assigned to positions authorized by the Unit Manning Document (UMD).

2.1.6.1. WSMs must be qualified in their AFSC 2WXXX, 2MXXX, or OPM 017/018 or 803 standards and should have experience in the maintenance or operation of nuclear weapons, missiles or non-nuclear munitions. Airmen selected as WSMs will be at least a 7-level in their Air Force Specialty Code. **(T-2)**

2.1.6.2. Full-time WSMs and ANG WSMs in UTC positions must complete the Weapons Safety Course (L3AZR2W071-0C2A) within six months of appointment. **(T-2)**

2.1.6.3. The COS should initiate a two-year assignment deferment through the Military Personnel Flight for Weapons Safety personnel upon completion of the Weapons Safety training course (Not applicable for ANG). It is desirable that individuals not deploy in WSM positions prior to six months satisfactory experience in Weapons Safety tasks (Chiefs of Safety will make final deployment determinations based on proven duty performance). **(T-3)**

2.1.7. System Safety Officers, Managers and Engineers. According to their particular job requirements, individuals in System Safety positions will complete a MAJCOM-approved System Safety Course within 120 days of assignment. Safety offices must document reasons for assigned individuals who have not completed training within 120 days of assignment. **(T-3)**

2.1.8. Space Safety Officer (SSO). These positions can be filled by System Safety Manager, Mission Safety Officers, Mission Flight Control Officers, Launch Safety Officers (LSOs) and/or Orbital Safety Officers, as applicable to the program's mission. These individuals will be trained in space mishap prevention and investigation within 120 days (or first available course). The Mishap Investigation Non-Aviation course (WCIP 059) or equivalent is a suitable mishap investigation course. The AMIC (WCIP 05A) is recommended for LSOs

with some knowledge of aircraft. NASA courses may be substituted for greater applicability if basic mishap prevention and investigation material is covered. **(T-3)**

2.1.8.1. As appropriate for the assigned mission, each wing (or equivalent) will have at least one SSO for each program. These individuals may be assigned to subordinate units. With approval from the NAF/Center Safety Office, these positions may be assigned as an additional duty or multiple programs may be covered by the same SSO. **(T-2)**

2.1.8.2. Safety Offices must document reasons for assigned individuals who have not completed training within 120 days (or first available course) of assignment. **(T-3)**

2.1.9. Safety Palace Acquire Interns (0018/0803) and Pathways Student Internships (0099/0899). The Safety Palace Acquire Intern and Pathways Student Internships programs provide a unique opportunity for recent graduates and/or students to gain valuable work experience in the Safety career field. These programs offer rewarding opportunities to contribute to the Air Force mission while providing workplace safety and health for Airmen. These programs afford opportunities for personal and professional growth in addition to development.

2.1.9.1. Supervisors of Safety Palace Acquire Interns and Student Internships are required to complete and submit a training progress report to the AFPC Safety Civilian Career Field Team (email: **afpc.safety.cft@us.af.mil**) as directed by AFI 36-601, *Air Force Civilian Career Program Management*, AFI 36-602, *Civilian Intern Programs*, and the *Civilian Force Renewal PAQ/COP Guide*.

2.1.9.1.1. The AFPC Safety Career Field Team will distribute a *Pathways Training Status Log* to the gaining supervisor within 30 days of assignment to aid tracking of such items as program report submission, training, promotions, supervisors, etc. A copy of the log must be submitted with the progress report(s).

2.1.9.1.2. The initial progress report must be submitted at 90 and 180 day intervals for the first year, semiannually for the remainder of the training period.

2.1.9.1.3. The AF Form 860B, *Civilian Progress Review Worksheet*, may be used for this progress report. The AFPC Safety Career Field Team will distribute a template to the gaining supervisor within 30 days of the member's assignment.

2.1.9.2. The supervisor must ensure promotion action is initiated no later than 60 days prior to the promotion effective date (for the first promotion—scheduled for the 1-year point in the program). **(T-3)**

2.1.9.3. The supervisor must serve as mentor or work with assigned mentor IAW AFI 36-602, paragraph 2.15.7.

2.1.10. Non-Typical Safety Staffs. Throughout the Air Force there are an assorted number of one-deep safety positions and other small atypical safety staffs which are centric in nature to a specific safety function – ground safety, lab safety, hospital safety, etc. These may exist at FOAs, Groups (Civil Engineering, Medical, etc.) or other organizational levels outside of or below a standard wing organization. They may reside as a host or tenant unit function on an installation. Individuals assigned to these positions, or those similar in nature, fulfill the role and responsibility of keeping their respective Commanders/Directors informed of safety issues and executing the mishap prevention program for their Commander. Since their duties

and responsibilities are those of the senior safety advisor within their organization, they will report to their Commander/Director as they manage the commander's mishap prevention program. This is consistent with the principles set forth in AFI 38-101, *Air Force Organization.*

2.2. Unit Safety Representative (USR). Each unit will have a primary and alternate USR, Additional Duty Weapons Safety Representative (ADWSR) and SAFSO, as applicable. When possible, these individuals will have one-year retainability in the assigned additional duty position. Each installation safety discipline or assigned safety staff (if different than the installation safety office) will train their respective USRs within 30 working days after appointment. Air Reserve Component primary and alternate USR will complete initial training within two unit training assemblies of appointment. **Note:** Units with fulltime safety personnel are not required to have a USR. **(T-3)**

2.2.1. Organizations may augment the primary and alternate safety representatives using a "team concept" by adding representatives at the flight level (or equivalent organizational levels). However, the primary and alternate representation will serve as the primary points of contact for all unit safety issues. If the team concept is used, each member, beyond the primary and alternate, will be trained by the organization for their responsibilities. **(T-3)**

2.2.2. For specific USR responsibilities, see the discipline-specific chapters. USRs will, as a minimum: **(T-3)**

2.2.2.1. Advise the commander on safety matters.

2.2.2.2. Conduct and document spot inspections in conjunction with facility managers when possible and IAW paragraph **3.7** of this instruction.

2.2.2.3. Assist unit personnel with mishap reporting requirements. Assist unit commander and supervisors in mishap investigation when required. **(T-3)**

2.2.2.4. Assist supervisors who develop JSTOs.

2.2.2.5. Conduct safety briefings and provide unit personnel with educational safety materials. **Note:** MAJCOM/Wing Safety websites should be accessed to get briefing topics/material (e.g., Quest for Zero).

2.2.2.6. Assist the unit commander and supervisors with hazard abatement processes.

2.2.2.7. Facilitate the inspection process for their unit and accompany safety office personnel on the formal inspection and assessment.

2.3. Safety Education/Training. Education and training prepares Airmen to meet their safety and health responsibilities. Each installation shall develop, implement and integrate safety guidelines and standards into existing local level training programs. Commanders will promote safety awareness at all appropriate venues such as commander calls, holiday safety briefings and other events or functions. **(T-3)**

2.3.1. Commander Orientation. The COS will provide face-to-face training on the safety and health of the organization to new commanders within their organizational chain within 60 days of their arrival or appointment. Air Reserve Components will complete this requirement within 90 days (3 Unit Training Assemblies). Telephonic training is satisfactory for units that

support commanders at operating locations away from the COS's home base. The training will be documented and include, but is not limited to the following items: **(T-3)**

2.3.1.1. Launch vehicle operations and concerns (if applicable).

2.3.1.2. Safety responsibilities.

2.3.1.3. Last annual inspection results and open recommendations, unabated hazards and hazard abatement plan.

2.3.1.4. Unit specific mishap rates, trends and open mishap recommendations.

2.3.1.5. Special interest issues (e.g., motorcycle safety/motorcycle unit tracking tool [MUSTT], high risk activities, hazardous air traffic, AFSMS, OSHA Voluntary Protection Programs).

2.3.1.6. Explosives site plans and licensed facilities.

2.3.1.7. Airfield operations and concerns.

2.3.1.8. Safety Awards Program.

2.3.1.9. Air Force Combined Mishap Reduction System (AFCMRS). Website: **https://www.afcmrs.org.**

2.3.2. Supervisor Safety Training (SST). Supervisors are the key to the safety program because they are responsible for maintaining a safe and healthful environment. The course trains supervisors in management skills needed to implement safety policies and programs. The course provides basic skills for fostering a workplace where hazards are identified and risks managed. It also develops skills to recognize, control, report and eliminate hazards. MAJCOMs/FOAs/DRUs and installations with unique requirements will supplement this training with those requirements. **(T-0)**

2.3.2.1. Personnel required to attend:

2.3.2.1.1. Noncommissioned officers and Senior Airmen when first assigned a supervisory position. **(T-2)**

2.3.2.1.2. Commissioned officers when first assigned as a supervisor. **(T-2)**

2.3.2.1.3. Civilian personnel (DAF, NAF, foreign national) upon initial assignment to a supervisory position. **(T-2)**

2.3.2.1.4. Any supervisor needing refresher training or who demonstrates a lack of safety knowledge. **(T-2)**

2.3.2.2. Administration. Unit commanders identify eligible personnel and arrange course scheduling with the installation ground safety office. Safety offices will use the AF Form 1286, *Safety Education/Training Class Roster,* or another equivalent product for attendee sign-in. **(T-3)**

2.3.2.3. Documenting Training. The safety staff allocates quotas, giving priority to newly assigned supervisory personnel. Safety staffs will update training completion in the Military Personnel Data System. Supervisors of civilian personnel will document this training in the employee's AF Form 971, *Supervisor's Employee Brief,* or equivalent product. **(T-3)**

2.3.3. Safety, Fire Protection and Health Training. Supervisors will develop a JSTO specifically tailored to address safety, fire protection and health concerns of the work environment. The outline will encompass both safety awareness and job specific safety training. See listed mandatory training items in **Attachment 4. (T-3)**

2.3.3.1. Training Requirements. Supervisors will provide and document safety training to all newly assigned individuals (i.e., PCS, PCA or work center change to include deployment) on the hazards of their job before they start work and immediately when there is a change in equipment, processes, work environment or safety, fire and health requirements. Refresher training will be conducted and documented when workers demonstrate a lack of understanding of their required safety responsibilities or training such as is called for in AFI 91-203, **Chapter 21**, *Hazardous Energy Control,* has a specified frequency for recurrence. **(T-3)**

2.3.3.2. Supervisors will review and update the JSTO annually and/or when there is a change in equipment, processes or safety, fire and health requirements, to include procedural input as a result of a completed JSA. JSTO reviews will be accomplished by the supervisor and documented with the date of review and the person conducting the review. Safety, fire protection and health personnel will provide technical assistance to supervisors in developing a training outline to meet AFI/AFOSH requirements. JSTOs will be reviewed by safety inspectors during the scheduled safety assessment. **(T-3)**

2.3.3.3. Document safety, fire and health training as specified in paragraph **1.8.22.5.2.** Documentation will be maintained by the supervisor within the work center. **(T-3)**

2.3.4. Designated Employee Representatives. The civilian personnel flight will schedule and monitor safety, fire protection and health training for employee representatives. Upon request, coordinate training for designated representatives of civilian employees to assist in maintaining safe and healthful workplaces. The extent of such training will depend on local needs. **(T-3)**

2.3.5. General Safety Education and Training Courses are listed in **Attachment 13.** Supervisors/instructors will document employee training. Documentation may be accomplished using the **AF Form 1286,** *Safety Education/Training Roster,* or another equivalent product.

2.4. Safety Office Vehicles and Equipment. The following information should be used when establishing equipment requirements.

2.4.1. Vehicles and Communication. Safety disciplines must be mobile to accomplish their job on/off-installation program management responsibilities. Safety staffs perform day-to-day safety functions installation-wide, including off-base responses to conduct mishap investigations. In flying units, missile units, units operating a range and units with host base responsibilities who support these activities or as designated by the installation commander, the safety staff must have the immediate use of a two-way radio (UHF/VHF)-equipped 4-wheel drive vehicle capable of transporting a minimum of four people and their associated mishap investigation equipment. Any radio net, appropriate to the mission, that allows the vehicle to move freely around the airfield or missile complex is acceptable. **(T-3)**

2.4.2. Allowance Standards (AS). The following AS prescribe the equipment items and quantities required to perform safety missions, functions, and duties. The standards can be found at **https://earms2.wpafb.af.mil/sites/asrs/home.asp**. **(T-3)**

2.4.2.1. AS 006, Organizational and Administrative Equipment.

2.4.2.2. Vehicles.

2.4.2.2.1. AS 037, Vehicles – Contract.

2.4.2.2.2. AS 457, Vehicles – Operations/Maintenance.

2.4.2.2.3. AS 010, Vehicles – Air Force Owned.

2.4.2.2.4. AS 012, Vehicles – Air Force Leased.

2.4.2.3. AS 014, Training Devices.

2.4.2.4. AS 016, Special Purpose Clothing and Personal Protective Equipment.

2.4.2.5. AS 453, Safety Offices.

2.4.2.6. AS 629, Visual Information (VI) Support.

2.4.2.7. AS 660, Equipment Allowances for Non-Weapon Systems Communications Requirements.

2.4.3. Mishap Investigation Kits. Each MAJCOM/FOA/DRU determines the minimum contents of investigation kits for host installations to maintain and have available to meet initial response and ISB requirements for flight, ground and weapons mishaps. Wing safety offices will have available all the items that are required to conduct a safety investigation IAW AFI 91-204. Coordinate the medical member contents of the kit with the medical treatment facility. Mishap investigation kits are optional for AFRC units. **(T-2)**

2.4.3.1. **(Added-PACAF)** Every Wing Safety Office shall have mishap response kits to meet the investigative needs of the SEF, SEG, and SEW unit missions. Refer to Attachment 18 for a list of PACAF-suggested mishap response kits. (**T-2**)

2.5. Safety Library. Air Force safety offices will establish a library with publications that specifically apply to the safety program. Electronic access through the internet meets the intent of this requirement; maintain hard copies of publications that are not available electronically. However, paper copies of applicable publications that are not available electronically must be obtained and maintained within the safety office. The library will include as a minimum: **(T-3)**

2.5.1. DoD Safety standards and handbooks and applicable host country's governing safety standards, rules and regulations.

2.5.2. Air Force policy directives, instructions, pamphlets, manuals and appropriate technical orders.

2.5.3. Applicable (based on organizational mission) OSHA, AFOSH guidance/standards, National Fire Protection Association, American National Standard Institute standards and other national consensus standards (e.g. Compressed Gas Association, Pressure Vessel and Boilermaker, etc.).

2.5.4. MAJCOMs/FOAs/DRUs will provide a means to disseminate command-specific safety information to subordinate units.

2.6. Environment, Safety and Occupational Health Councils (ESOHC). In accordance with AFI 90-801, the Air Force utilizes the ESOHC to achieve ESOH goals throughout the Air Force and to provide senior leadership involvement and direction at all levels of command. This interdisciplinary approach includes aviation, ground, weapons and space safety. **(T-2)**

2.6.1. AFI 90-801 governs the rules regarding the conduct of Environment, Safety, and Occupational Health Councils. The ESOHC reviews policies and programs, establishes goals, monitors progress and advises leadership. IAW AFI 90-801, the ESOHC Chair may charter an ESOHC Safety Sub-Group to ensure full review and oversight of all safety related matters. **(T-2)**

2.6.1.1. If established, Safety Sub-Groups will be chaired by the commander or commander's designee and will convene at the commander's discretion. The Safety Sub-Group will be represented at a minimum by group and squadron commanders from the host base, representatives from each 2-letter office and commanders (or their designee) from tenant organizations. Union representatives will be invited and encouraged to participate. **(T-3)**

2.6.1.2. The safety staff will make all Safety Sub-Group arrangements; develop the agenda and distribute it in advance; and record and publish council meeting minutes. The Safety Sub-Group agenda and minutes will consider safety-related items addressed in the previous ESOHC and the meeting outcomes will be added to the agenda and proceedings of the following ESOHC. The chief of safety will ensure the minutes are prepared within 30 days following a Safety Sub-Group meeting. The Sub-Group chair will approve the minutes and all Sub-Group members will be furnished a copy. OPRs will be identified for items requiring action. **(T-3)**

2.6.2. Attachment 2 of AFI 90-801 identifies topics that can be addressed, as appropriate, at the ESOH Council. Hazard report analysis will include AF Form 457, AFSAS-generated Hazard reports, as well as Hazardous Air Traffic Reports (HATRs). Units may address flight safety BASH, HATR and MACA issues through the Airfield Operations Board meetings.

2.7. Non-USAF Councils and Committees. The Air Force supports federal, state, and local safety councils and committees and encourages safety staffs to take part in them.

2.8. Major Range and Test Facility Base (MRTFB) Safety Programs. MAJCOMs will establish safety policy for MRTFB and other range activities. The overall goal of the range safety program is to ensure safety consistent with operational requirements, which includes preventing test objects, space launch vehicles or their hazardous effects from violating established limits. Units operating any range facility or conducting "range activities" as defined by AFI 13-212, *Range Planning and Operations,* shall establish a range safety program to ensure public safety and protection of government resources and personnel. The installation commander of the unit operating the range is considered the Range Operating Authority (ROA). Under the direction of the MAJCOM concerned, the ROA will:

2.8.1. Appoint a Range Safety Officer (RSO). RSOs appointed to the ROA typically monitor daily activity and implement the safety program. Range safety duties vary from installation0level program management (RSO assigned to the installation/wing) to on-site safety oversight performed by the RSO, Range Control Officer (RCO) or activity manager during execution.

2.8.2. Institute a RM program that quantifies risk and sets requirements for risk acceptance. High residual risk range events are typically accepted by the installation commander or ROA. MAJCOM/A3 and SE will establish guidance regarding high risk activities. Approval authorities in coordination with the installation safety office may issue local OIs for select or repetitious activities. **(T-2)**

2.8.3. Determine safety requirements and ensure all range users are in compliance. **(T-2)**

2.8.4. Establish allowable ground and flight safety conditions and take appropriate action to ensure that test articles do not violate the conditions. Where reliability of the test object is not established, appropriate measures should be taken to ensure it will not endanger the public or their property. **(T-1)**

2.8.5. Ensure weapon safety footprints exist for all aircraft, weapons and tactics (including those from other services and countries) authorized for a given target and event on the range. Otherwise, employment is restricted IAW AFI 13-212. **(T-1)**

2.8.6. The installation safety office assists the ROA with the development and publication of a standardized safety and RM program. An installation-level RSO may be appointed within the safety office.

Chapter 3

SAFETY ASSURANCE

3.1. General. Under the AFSMS, safety assurance is largely achieved through safety program evaluations, assessments and inspections that measure program conformance, performance and effectiveness of DoL, DoD and AFOSH requirements. See **Table 3.1** for a summary of minimum evaluation, assessment and inspection requirements.

Table 3.1. Safety Evaluations, Assessments and Inspections. (T-1)

Level	Frequency	Type	By	Report	Note
MAJCOM	36 Months	Safety Evaluation	AFSEC	Formal	**Note** 1
DRU/FOA	24 Months	Safety Program Evaluation	AFSEC	Formal	**Note** 4
NAF/Center/Wing	24 Months	Safety Program Evaluation	MAJCOM	Formal	**Note** 2, 3
Wing or Wing Equivalent	12 Months	AFSMS Management Review	Wing	Formal	**Note** 12
Squadron, Standalone Group	24/12 Months	Program Assessment & Safety Inspection		Formal	**Notes** 5, 7, 11
Wing and below	Monthly	Spot		Informal	**Notes** 6, 9, 10
Wing and below	Monthly	High Interest		Informal	**Notes** 7, 10
Wing and below	Varies	Special		Formal	**Notes** 7, 8

Note 1: HQ AFSEC will conduct Safety Evaluations of MAJCOM Headquarters Staffs.
Note 2: Conducted IAW AFI 90-201. MAJCOM/SEs will work with their IGs to ensure safety programs receive an external verification/validation conducted by qualified IG safety inspectors or MAJCOM safety staff at required intervals.
Note 3: These Program Evaluations will be conducted for wing, wing-equivalent or higher with an assigned safety staff, by qualified IG safety inspectors or MAJCOM safety staff as part of the IG inspection process as defined within AFI 90-201. MAJCOM safety offices are not authorized to perform these independent of the IG process.
Note 4: DRU and FOA Safety Programs where there is an assigned safety staff will have a Safety Program Evaluation. DRU and FOA program evaluations will be done as part of AFIA-led inspections. These Program Evaluations will be conducted by qualified safety inspectors augmenting the AF/IG. **(T-1)**
Note 5: Program Assessments are specified at a 24 month frequency, while safety inspections are at a 12 month frequency. Annual safety program assessments and inspections should be combined when conducted the same year to reduce the footprint within the affected organization.

Note 6: Spot inspections will be used to identify hazards and check compliance with applicable safety standards to compliment rather than rely solely on annual inspections. **(T-1)**
Note 7: Accomplished by full-time professional safety staff. **(T-1)**
Note 8: Special inspections include seasonal activities and special events. **(T-1)**
Note 9: USRs and shop level supervisors ensure spot inspections are conducted and documented at least monthly. Documentation of spot inspections will be IAW paragraph **3.7.4. (T-1)**
Note 10: Accomplish and document high interest inspections IAW paragraph **3.7.3. (T-1)**
Note 11: Program assessments are required for all organizations below installation level, but not lower than squadron level. **(T-1)**
Note 12: Wing or Wing Equivalent as defined in AFI 90-201, with a full time safety staff**.** However, if there is a subordinate command level with a full time safety staff, for instance, some Medical Groups, or large tenant detachments, etc., then they will also prepare an AFSMS Management Review**.** Provide a copy to the NAF/Center and MAJCOM/FOA/DRU SE. **(T-1)**

3.2. Safety Evaluations. HQ AFSEC will conduct Safety Evaluations of MAJCOM Headquarters Staffs at intervals not to exceed 36 months. These evaluations are conducted IAW DoDI, OSHA Standards and federal law. At the direction of AF/SE they will be rated with a two-tier (Satisfactory/Unsatisfactory) grading criteria. **(T-2)**

3.2.1. Safety evaluations evaluate MAJCOM/SE program management compliance and oversight of subordinate organizations' safety programs. The evaluation provides the MAJCOM/CC/CV an independent perspective of the effectiveness and efficiency of the evaluated organization's safety program.

3.2.2. A written report will be prepared for each evaluation and sent to the commander and the safety staff of the MAJCOM being evaluated. This report will contain a statement declaring the safety program under the systemic processes of the AFSMS was either satisfactory or unsatisfactory.

3.3. Safety Program Evaluation (SPE) . In conjunction with a UEI, qualified safety personnel from MAJCOMs/FOAs/DRUs must evaluate the safety management system conformance and performance of each organization at wing (or wing-equivalent level), as appropriate, and higher. The SPE will be conducted as part of a Unit Effectiveness Inspection Capstone Event IAW AFI 90-201. During the UEI Capstone Event, MAJCOM/IG or AFIA-led inspectors will sample inspection areas where there is the most risk to mission accomplishment. All safety inspection areas marked as "mandatory" in Attachment 3 of AFI 90-201 will be evaluated during all UEIs. A complete safety program evaluation must incorporate a continuous evaluation methodology that reviews all aspects of an effective safety management system. In addition to the UEI Capstone Event, additional information should be reviewed annually. These items include the annual AFSMS Management Review, trends in MICT, mishap trends, results of OSHA inspections, local training of safety personnel during program evaluations, to include OJT master training plan for assigned 1S0s, and results of any commander-requested safety staff assistance visits that were conducted since the last safety program evaluation. MAJCOM/FOA/DRU SEs will work with their IGs to ensure safety programs at all levels of command receive an external verification/validation conducted by qualified IG safety inspectors or MAJCOM/FOA/DRU safety staff at required intervals. Either the IG report will contain a statement or a standalone safety report will be generated to declare the mishap prevention program conformance and performance under the systemic processes of the AFSMS was either, met and effective, met but

needs minor improvement(s), met but needs significant improvement(s), or was not effective. Waiver requests from MAJCOMs/FOAs/DRUs will be processed through AFSEC and, in turn, to SAF/IE to DUSD (ATL). **(T-0)**

3.4. Safety Program Assessments. Qualified safety personnel assess the safety program of each standalone group and squadron on the installation every 24 months as a minimum. **Exception:** For subordinate Geographically Separated Units (GSUs), Detachments or Operating Locations (OLs), recommend on-site safety program management assessment be accomplished at intervals not to exceed 36 months. MAJCOM/SEs may allow a virtual assessment in lieu of on-site visits. **(T-1)**

3.4.1. The assessment will cover all safety disciplines. Safety assessments address the areas of commander and supervisory support, compliance with program directives and the effectiveness of mishap prevention programs (performance). Assessments may be conducted in conjunction with the annual safety inspection. Assessments may include safety related data found in the Commander's Inspection Program (CCIP) IAW AFI 90-201. **(T-1)**

3.4.2. The Safety Program Assessment is not an IG-led process, but is core to the safety program and authorized in Attachment 2 of AFI 90-201. Commanders and Chiefs of Safety are encouraged to use information from the CCIP as part of the assessment. Details of the CCIP are in AFI 90-201. Results of the most recent Safety Program Assessments should be summarized and included as part of the annual AFSMS Management Review.

3.4.3. Prepare a written report for each assessment. Send a copy of the report to the commander of the organization. The assessment report may be combined with the annual inspection report. This report must contain: **(T-1)**

3.4.3.1. A statement declaring the mishap prevention program conformance and performance under the systemic processes of the AFSMS was either met and effective, met but needs minor improvement(s), met but needs significant improvement(s), or was not effective.

3.4.3.2. Unit assessed.

3.4.3.3. Date of assessment.

3.4.3.4. Management and supervisory support for safety.

3.4.3.5. Mishap experience and trends.

3.4.3.6. Compliance with safety program directives.

3.4.3.7. Description of any program deficiencies or policy shortfalls and references.

3.4.3.8. Recommendations for improvement/compliance.

3.4.4. Safety staffs will develop assessment checklists to assess compliance and performance of core program elements. Conduct assessments with prior notice. Related MICT self-assessment communicators will be a part of the composite assessment checklist. **(T-1)**

3.4.5. When prescribed by MAJCOM safety guidance, subordinate safety staffs will upload documentation in unit MICT (or hyperlink to suitable electronic medium, such as SharePoint®) to permit oversight of assessments by the MAJCOM. **(T-3)**

3.4.6. Follow-up Procedures and Actions. The assessed unit will submit to the safety staff corrective actions taken/planned. For long term or complex actions, use of AFSO21 processes is highly encouraged. Safety personnel will track and monitor the status of all open assessment findings until closed. **(T-1)**

3.5. Annual AFSMS Management Review. The management review provides leadership and applicable process owners a strategic and critical evaluation of the conformance and performance of the AFSMS and an opportunity to recommend improvements. Results and action items from this review shall be documented, prioritized, communicated to affected organizations and tracked to completion. Results of the annual AFSMS Management Review inform the commander on the health and effectiveness of the organization's safety program and will contain a statement declaring the mishap prevention program conformance and performance under the systemic processes of the AFSMS was either, met and effective, met but needs minor improvement(s), met but needs significant improvement(s), or was not effective. The Chief of Safety will brief the commander on the results of the annual AFSMS Management Review. This brief may be conducted during the first ESOHC of the fiscal year. Optimally, it will be briefed in the first quarter of the fiscal year (November or December). Refer to **Attachment 17. (T-1)**

3.6. Annual Safety Inspections. Safety inspections help identify hazards and measure compliance with applicable safety guidance and standards. Annual inspections may be combined with the scheduled program assessment and CCIP IAW AFI 90-201. The annual safety inspection is not an IG-led inspection, but part of core safety duties and can only be accomplished by a qualified safety professional.

3.6.1. Scope. At least annually (12 month cycle), qualified safety personnel shall inspect every installation workplace/facility where Airmen are regularly employed at fixed installations. Inspections are to be conducted more frequently based on factors such as the exposure to and potential severity of hazards, actual accident experience, special emphasis programs, changes in the organization's staffing or workplaces or other events that increase risk in the workplace. Procedures shall be established to document and follow-up on the correction of hazards/deficiencies identified during inspections every 30 days (see spot inspection follow-up and/or hazard abatement program). **Note:** Chiefs of Safety may extend the hazards/deficiencies 30 day follow-ups, not to exceed 90 days. Conduct inspections of all workplaces and operations where Airmen are regularly employed at fixed installations. Inspections of workplaces and operations in contractor facilities (Government-Owned Contractor Operated (GOCO) or contractor owned/operated) where fewer than 25 Airmen are employed shall be at the discretion of the Chief of Safety, based on existing conditions and potential risks. Assist the contract management multi-functional team, upon request, to resolve any issues related to the safety of the contractor's facilities. **(T-3)**

3.6.1.1. Facility, workplace and operational inspections. The safety manager will ensure safety personnel are properly qualified and/or have been task certified to perform all aspects of the inspection, and all facilities assigned to the unit are inspected/documented. The inspection report will identify all workplaces and facilities inspected regardless of whether there were findings or not. **(T-0)**

3.6.1.2. All hazards/deficiencies identified during the inspections will be assigned a RAC. The safety staff conducting the inspection will assist the responsible supervisor in

developing hazard abatement actions. **Note:** Occupational deficiency RACs should not normally exceed a RAC 5. **(T-1)**

3.6.1.3. Checklists will be used to help identify hazards, deficiencies and other work related violations. The safety staff will ensure checklists are available to all assigned personnel. These checklists will be reviewed at least annually for accuracy and relevancy by the safety staff. Method of documentation of the review is determined by the safety staff. **(T-1)**

3.6.1.4. The host safety staff inspects units that do not have an authorized full-time safety position in a particular discipline. **Exception:** The host safety staff inspects HAF, MAJCOM, NAF and AFOTEC safety offices as specified in paragraph **1.8.16.5.** Host/tenant/associate support agreements will define who will conduct inspections.

3.6.1.5. GSUs with full-time safety personnel will inspect workplaces annually and keep a copy of report on file until the next annual inspection. For GSUs without a full-time safety staff, the host base safety office conducts the annual workplace's inspection (unless a support agreement specifies otherwise) and forwards a copy of report to the GSU and the GSU's parent organization. **(T-1)**

3.6.1.6. Tenant/Associate units with a full-time safety staff (by discipline) will conduct annual inspections except as exempted in paragraph **1.8.16.5. (T-1)**

3.6.1.7. Inspect at least 20 percent of unmanned missile and space launch facilities once a year. Select these launch work areas to ensure that a representative segment of the unit's assets are inspected annually. Inspections must be scheduled to ensure all launch work areas will be inspected over a 5-year cycle. **(T-1)**

3.6.2. Procedures. Safety staffs will conduct multi-discipline (e.g. Aviation, Ground, etc.) inspections when feasible. The safety staff will develop and publish an annual fiscal year inspection schedule and distribute to units no later than 15 September for the upcoming fiscal year. A copy shall also be provided to union(s), as applicable. Coordinate assessments and inspections with the Wing/IG gatekeeper. When possible, conduct as much of the required inspection as possible as part of the Wing's inspection team. **(T-3)**

3.6.2.1. Inspectors must consult with workplace personnel and their union representatives on matters affecting their safety and health and give them the opportunity to identify unsafe and unhealthy working conditions, equipment and practices. Conduct such consultations privately and do not identify employees who want to remain anonymous. **(T-0)**

3.6.2.2. Provide an out brief to the commander within three duty days and a formal written report to the squadron/unit commander within 15 calendar days after completion of inspection. When either of these timeframes cannot be met, the safety staff will create a memorandum for record justifying the delay. Ensure these reports along with the unit's corrective actions are staffed through the installation commander as their policy prescribes. When the host base safety office conducts inspections of tenant units, the tenant unit USR will send a copy of the report to the parent safety office. Formal inspection reports must contain: **(T-1)**

3.6.2.2.1. The unit, activity or work areas inspected.

3.6.2.2.2. The date of the inspection.

3.6.2.2.3. Facilities and/or work areas inspected.

3.6.2.2.4. Description of any hazards, deficiencies or unsafe work practices with risk assessment codes (as applicable) and references.

3.6.2.2.5. Causes of deficiencies and hazards noted, if known.

3.6.2.2.6. Recommendations for improvement/compliance.

3.6.2.2.7. Instructions for follow-up actions such as requiring units to provide monthly updates on open items until closure.

3.6.2.3. Follow-up procedures and actions. The inspected unit will submit to the safety staff corrective actions taken. For long term or complex actions, use of AFSO21 processes is highly encouraged. Safety personnel will track and monitor the status of all open inspection findings until closed. Use spot inspections and follow-up reporting to ensure corrective action(s) are taken and hazards are mitigated. Transfer hazards identified during annual inspections (RACs 1, 2 and 3) not corrected within 30 days to the Master Hazard Abatement Plan. RACs 4 or 5 are addressed in **Chapter 12** and should also be tracked using the hazard abatement program. **(T-1)**

3.7. Spot Inspections. Spot inspections are an effective way to find and eliminate transitory hazards and ensure compliance with safety requirements. Supervisors, USRs and safety personnel will perform spot inspections to check the day-to-day safety and health of an organization, work center, facility, etc. Workcenter/shop supervisors, USRs and ADWSRs will conduct and document monthly spot inspections. See discipline specific chapters for additional operations and areas that need to be inspected or monitored. **(T-3)**

3.7.1. The Chief of Safety will develop a spot inspection program for safety staff to ensure coverage of on-duty and off-duty activities that occur on, or are controlled by, the installation. **(T-3)**

3.7.2. Documentation of spot inspections by safety staffs will include the following: **(T-3)**

3.7.2.1. The organization, unit, activity or work area inspected.

3.7.2.2. The date and time of the inspection.

3.7.2.3. The inspector's name and their organization or office symbol.

3.7.2.4. A brief description of the areas, equipment or processes/procedures reviewed as well as observations (may also include positive findings), hazards or unsafe work practices. When qualified safety personnel identify hazards, assign RACs as applicable.

3.7.2.5. Causes of deficiencies and hazards, as noted.

3.7.2.6. Recommendations for corrective action.

3.7.2.7. Name and phone number of responsible person.

3.7.2.8. Ensure appropriate follow-up actions (every 30 days) are conducted and documented until findings are closed. **(T-0)**

3.7.3. Documentation of spot inspections by supervisors and USRs will include the following as a minimum. Local safety staffs may prescribe additional items. **(T-3)**

3.7.3.1. The activity or work area inspected.

3.7.3.2. The date and time of the inspection.

3.7.3.3. The name of the person conducting the spot inspection.

3.7.3.4. A brief description of the area, equipment or process/procedure reviewed as well as observations of hazards or unsafe work practices. The description may also include positive findings.

3.7.3.5. The applicable RAC, if assigned by a qualified fire, safety or health person after contact by the USR or supervisor.

3.7.3.6. Corrective action taken or planned. Ensure appropriate follow-up actions (every 30 days) are conducted and documented until findings are closed. **(T-0)**

3.8. High Interest Areas. High interest areas are those areas having the greatest risk to life or property, have experienced repeated mishaps or in the judgment of the wing commander and/or safety office require added monitoring. While designation should usually be based on trends, analysis or command interest, they can also be work areas or operations that need additional attention or inspections because of increased mishap potential due to the nature of the work performed, physical conditions, or type of materials handled. High interest areas, if identified, will be designated by the Chief of Safety in writing. Inspections will be accomplished and documented at least monthly. Documentation of High Interest Area inspections will be IAW paragraph **3.7.3. (T-3)**

3.9. Administrative Areas. Task-qualified unit ground safety representatives may conduct inspections of administrative work areas (not permissible for entire facility inspections) when the safety staff determines the mishap potential is minimal. The applicable ground safety staff develops specific provisions to ensure the USR has sufficient documented training and/or experience in the safety hazards of the administrative area to recognize and evaluate those particular hazards and to suggest general abatement procedures, as required by 29 CFR 1960.25. Any specific provisions beyond what may already be addressed in the required USR training may be added to that training process. Periodic over-the-shoulder assessments of these USR responsibilities will be accomplished and documented.

3.10. Special and Seasonal Inspections. Inspections are conducted to ensure work and recreational environments are safe and healthy.

3.10.1. Special inspections include seasonal, targeted mishap preventive activities, special events and mission readiness operations/exercises. Special inspections will be conducted of installation child development centers, approved day care homes and play grounds that are part of real property. Force Support Squadrons (FSSs) will coordinate with the safety staff to inspect at least 10 percent of all approved home-daycare providers annually. Daycare providers in privatized housing will not be inspected. **(T-3)**

3.10.2. Seasonal inspections will be conducted of recreational areas (e.g., sports fields, swimming pools, camp grounds, and recreational vehicle parks and other recreational areas). FSS will coordinate with the safety staff to jointly conduct pre-season inspections of seasonal areas. **(T-3)**

3.11. Staff Assistance Visits (SAV). The purpose of the SAV program is to help develop solutions, not to inspect or evaluate, and to provide observations and recommendations for improvement. SAVs may be conducted at any level at any time, but only when requested by the commander who is receiving the SAV. Provide a written report to the commander. Do not require replies unless an action started during the visit needs monitoring by the higher headquarters safety staff or requires further staff action above the level of the visited unit.

3.12. Department of Labor (DoL) Inspections. OSHA officials may conduct inspections of nonmilitary-unique workplaces and operations where Air Force civilian personnel work (inspections may be unannounced). Refer to **Chapter 8** for specific requirements.

3.13. Contract Performance Assessment. Installation or tenant unit safety offices, as applicable, will assist the MFT in validating that contractors are meeting the safety requirements of the contract. If the installation is pursuing VPP certification, the contracting officer is responsible for notifying contractors in writing who are performing work on the installation. **(T-3)**

3.13.1. The MFT will ensure contractors perform IAW the terms and conditions of the contract. Discrepancies will be reported to the MFT via contracting officer's representative (COR). Commanders will ensure CORs that are required to monitor safety requirements are trained in the recognition of hazardous conditions/environments, the use of safety and health standards, and in other areas of safety, as necessary. The appropriate safety office will assist commanders and CORs in specialized safety training requirements to ensure the COR is properly trained to provide oversight of the contract. **(T-3)**

3.13.2. Airmen who note potential safety violation(s) will report the hazard to the COR. CORs notify the multi-functional team, and initiate the appropriate actions related to violations. Unless there is critical/imminent danger, Airmen should avoid reporting safety violations directly to the contractor, but should immediately report observed violations to the contracting officer or the installation safety office. **(T-3)**

3.13.3. Inspection of Contractor Work Areas and GOCO Work Areas. When Airmen conduct safety inspections in contractor work areas their primary concern is the potential risks to Airmen and government property. Hazardous conditions or violations of safety standards should be reported to the contracting officer, the responsible commander or to the installation safety office. **Note:** Inspections of workplaces and operations in contractor installations where fewer than 25 DoD personnel are employed shall be at the COS's discretion, based on existing conditions and potential risks.

3.13.3.1. GOCO explosives activities must comply with the applicable portions of DoDI 4145.26, *DoD Contractor's Safety Requirements for Ammunition and Explosives,* to assure safety of the activity and the prevention of mishaps. **(T-0)**

3.13.3.2. The requirements documents will specify compliance with appropriate provisions of DoD Manual 6055.9-M, *DoD Ammunition and Explosives Safety Standards*, AFMAN 91-201, and this instruction. **(T-0)**

Chapter 4

HAZARD IDENTIFICATION AND REPORTING

4.1. Hazard Identification. Mishap prevention depends on personnel identifying, reporting and correcting hazards promptly and efficiently. Managers or supervisors will not allow coercion, discrimination or reprisal against an Airman who exercises their right to report hazards. Reports can be submitted anonymously.

4.2. Reporting Criteria. Submit hazard reports unless personnel can take corrective action under this instruction or any of these Air Force publications: **(T-3)**

4.2.1. AFI 11-215, *USAF Flight Manuals Program (FMP).*

4.2.2. AFI 51-1101, *The Air Force Procurement Fraud Remedies Program*.

4.2.3. AFI 91-204, *Safety Investigations and Reports*.

4.2.4. TO 00-5-1, *Air Force Technical Order System*.

4.2.5. TO 00-35D-54, *USAF Deficiency Reporting, Investigation and Resolution*.

4.3. Hazard Reporting Procedures. Commanders must ensure an AF Form 457, *USAF Hazard Report (HR),* or equivalent product is readily available to all personnel. Readily available is defined as not being under lock and key or only accessible through electronic means when a member does not have immediate access to a government computer. To ensure anonymity in reporting is preserved, commanders will consider that the form posting AF Forms 457 in readily available locations, may be submitted anonymously when choosing the method of making the form readily available. Recommended locations include, but are not limited to, commonly visited areas such as break rooms, training rooms, debrief rooms and safety bulletin boards, if used. Any person assigned, attached or under contract to the Air Force may report a hazard. A hazard report may be submitted on any event that includes hazards, unsafe procedures, practices or conditions that affects flight, ground, weapons, systems or space safety. Report hazards to the responsible supervisor or consult local SE office for guidance. This process is not designed for readdressing hazards that are already being managed for abatement through another process such as a civil engineering work request, job order, project or mishap investigation. **(T-1)**

4.3.1. If the hazard presents critical/imminent danger, the supervisor or individual responsible for that area will take immediate action to mitigate or eliminate the hazard to protect personnel or property. **(T-0)**

4.3.2. Report hazards that cannot be eliminated immediately to the installation safety office via the AF Form 457, by telephone, e-mail or in person. **(T-1)**

4.3.3. The Chief of Safety, in consultation with his staff, will determine the appropriate safety, fire or health discipline to investigate the HR. The assigned investigator will investigate the HR within one (1) duty day for critical/imminent danger situations, and three (3) duty days for potentially serious situations and 10 duty days for lesser conditions. The investigator discusses the HR with the member who submitted the report (if known), the responsible supervisor or manager and other parties involved to validate the hazard and determine the best interim control and corrective action. **(T-3)**

4.3.4. If the hazard is validated:

4.3.4.1. The investigator assigns a HR control number, a RAC as appropriate and monitors all corrective actions until complete. **(T-1)**

4.3.4.2. The investigator completes the HR's Part II, "Summary of Investigation," and sends it promptly to the individual responsible for making sure corrective action is completed and the hazard eliminated or controlled. **(T-1)**

4.3.4.3. The responsible individual completes Part II, "Action Taken," within 10 working days and returns the HR to the safety office for monitoring. **(T-1)**

4.3.4.4. The investigator informs the originator (if known) in writing about the corrective action or plans and conducts follow-up reviews until the action is completed. The investigator informs the originator, (if known), about the completed action within 10 workdays after the report is closed. If the originator is not known, inform the supervisor or manager of corrective actions. **(T-1)**

4.3.4.5. If the HR response is not satisfactory to the originator, the originator should resubmit the report and follow procedures in paragraph **4.5.**

4.3.4.6. HRs that result in an assignment of a RAC may be closed and corrective action monitored through the hazard abatement process. **Note:** Transference of tracking from the hazard reporting program to that hazard abatement program does not relieve the investigator or the responsibilities called for in paragraph **4.3.4.4.**

4.4. Additional Reporting Procedures. Transient personnel unable to report a hazard at a base where it is found should submit the HR to the next Air Force base they visit, or to the safety office at their home base. The receiving safety office will send the report to the responsible installation safety office. **(T-1)**

4.4.1. The safety office sends reports on hazards that cannot be corrected at the local level to the agencies that can take appropriate action. **(T-1)**

4.4.2. Tenant personnel send hazard reports involving activities for which the host is responsible to the host base safety office for processing. **(T-1)**

4.4.3. Hazard reports requiring urgent action should be transmitted by the most expeditionary communication means available (overnight mail, official government e-mail, telephone). **(T-3)**

4.4.4. Persons identifying hazards involving weather forecasting must submit hazard reports as soon as possible to ensure that records are not destroyed. Promptly advise the appropriate agency providing weather forecasting services, i.e., installation weather flight/detachment supporting operational weather squadron, of their intention to submit a hazard report. Aircrews should consider using a Hazardous Air Traffic Report. **(T-3)**

4.4.5. Installation safety staffs send hazard reports that involve other military services, foreign nations or other agencies outside the Air Force to HQ AFSEC/SE, 9700 G Ave SE, Kirtland AFB, NM 87117-5670, and to the affected Air Force units and their chain of command as information addressees. Upon receipt, AFSEC will maintain tracking and subsequent closing action of the report and will report results to both the sending and affected unit. **(T-1)**

4.5. Airmen Appeal Procedures. If an Airman is dissatisfied with actions taken on a hazard report, he or she should resubmit the report to the appropriate installation safety, fire protection or BE office, and request the alleged hazard be reinvestigated. Reports can be submitted anonymously. The safety, fire and/or health representative must respond within 10 duty days. If the Airman is still dissatisfied, they may appeal to a higher level of safety, fire protection or health office in the following sequence: **(T-0)**

4.5.1. Intermediate headquarters.

4.5.2. MAJCOM headquarters.

4.5.3. AFSEC/SEG (safety hazards), AFCEC/CEXF (fire hazards), or AFMSA/SG3 (health hazards).

4.5.4. SAF/IE, Assistant Secretary of the Air Force for Installations, Environment and Logistics.

4.5.5. Deputy Under Secretary of Defense for Environmental Security. This is the final review for reports that originate at installations in foreign countries, from military personnel or involve military-unique operations or equipment.

4.5.6. Higher level appeals must be addressed promptly and a reply sent to the employee within 20 calendar days. If a reply is not received within 20 calendar days or if the employee is dissatisfied with the reply, they may appeal to the next higher level. Each reply to an appeal will advise the employee of this right and will include the office symbol and address of the next higher level of appeal. If requested, the appropriate agency will assist the employee in obtaining technical information for clarification or for processing the appeal. **(T-3)**

4.5.7. Civilian employees may submit appeals directly to the Office of Federal Agency Safety Programs, Occupational Safety and Health Administration, US Department of Labor. However, the procedures outlined in the paragraphs above are encouraged as the most expeditious means of correcting hazardous conditions.

4.5.8. The procedures outlined above do not prevent the use of agency or negotiated grievance procedures.

4.6. Risk Reduction and Mitigation. Commanders and supervisors at all levels are expected to determine the level of acceptable risk required to preserve assets and safeguard health and welfare. They should incorporate RM into daily activities, on duty and off duty, IAW AFI 90-802. These principles are: **(T-1)**

4.6.1. Accept no unnecessary risk.

4.6.2. Make risk decisions at the appropriate level.

4.6.3. Integrate RM into operations, activities and planning at all levels.

4.6.4. Apply the process cyclically and continuously.

4.7. Preparation of Risk Assessments. A formal risk assessment succinctly documents the results of the Deliberate 5-Step RM process and supports follow-on decision-making processes. Decision options typically involve determining whether one or more particular courses of action should be pursued (e.g., implementing equipment improvements, safety or warning device improvements, operational improvements, technical improvements, policy improvements), or whether a risk should be accepted. A risk assessment supports decision-making processes by objectively identifying a hazard, assessing its risk, thoroughly analyzing potential options for risk mitigation and making a recommendation. **Note:** The term "losses" also include fatalities, not just system losses. Refer to AFI 90-802 and AFPAM 90-803, Attachment 8, for additional guidance regarding the preparation of formal risk assessments and the use of the AF Form 4437, *Deliberate Risk Assessment Worksheet*, to assist in documenting formal risk assessments.

Chapter 5

INFORMATION AND DATA ANALYSIS

5.1. Information Protection. Safety investigation reports contain privileged safety information and are for mishap prevention purposes only; they are not releasable outside of safety channels. Portions of such reports, though, contain factual, non-privileged information, which may be released to the public, as well as information that is not releasable to the public. For example, information that is for official use only (FOUO), may be restricted from public release by the Freedom of Information Act (FOIA) (Title 5, U.S.C., Section 552), the Privacy Act (Title 5, U.S.C., Section 552a), Health Insurance Portability and Accountability Act (HIPAA) (Public Law 104-19, 21 August 1996), Arms Export Control Act (Title 22, U.S.C., Sections 2751 *et seq.*), Export Administration Act of 1979 (Title 50, U.S.C., Appendix Sections 2401 *et seq.*), and other pertinent laws, regulations and policies. For requests for release of non-privileged information in safety reports or databases, AFSEC/JA is the release authority for requests for release outside of the AF; AFSEC personnel or the installation chief of safety is the release authority for requests from AF organizations. **(T-0)**

5.2. Safety Information.

5.2.1. Forward reports of Air Force mishaps as directed by AFI 91-204. Some of these reports may contain recommendations requiring urgent action requirements by AF agencies. Treat these mishap reports as urgent action notices.

5.2.2. Urgent action notices will be forwarded to HQ AFSEC through the Air Force Service Watch Center (AFSWC) at DSN 227-6103 or **AFWatch@Pentagon.af.mil**. HQ AFSEC will distribute these notices to safety offices through electronic distribution as appropriate to organizations with applicable guidance/instructions.

5.3. Recurring Publications. The goal of these publications is to prevent mishaps By providing educational information and insights. These publications discuss topics like standards implementation as well as establishment/maintenance of nuclear surety, environment, safety and occupational health programs. The OPR for each publication will determine content and frequency. HQ AFSEC/SEF posts monthly Blue Four News on the Air Force Safety Automated System (AFSAS) website, summarizing the previous month's Class A and B aviation mishaps. This summary contains privileged information and will be protected IAW AFI 91-204, **Chapter 3**.

5.3.1. HQ AFSEC/SE will issue recurring publications pertaining to the Air Force mishap prevention program.

5.3.2. MAJCOM Publications. MAJCOMs/FOAs/DRUs will utilize a variety of media and mediums to disseminate command-specific safety information to subordinate units.

5.3.3. Periodic Summaries. HQ/AFSEC sends periodic mishap summaries to the MAJCOM/FOA/DRU safety staffs. These summaries include recent mishap experience, mishap statistics, analyses of current problem areas and proposed changes in safety policy. These summaries will be disseminated, as appropriate, to subordinate organizations for mishap prevention purposes.

5.4. Methods of Information Distribution. Select an appropriate distribution method by considering content, time available and audience. The MAJCOM/FOA/DRU safety office will determine the appropriate distribution methods for their subordinate organizations. Suggested methods of distribution are:

5.4.1. For privileged safety information (requires appropriate screening of attendees, marking of materials and reminders of the privileged nature of the information):

5.4.1.1. Safety meetings.

5.4.1.2. Supervisor safety briefings.

5.4.2. For non-privileged safety information:

5.4.2.1. Safety meetings

5.4.2.2. Supervisor safety briefings.

5.4.2.3. Base newspapers and bulletins.

5.4.2.4. Safety publications.

5.4.2.5. HQ/AFSEC or MAJCOM/FOA/DRU publications.

5.4.2.6. Electronic means via e-mail, web page or video.

5.5. Mishap Analysis Program. In order to reduce mishaps, Commanders and Chiefs of Safety must know the types of mishaps and mishap rates, and number of mishaps that occur in their command. Once the type and number are identified, commanders can take risk mitigation actions based on sound mishap analysis. This historical look-back approach should be complemented by a proactive, forward looking mishap prevention plan based on pre-identified hazards that haven't yet caused a mishap.

5.5.1. MAJCOM/FOA/DRU and Wing safety staffs will: **(T-2)**

5.5.1.1. Conduct an annual analysis and develop specific actions to reverse adverse trends. Analysis should target specific problem areas with recommendations for commander approval and appropriate actions. This analysis compliments the data required in **Attachment 17**. **(T-2)**

5.5.1.2. Identify successes or problem areas and trends, measure safety program effectiveness and guide prevention actions. **(T-2)**

5.5.2. HQ AFSEC will perform an Air Force-level trend analysis and publish results. In addition, AFSEC may conduct Safety Analysis Team (SAT) hazard and mishap trend analysis (as described in paragraph **5.8**) for MAJCOMs/FOAs/DRUs, as directed by AF/SE.

5.6. Mishap Prevention Analysis Methods. There are several ways to approach analysis of mishap data and proactive information for mishap prevention purposes. Program analysis functions are to target, monitor and/or study.

5.6.1. Target Approach. This approach is similar to the study method below. After determining causes of mishaps, recommendations are developed and prioritized based on the frequency and severity. Corrective actions are directed at the activities and mechanisms that result in the greatest number of injuries.

5.6.2. Study Approach. This is a detailed examination of a specific problem area through the use of a systematic process. A study should follow a systematic process. It typically follows the format of the Scientific Method. The researcher first drafts a problem statement that clearly defines the goals of the study. For example, a suitably specific research question might be "Determine a trend in the frequency of X and identify possible explanations for this trend." The researcher will then conduct background research to identify factors and data relevant to the problem. Then the researcher must draft an objective statement that describes the problem and limits the study (the hypothesis or purpose). An example is "X is increasing because of Y." Then the researcher develops a plan on how these factors and data are going to be collected, tabulated, compared, plotted and analyzed (methods). Finally, the data is collected and analyzed and results reported confirming or denying the hypotheses. Conclusions and implications regarding application of the results of the study are the most important outcome of the study. **(T-3)**

5.6.3. Additional Analysis Categories. In this method, the safety staff selects categories of raw data and reviews them regularly in the form of tabulations or rates. The object is to identify trends and problem areas. Selection of the areas to be monitored depends on the available data and the needs of the organization. Mishap reports are a good place to start, but other areas should not be overlooked. Some other categories that may be appropriate for analysis are: **(T-3)**

5.6.3.1. Hazardous Air Traffic Reports.

5.6.3.2. High Accident Potential Reports.

5.6.3.3. Deficiency Reports.

5.6.3.4. Inspection/Evaluation Reports.

5.6.3.5. Foreign Object Damage (FOD) Reports.

5.6.3.6. First-Aid Cases.

5.6.3.7. Maintenance Logs or Reports.

5.6.3.8. Hazard Reports.

5.6.3.9. Airman Safety Action Program (ASAP).

5.6.3.10. Military Flight Operations Quality Assurance (MFOQA) Analyses.

5.6.3.11. Line Operations Safety Audit (LOSA) Reports.

5.7. Use of Analyzed Data. The purpose of analysis is to help prevent mishaps and present conclusions drawn in a useful format that can be applied to prevention programs. Once corrective actions are taken, follow-up analysis may be required to determine effectiveness.

5.8. Safety Analysis Team (SAT) Process. The SAT process is an AFSEC Analysis and Integration Division (AFSEC/SEA) led proactive, data-driven process with the goal of providing commanders with unbiased, rank-ordered risk mitigation strategies to assist in resource allocation for the preservation of combat capability.

5.8.1. The SAT process focuses exclusively on SME analysis of mishap reports, identification of "documented" risk and development of risk mitigation strategies to meet these hazards. The process then considers the effectiveness of each of the strategies weighed

against real-world constraints, and through detailed mathematical analysis provides commanders with a rank-ordered list of qualified and quantified recommendations for implementation.

5.8.2. SAT assessments can be requested through the AFSEC/SEA. All requests are approved by AF/SE. HQ AFSEC/SEA will conduct the study and provide a final report and out-brief to the requesting commander. For additional information contact HQ AFSEC/SEA: DSN 246-1562, Commercial (505) 846-1562.

5.9. Air Force Combined Mishap Reduction System (AFCMRS). AFCMRS provides squadron commanders and above with web-based tools to survey aircrew, maintenance and support personnel regarding safety issues. AFCMRS also offers specialized surveys targeting Nuclear Surety operations, Nuclear Surety maintenance, Nuclear Surety support and Higher Headquarters. Additionally, a driving survey is available which addresses drinking and driving, private motor vehicle and motorcycle issues.

5.9.1. AFCMRS helps commanders identify safety concerns and hazards while highlighting where to focus their hazard assessment efforts. This tool's key goal is identification and correction of subtle organizational conditions that increase mishap potential. Commanders receive real-time feedback on attitudes and perceptions concerning safety climate and culture, resource availability, workload, progress of safety intervention programs and other operational factors relating to safety.

5.9.2. Commanders can request AFCMRS surveys by visiting **https://www.afcmrs.org/**. Other inquiries must be addressed to the HQ AFSEC Human Factors Division (HQ AFSEC/SEH): DSN 263-8454, Commercial (505) 853-8454.

5.10. Military Flight Operations Quality Assurance (MFOQA). The Air Force MFOQA Program is a proactive aviation safety initiative that analyzes routine flight data to detect, measure and mitigate mishap precursors while protecting crew identity.

5.10.1. Currently, the MFOQA Program uses former Air Force instructor pilots (IPs) under contract with the Safety Center to analyze the flight data and produce monthly reports for aircrew, operational leaders and safety officers. The MFOQA analysts study the aggregate data to establish a baseline of normal flight operations, detect trends toward operational limits, and examine exceedances of preset parameters. The result of such analyses allows leaders to intervene to correct adverse mission and safety trends before they lead to mishaps. Subsequent analyses of the same data allow leaders to objectively measure whether the corrective action was effective.

5.10.2. Commanders and safety professionals can utilize MFOQA to validate effectiveness of tactics, training and procedures by measuring what actually happens out in the system; compare actual versus calculated aircraft performance data; obtain insight on how effectively flights are following mission profiles; learn where unstable approaches and go-arounds are most likely to occur; detect exact parts of profiles where over/under-loads, over-speeds, and over-temps are most likely to occur; measure variations in mission accomplishment within pre-established limits in order to optimize processes; and assess whether a procedural change has had a positive or negative effect on operations. Also, safety professionals and leaders can request customized analyses that lend specific insights into their operations. Contact AFSEC/SEF at afsec/**sefe@us.af.mil**.

5.10.3. **(Added-PACAF)** Wing FSOs shall ensure relevant MFOQA hazard and trend analysis are distributed as appropriate. Where applicable, integrate MFOQA information into existing trend analysis. (**T-3**)

5.11. Airman Safety Action Program (ASAP). The Air Force ASAP initiative provides a voluntary, web-based reporting tool to report errors and hazards.

5.11.1. ASAP is designed to capture hazards and errors detected by airfield operations, aircrew and maintainers and to distribute that information throughout the aviation community so that all may benefit. ASAP also provides leadership with evidence of risk that may otherwise be invisible, so that risk management actions can be taken to improve safety.

5.11.2. Commanders and safety professionals utilize ASAP to uncover the latest hazards; obtain information needed to brief-up threats and errors related to airfields, terrain, or air traffic control (ATC); and identify seldom seen navigation or weather traps. The program allows decision-makers to look across different mission design series (MDS) to perceive system-wide problems, with command and control, or with non-U.S. transient alert. ASAP also enhances the self-learning, self-awareness and self-correction that take place as reporters are guided through a user-friendly interface that prompts reflection and analysis of what occurred.

5.11.3. ASAP reports can be filed and viewed by anyone with a Common Access Card (CAC) by accessing the following website: **http://www.safety-masap.com/**.

5.11.4. **(Added-PACAF)** Unit FSOs/FSNCOs shall brief ASAP reporting procedures to aircrew and maintenance personnel, and include relevant ASAP reports and trend analysis in quarterly flying safety meetings. Where applicable, integrate ASAP information into existing trend analysis. (**T-3**)

5.12. Line Operations Safety Audit (LOSA). The Air Force LOSA Program is a non-punitive, unobtrusive, peer-to-peer observation program that collects safety-related flight data during normal operations in order to assess safety margins and improvement measures.

5.12.1. LOSA is designed to provide early warnings of developing safety problems. The program works by selecting and training highly qualified crewmembers to ride on jump seats during routine flights to record the threats encountered by aircrew, the types of errors committed and how the crews managed those threats and errors in order to maintain safety. How crews manage threats and errors provides excellent insights into training and organizational culture. LOSA observers also study Crew Resource Management (CRM) performance and perform a carefully structured interview to collect aircrew input for safety improvement.

5.12.2. LOSA can be used by commanders and safety professionals to systematically and scientifically identify the strengths and weaknesses of normal operations, decrease the frequency of undesirable events, assess the quality and usability of procedures, detect inappropriate techniques, identify design issues with automation as evidenced through mode errors and aircrew use, and detect normalization of deviance in the form of workarounds and shortcuts used by aircrew, air traffic controllers and dispatchers.

5.13. Organizational Safety Assessment (OSA). OSA is a proactive, mishap prevention tool that aids commanders and other leaders in risk assessment and decision making.

5.13.1. The OSA program focuses on operations, maintenance, air traffic control, security forces and other areas directly related to safety. It assesses and quantifies personnel stress levels and perceptions. The OSA identifies organizational climate and culture factors with safety implications and provides base level senior leadership with proven safety recommendations tailored to specific situations.

5.13.2. Installation-level commanders may request an OSA through the AFSEC Human Factors Division (AFSEC/SEH). All requests are approved by AF/SE. HQ AFSEC will conduct the assessment and provide an out-brief to the requesting commander. Contact AFSEC/SEHA DSN 246-3763 for information.

5.14. Standard Mishap Metrics. Mishap metrics (calculated as a number of events against some kind of exposure) are an effective way to compare the actions and accomplishments of your unit. Consideration must be given to the differences in operations, environment, equipment or other variables when comparing organizations or MAJCOMs/FOAs/DRUs. The metrics used by the safety community to this point have focused on results – the number of mishaps experienced over time relative to exposure. HQ AFSEC uses standardized rates for metrics below:

5.14.1. Aviation Mishaps.

5.14.1.1. Total USAF Aviation Class A/B Metric. This metric identifies the number of USAF aviation mishaps (to include flight, flight-related aircraft ground operations and remotely piloted aircraft [RPA]) and aircraft flight and RPA mishap rates per 100,000 flying hours. The Class A/B rate is calculated as the total number of Class A/B mishaps multiplied by 100,000 flying hours divided by the total number of flying hours.

5.14.1.2. USAF Class A Aviation Flight Mishap Metric. This metric identifies the number of USAF Class A aircraft flight mishaps per 100,000 flying hours.

5.14.1.3. Aviation-Related Fatalities Metric. This metric identifies the number of fatalities due to USAF aviation mishaps and mishap rates per 100,000 flying hours.

5.14.1.4. Destroyed USAF Aircraft Metric. This metric identifies the number of destroyed USAF aircraft due to aviation mishaps and mishap rates per 100,000 flying hours.

5.14.1.5. USAF RPA A/B Metric. This metric identifies the number of USAF RPA mishaps and the RPA mishap rate per 100,000 flying hours.

5.14.1.6. USAF RPA Destroyed Metric. This metric identifies the number of USAF destroyed RPA and the rate per 100,000 flying hours.

5.14.2. Class A & B Missile and Explosives Metric. This metric identifies the total Class A and B missile and explosives mishaps.

5.14.3. Class A & B Space Metric. This metric identifies the total Class A and B Space mishaps.

5.14.4. Ground Mishaps.

5.14.4.1. On Duty Ground Metric (Rate). This metric applies to both military and civilian personnel and is used to identify the number of mishaps, fatalities or injuries experienced by military and civilian personnel while on duty per 100,000 personnel per FY. To calculate daily, monthly or yearly on-duty rates, multiply the total number of military and civilian mishap, fatalities or injuries by 100,000 personnel divided by the military and civilian strength. **Note:** AFSEC calculates daily and yearly statistics based upon AFPC/ARPC strength numbers.

5.14.4.2. Off-Duty Ground Metric (Rate). This metric applies only to military personnel and is used to identify the number of mishaps, fatalities or injuries experienced by off-duty military personnel per 100,000 personnel per year. To calculate daily, monthly or yearly off-duty rates, multiply the total number of military mishap, fatalities or injuries x 100,000 personnel divided by the military strength. **Note:** AFSEC calculates daily and yearly statistics based upon AFPC/ARPC strength numbers.

5.14.4.3. Private Motor Vehicle (PMV) Off-duty Metric (Rate). This metric applies only to military personnel and is used to identify the number of off-duty PMV fatalities experienced by off-duty military personnel per 100,000 personnel.

5.14.4.4. Total Case Incident Rate (TCIR). This metric applies only to civilian personnel and is used to identify the total number of recordable (Class A, B, C, and D) civilian injuries and illness cases per 100 full-time employees that a site has experienced per year. The TCIR is calculated as follows: TCIR = (Total number of injuries x 200,000)/Number of man-hours worked. Rationale: The 200,000 hours are based on 100 full-time workers working 40 hours per week, 50 weeks each year (100 x 40 hours per week x 50 weeks). Total man hours worked equals the personnel strength x 40 hours per week x 50 weeks per year plus overtime hours worked. **Note:** Actual hours to include overtime should be used for computing civilian hours worked.

5.14.4.5. Days Away, Restricted, and/or Transfer (DART) Case Incidence Rate. This metric applies only to civilian personnel and is used to identify the total number of recordable civilian injuries and illness cases per 100 full-time employees resulting in *days away from work, restricted work activity, and/or job transfer* that a site has experienced in a given time frame. The DART is calculated as follows: DART = (Total incidents resulting in days away, restricted work or transfer x 200,000)/Number of man-hours worked. Rationale: The 200,000 hours are based on 100 full-time workers working 40 hours per week, 50 weeks each year (100 x 40 hours per week x 50 weeks). Total man hours worked equals the personnel strength x 40 hours per week x 50 weeks per year plus overtime hours worked. **Note:** Actual hours to include overtime should be used for computing civilian hours worked.

5.14.4.6. To compare your TCIR and DART rates go to the Bureau of Labor Statistics (BLS) website at **http://www.osha.gov/oshstats/work.html** for national averages.

5.15. Calculating Federal Employee Compensation Metric (Rate). This metric applies only to civilian personnel. These rates are related to civilian claims that result for on-duty civilian mishaps per 200,000 hours of exposure. To calculate the rates, multiply the number of civilian compensation claims by 200,000 hours divided by civilian strength multiplied by 2,000 hours plus overtime hours, e.g., (Total number of civilian compensation claims x 200,000)/Number of man-hours worked. Rationale: The 2,000 hours equates to 40 hours per week x 50 weeks per year.

5.16. AFSAS Analysis and Query Tools.

5.16.1. AFSAS Data Extraction Tool (DET). The DET was developed to supply AFSAS users with a quick and easy tool for obtaining historical mishap data. The DET will generally meet the majority of requests for raw data, with the added capability to extract the data to either MS-Excel, HTML or MS-Word.

5.16.2. AFSAS Advanced Query Tool. AFSAS Advanced Query Tool is a Business Intelligence capability that provides users a repository of ready-to-go reports, formatted to define requirements. Reports found within the repository were developed to fulfill the requirements of Air Force safety personnel to generate periodic dashboard-like briefings to senior leadership. Typically, these reports have specific, repetitive data and presentation requirements that change very little over time.

5.16.2.1. AFSAS Advanced Query Tool reports retrieve data directly from AFSAS and other systems automatically, on a daily basis, leaving safety professionals more time to focus on other important tasks other than building repetitive briefings.

5.16.2.2. In addition, the Tool also offers an advance query tool called Query Studio. Query Studio offers users the capability to the DET, to create simple queries, but with greater options to conform data into charts and graphs for presentations.

Chapter 6

DEPLOYMENT AND CONTINGENCY SAFETY

6.1. Deployment and Contingency Safety Program. The purpose of this chapter is to provide Commander, Air Force Forces (COMAFFOR) a tool to preserve combat capability and manage risk to U.S. based and deployed Air Force units supporting U.S. homeland and worldwide contingency operations. The rotational nature of forces within an Area of Responsibility (AOR) necessitates an active program and commander involvement at all levels. Pre-planning, training, and preparation prior to deployments are essential to mission success. See AFPAM 91-216, *USAF Safety Deployment and Contingency*, for further guidance. **Note:** This instruction also applies to Air Force Forces (AFFOR).

6.1.1. Objectives:

6.1.1.1. Provide timely and accurate safety information to commanders.

6.1.1.2. Enhance deployed unit mishap prevention programs.

6.1.1.3. Recommend required mishap mitigation measures.

6.1.1.4. Recommend required mishap mitigation measures.

6.1.2. No aspect of this chapter is intended to conflict with existing AFPDs, AFIs or Tactics, Techniques, and Procedures (TTP). It is intended to clarify the duties and responsibilities of the AFFOR and deployed Air Force Safety office in the context of a unique deployment environment. In the event that this instruction conflicts with safety guidelines set forth by AOR governing/executive agency, the most restrictive guidance will apply. The requirements of the Deployed and Contingency Safety Program apply to all AFFOR assigned/gained/aligned units for the duration of their assignment or deployment. In specific areas where guidance is lacking in this instruction, good judgment and thorough communication throughout the chain of command must prevail.

6.1.3. Bare Base Safety.

6.1.3.1. Risk Management. While establishing bare base and short term operations, the single most important action a deployed Chief of Safety can take is RTRM. Specific programs as listed in this instruction will be implemented as resources are available to establish and maintain them. Once in place, sustainment ops commanders, supervisors and functional managers at all levels will develop and implement safety, RM and health programs that integrate hazard reduction and safety policy into all on-duty and off-duty operations and activities. **(T-3)**

6.1.3.2. Key Programs. Bare base safety priorities must include a Spot Inspection Program (ensures safety is in the work areas), the Unit Safety Representative program (conduit for information to and from the unit), and Mishap Response Plans. As the location matures, the commander must evaluate the need for additional programs. **(T-3)**

6.2. AFFOR/SE.

6.2.1. AFFOR/SE elements will forward deploy as needed within the AOR in support of Air Expeditionary Force (AEF) tasking, Operational Plans (OPLANS), contingency operations, theater engagement or to perform assessments.

6.2.2. AFFOR/SE Responsibilities:

6.2.2.1. Guide the execution of the AFFOR Safety Program within the AOR.

6.2.2.2. Coordinate manpower requirements for staff safety functions in the AOR.

6.2.2.3. Coordinate and execute the AFFOR Hazard Review Board. See paragraph 6.7.

6.2.2.4. Coordinate with the COMAFFOR, geographic Combatant Commands (GCC) and other Component Commands of the GCC, Host Nations, sister services, MAJCOMs/NAFs, other governmental agencies and non-governmental agencies on safety-specific theater issues and safety investigations.

6.2.2.5. Author AOR OPLAN annexes, as required.

6.2.2.6. Conduct semi-annual evaluations to ensure continuity of AFFOR-gained units, observe execution of unit safety programs and provide feedback, as necessary.

6.3. AFFOR Deployed Unit Safety Functions and Organizations. Air Force Forces (AFFOR) deployed safety offices will establish and maintain all required mishap prevention programs as addressed in this instruction and applicable AOR procedures. AFFOR/SE will provide guidance and assistance as necessary. **(T-2)**

6.3.1. Scope. Most units are composed of an Air Expeditionary Wing (AEW) or Air Expeditionary Group (AEG), associated flying squadrons, maintenance units and mission support units. Where there is no parent AEW or AEG, squadrons/detachments will assume duties listed below, where applicable.

6.3.2. Air Expeditionary Wing/Group/Squadron Commander Responsibilities:

6.3.2.1. Coordinate/liaise with AFFOR/SE on requested manpower changes.

6.3.2.2. Provide guidance to the assigned safety staff on performing safety duties.

6.3.2.3. Expeditionary Squadron Commanders will appoint a USR for ground safety. Designate, by signed memo, USRs to the AEW/AEG safety office prior to departure of the current USR or within two weeks of arrival of new appointee. Newly appointed USRs must coordinate with the AEW/AEG Safety Office for training so that training may be accomplished within seven days of appointment notification. **(T-3)**

6.3.2.4. Expeditionary flying Squadron Commanders will designate, by signed memo, an Additional Duty Flight Safety Officer (ADFSO) to the AEW/AEG safety office prior to departure of the current ADFSO or within two weeks of individual's arrival. Newly appointed ADFSOs must coordinate with the AEW/AEG Safety Office for training so that training may be accomplished within seven days of appointment notification. **(T-3)**

6.3.2.5. At operating locations where the unit stores, handles or transports explosives, the expeditionary unit commanders will designate, by signed memo, an ADWSR to the AEW/AEG safety office prior to departure of the current ADWSR or within two weeks

of arrival, if possible. Newly appointed ADWSRs must coordinate with the AEW/AEG Safety Office for training so that training may be accomplished within seven days of appointment notification. **(T-3)**

6.3.3. Operating Location and Deployed Safety Office Responsibilities.

6.3.3.1. U.S. homeland based OLs and detachments supporting AFFOR AOR missions continue to employ safety program elements IAW their respective MAJCOM/FOA/DRU directives. U.S. homeland based AFFOR assigned/gained unit safety offices shall incorporate AFFOR/SE coordination into their programs as determined applicable by AFFOR/SE. **(T-2)**

6.3.3.2. Establish a semi-annual safety council to review recent safety events, items on the hazard abatement plan, hazard reports, SAV results, mishap experience and weapons and flight related issues of concern. This will be accomplished through the ESOH Council unless one is not conducted at a specific location. **(T-2)**

6.3.3.3. Subject to any GCC limitations, attempt to meet at least bi-monthly with host nation air force or local airfield authority counterparts concerning safety issues. Document meetings, or attempts, in writing and include agenda, attendees, discussion summary, agreements, recommendations, action items and proposed date of next meeting. **(T-2)**

6.3.3.4. Maintain a Mishap Response Plan (separately or as part of the Installation Emergency Management Plan) reflecting working relationships with local and host agencies. **(T-2)**

6.3.3.5. Track all identified hazards. RAC 1 – 3 items will be tracked in the Master Hazard Abatement Plan, while RAC 4 and 5 items will be tracked in a local tracking system. Forward all hazard abatement issues that require HHQ funding or involvement to AFFOR/SE for dissemination outside the AOR. In addition to established MAJCOM hazard abatement processes, U.S. based organizations supporting an AFFOR/AOR forward hazard abatement issues affecting AOR mission accomplishment to AFFOR/SE for additional coordination within the Combatant Command. **(T-3)**

6.3.3.6. Work with contracting officials to review procedures for procurement requests prior to purchase via the Government Purchase Card and AF Form 9, *Request for Purchase,* IAW AFPAM 91-210, *Contract Safety,* to assist purchase agents with procurement of items and equipment that meet or exceed safety requirements, depending on the location.

6.3.3.7. Continuity Books. Each safety office will maintain complete and thorough continuity books covering all duties required by the safety staff. The continuity books will contain at a minimum: End of Tour reports, Rotational Safety Councils, Confined Space Program team meetings, Flight Safety meetings, Airfield Operations Board meetings and USR meetings. **(T-3)**

6.3.3.8. End of Tour Reports. All individuals deployed into safety positions will submit end of tour comments to the deployed COS. All deployed COSs will consolidate inputs from each safety discipline and will submit a written report to AFFOR/SE before the completion of their deployment and maintain a copy in their continuity book. This report

should focus on lessons learned, positive and negative. Activities, actions and duties performed while deployed may be included but the primary focus of the report is to improve the Deployed Safety Program. These reports will be posted in AF-JLLIS Document Library (**https://www.jllis.mil**) and forwarded or made available to other organizations (e.g. AFSEC, MAJCOMs/FOAs/DRUs, NAFs and wings), as appropriate. **(T-3)**

6.3.3.9. Weapons Safety.

6.3.3.9.1. Explosives Site Planning. Site Planning will be accomplished IAW AFMAN 91-201. AFFOR/SEW is the MAJCOM-level coordination authority for deployed AOR base explosives site planning involving Air Force munitions assets. AFFOR/SEW will coordinate/liaise on similar issues in other AORs in order to keep COMAFFOR appraised of issues which may affect AFFOR combat capability. **(T-1)**

6.3.3.9.2. Deployed Weapons Safety Managers (WSM) are responsible for initiating action for the explosives site planning of potential explosives sites at their base. Deployed WSMs will direct any problems involving explosives site planning to AFFOR/SEW. AFFOR/SEW will review all AOR explosives site plans and provide guidance/technical assistance to theater operating location WSMs. Final approval must go through appropriate agencies as identified in AFMAN 91-201. **(T-2)**

6.3.3.9.3. Units that handle less than 1,000 rounds of small arms ammunition, and are not licensed, are not required to assign an ADWSR. Supervisors are responsible to monitor activities of these units. **(T-3)**

6.3.3.9.4. Radiation Hazard Zones. Ensure Radiation Hazard Zones are established with the focus on personnel, electro-explosive devices (EED) and petroleum, oils and lubricants (POL). Ensure interoperability with other systems deployed to the same location. Refer to AFI 48-9, *Radio Frequency Radiation (RFR) Safety Program*, AFI 48-139, *Laser and Optical Radiation Protection Program*, AFMAN 91-201, and AFI 91-208, *Hazards of Electromagnetic Radiation to Ordnance (HERO) Certification and Management*, for additional information. **(T-1)**

6.3.3.10. Ground Safety Managers (GSMs) are responsible for:

6.3.3.10.1. Providing safety briefings for the Personnel Support for Contingency Operations (PERSCO) office's RIGHT START program. The RIGHT START safety briefing should address safety conditions/issues specific to that particular base/environment. **(T-2)**

6.3.3.10.2. Inspecting all assigned units and facilities annually. A report will be provided to the unit commander and all identified discrepancies will be tracked until closed. **(T-1)**

6.3.3.10.3. Reviewing project designs and plans for projects and construction. Coordinate with SEW on projects. **(T-2)**

6.3.3.11. Space Safety. For operationally deployed space assets, system-related safety issues will be directed through Wing Safety (or equivalent), NAF/Center Safety, MAJCOM Safety and HQ AFSEC/SES. Wing or equivalent-level safety offices responsible for deployed assets are responsible for the following: **(T-2)**

6.3.3.11.1. Directed Energy Systems. Ensure all directed energy systems are directed away from aircraft traffic patterns and personnel. Ensure coordination with local air traffic control to avoid development of flight patterns that may impinge upon Directed Energy clear zones. Directed energy systems aimed above the horizon must interface with the Laser Clearinghouse (per DoDI O-3100.11, *Illumination of Objects in Space by Lasers*). **(T-2)**

6.3.3.11.2. Frequency Management. Deploying units contact a Spectrum Manager at the squadron, wing or installation, who, in turn, will contact the MAJCOM and AFFOR frequency managers prior to their unit's arrival at the operating location to de-conflict potential interference issues. Upon arrival, deploying units contact the local frequency manager to follow up on any changes which may have occurred while en route. Ensure compliance with the published Joint Restricted Frequency List (JRFL). **(T-2)**

6.4. Mishap Prevention Program. AFFOR deployed safety offices will establish and maintain all required mishap prevention programs as addressed in this instruction and applicable AOR procedures. AFFOR/SE will provide guidance and assistance as necessary. **(T-2)**

6.4.1. Mishap Investigation. In general, COMAFFOR is not the convening authority for mishaps in the AOR. Convening authority falls to the home station MAJCOM/FOA/DRU IAW AFI 91-204. The convening authority may contact the COMAFFOR and/or AFFOR/SE to request local deployed safety office SIB support beyond ISB responsibilities, provided the deployed commander and AFFOR/SE support the request. Mishap Investigations should be accomplished IAW AFI 91-204 with the following caveats:

6.4.1.1. Aviation. The COMAFFOR is the convening authority for all Class E-BASH, Controlled Movement Aerial Violations (CMAVs), HATRs and appropriate HAPs to promote location-dependent trending and intervention. **(T-1)**

6.4.1.2. Ground. The COMAFFOR is the convening authority for mishaps related to War Readiness Materiel assets or injury/death of an AOR PCS member.

6.4.1.3. Explosives. The COMAFFOR is the convening authority for all munitions mishaps that don't involve improper weapons activation (not actuated from weapon/aircraft). For incidents involving accidental or improper weapons activation (misfire, jamming, etc.), the home station MAJCOM/FOA/DRU of the person/aircraft is convening authority.

6.4.2. Mishap Notification Procedures. AFFOR/SE will be notified immediately of any Class A or Class B mishaps and included as an addressee on all safety reports, e-mails and messages concerning mishaps, incidents or events that involve USAF assets in or supporting contingency operations in the AOR. In the event of a Class A or Class B aviation, ground or weapons mishap, AFFOR/SE will be the primary coordinator with MAJCOM/FOA/DRU convening authorities and/or the Air Force Safety Center. **(T-1)**

6.5. Monthly, Quarterly and Annual Safety Awards. Deployed individuals and units are eligible for MAJCOM/FOA/DRU and AF-level safety awards. Refer to AFI 36-2833, *Safety Awards*, for additional information regarding AF-level safety awards.

6.6. AFFOR/SE Visits. AFFOR/SE will conduct semi-annual visits to AOR Operating Locations and deployed units. Additionally, AFFOR safety will conduct interim visits as requested by AEW/G commanders. Due to the cyclical nature of deployed personnel, these visits are an important tool to reinforce safety presence with the subordinate units. SAVs will focus on areas requested by the AEW/AEG safety office or as determined by AFFOR/SE, based on previous PE reports and other correspondence.

Chapter 7

AVIATION SAFETY

7.1. Program Management. Each unit conducting or supporting flight operations must have an aviation safety program. The COS or senior installation safety representative will ensure an active safety presence at the installation through the plans, programs and training responsibilities outlined below. **(T-0)**

7.1.1. The host safety office is responsible for the base aviation safety program.

7.1.2. Tenant units coordinate their flight safety programs with the host to avoid duplication. If the host does not have an FSO allocation, the largest tenant with an allocation manages the base flight safety program. If neither the host nor the tenant has an FSO allocation, flight safety responsibilities revert to the host COS.

7.2. Plans. The FSO/FSM/ FSNCO will help develop and review appropriate emergency response plans and coordinate on any other installation plans involving flight safety or aircraft emergencies. These plans should include but are not limited to: **(T-3)**

7.2.1. Installation Emergency Management Plan (IEMP). The COS is responsible for ensuring that units develop an aviation specific portion of the IEMP. The COS ensures the plan defines roles, responsibilities and notification requirements for leadership and all involved agencies. The IEMP should include elements of or a reference to existing plans concerning the disaster response required by AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*. **(T-3)**

7.2.2. Bird/Wildlife Aircraft Strike Hazard (BASH) Plan. The host safety office will establish the BASH plan, to include, defining the nature and extent of wildlife hazards and implementation of the plan. Plan implementation may require environmental controls and changes to bird/wildlife dispersal/removal techniques and operational procedures. Cooperative agreements for managing fish and wildlife resources require coordination with state and Federal conservation agencies prior to implementation. IAW AFI 32-7064, paragraph 14.1, the Integrated Natural Resource Management Plan must support the installation's BASH plan. The BASH plan must identify local procedures and permits for the proper collection, handling and disposal of wildlife carcasses and biological material discovered on the airfield and aircraft. **(T-3)**

7.3. Programs. The COS will ensure the following programs are established, maintained and reviewed at least annually. **(T-3)**

7.3.1. BASH Program. Responsibilities for establishing and administering the Air Force BASH Program:

7.3.1.1. HQ AFSEC/SEFW will:

7.3.1.1.1. Analyze wildlife strike data to provide baseline information to Air Force agencies.

7.3.1.1.2. Approve the exchange and distribution of Air Force wildlife strike data to US Government and foreign agencies.

7.3.1.1.3. Monitor MAJCOM BASH reduction programs.

7.3.1.1.4. Instruct FSOs/FSMs/FSNCOs in BASH reduction and provide basic BASH training at AETC-sponsored training programs (i.e., FSNCO Safety Course, Airfield Management Course, etc.).

7.3.1.1.5. Propose BASH reduction policies and guidelines to AF/SE.

7.3.1.1.6. Review proposed conservation projects and federal legislation affecting the Air Force's BASH reduction program and coordinate the Air Force response with AF/SE and other agencies.

7.3.1.1.7. Identify and develop programs to aid in evaluating potential bird strike hazards in low-level airspace.

7.3.1.1.7.1. Avian radars are approved for use on Air Force airfields and ranges provided they are fielded IAW UFC 3-260-01, *Airfield and Heliport Planning and Design*, and in coordination with the Installation Radiation Safety Officer. Coordinate set up and use for inclusion in Airfield Operations Instruction and by Airfield personnel. **Note:** At OCONUS locations, use of and siting of avian radars is governed by Status of Forces Agreements (SOFA), Host Nation Funded Construction Agreement (HNFA), and in some instances, Bilateral Infrastructure Agreements (BIA).

7.3.1.1.7.2. Avian radars are systems specifically designed to detect hazardous wildlife flying around an airfield environment or specified low-level airspace. Applications of the avian radar may include, but are not limited to, airborne wildlife movement monitoring; detection of attractive habitats for wildlife exclusion, harassment and depredation; Bird Watch Condition (BWC) determination; and flying window alteration.

7.3.1.1.8. At installation request, coordinated through the respective MAJCOM, provide technical assistance to reduce wildlife hazards at bases with flying operations.

7.3.1.1.9. At installation request, coordinated through the respective MAJCOM, provide technical assistance in evaluating installation BASH plans.

7.3.1.1.10. Coordinate Air Force BASH program with other federal and host nation agencies, as applicable.

7.3.1.1.11. Identify Air Force BASH research requirements, developing and managing research projects.

7.3.1.1.12. Establish and maintain liaison with international, federal, state and private organizations regarding wildlife hazard reduction.

7.3.1.1.13. Administer Air Force's wildlife hazard advisory systems and bird feather/wildlife strike remains identification program.

7.3.1.1.14. Provide technical assistance to Safety Investigation Board president when a wildlife hazard may be a factor in a mishap.

7.3.1.1.15. Chair the Air Force BASH Steering Group meetings, as needed.

7.3.1.2. Air Education Training Command (AETC) will:

7.3.1.2.1. Incorporate wildlife aircraft strike hazard reduction training into AETC-sponsored formal training courses used to educate base pest management specialists, safety technicians and airfield managers in wildlife aircraft strike hazard reduction.

7.3.1.2.2. Incorporate safety awareness of wildlife aircraft strike hazards into safety briefings provided at joint undergraduate navigator training, joint specialized undergraduate pilot training (JSUPT), and pilot instructor training (PIT) programs.

7.3.1.3. MAJCOMs will:

7.3.1.3.1. Annually review BASH plans from each installation conducting or supporting flight operations. Ensure all tenant units are included in the base BASH plan.

7.3.1.3.2. Conduct on-site reviews of installation BASH programs, to include potential hazards and mitigation techniques, at least every 36 months. Coordinate as needed with HQ AFSEC/SEFW. Tenant unit BASH programs will be reviewed by owning MAJCOMS and may be scheduled during reoccurring inspections or staff assistance visits.

7.3.1.3.3. Consider potential wildlife strike hazards when developing or revising operational procedures, training routes, ranges, instrument approach and departure procedures, establishing MOA or low altitude tactical navigation areas.

7.3.1.4. National Guard Bureau (NGB) will:

7.3.1.4.1. Ensure each ANG installation/unit conducting or supporting flight operations has an annually reviewed written BASH plan. Ensure all tenant units, where applicable, are included in the ANG base BASH plan.

7.3.1.4.2. Conduct on-site reviews of installation BASH programs, to include potential hazards and mitigation techniques, at least every 72 months. Coordinate as needed with HQ AFSEC/SEFW. Non-ANG tenant unit BASH programs will be reviewed by owning MAJCOMs at least every 36 months and may be scheduled during recurring inspections or staff assistance visits.

7.3.1.4.3. Consider potential wildlife strike hazards when developing or revising operational procedures, training routes, ranges, instrument approach and departure procedures, establishing MOA or low altitude tactical navigation areas.

7.3.1.5. Wing, Base and Installation Safety Offices are responsible for the following:

7.3.1.5.1. Base Level BASH Program. Host Air Force, AFRC and ANG installations/units that support any type of Air Force flight operations at their airfield will establish a BASH program unless delegated to a different organization through a formal agreement (i.e., Contract, Host-Tenant Support Agreement, MOA). However, if a formal agreement cannot be reached that is amenable to all parties involved, primary responsibility for the BASH program will default to the organization responsible for management of the flight safety program. The BASH program will include all tenant flying units. The BASH program requires complete documentation of local wildlife hazards, effects on missions and possible solutions to include hazards surrounding ranges used by local flying units. Tenant units located on an airfield that is not hosted by the Air Force, AFRC or ANG will establish a BASH program with

the host authority (civilian airport, Naval Air Station, Federal airfield, etc.). Units that operate RPAs beyond line of sight, such as Contingency Operations, and have no other local physical flying assets assigned to them are not required to maintain a BASH plan for their geographically-separated operating location. **(T-3)**

7.3.1.5.2. Review the BASH plan annually for accuracy and compliance with current directives, revising as necessary. Ensure all tenant units are included in the base BASH plan. If applicable, document avian radar operational procedures in the unit's BASH Plan, Operational Instruction or local supplement prior to use. **(T-3)**

7.3.1.5.2.1. **(Added-PACAF)** BASH plans shall be sent to HQ PACAF/SEF following the annual review and are not considered finalized until coordinated with PACAF/SEF. Once approved by PACAF/SEF, BASH plan owners will publish the BASH plan to their local wing safety SharePoint site. (**T-2**)

7.3.1.5.3. BASH programs at overseas locations depend on international agreement provisions, Geographic Combatant Command (GCC) policy and host nation support. MAJCOMs will evaluate those plans to ensure the spirit of this instruction is complied with to the maximum extent possible.

7.3.1.5.4. Each installation with flying operations must develop procedures within the BASH plan that lists responsibilities and methods for wildlife control. Due to the complexities of hazard abatement and potential for loss of aircraft and crew, it is strongly recommended that a dedicated wildlife hazard management specialist be retained on staff. **(T-3)**

7.3.1.5.5. Establish a Bird Hazard Working Group (BHWG) consisting of organizations involved in airfield wildlife control, natural resources management, operations and safety. The BHWG must meet at least semi-annually with minutes maintained. The Vice Wing Commander of AF Flight Assets or equivalent will chair this meeting. The BHWG will coordinate base improvement projects, e.g., grounds maintenance, wastewater treatment, golf courses, for BASH-related issues. **(T-3)**

7.3.1.5.5.1. **(Added-PACAF)** The BHWG minutes shall be posted to the appropriate safety office's SharePoint site. (**T-3**)

7.3.1.5.6. Develop a Bird Hazard Warning System to inform aircrews of possible flight hazards due to wildlife activity in local areas. Bird Watch Condition (BWC) codes will be used to communicate local wildlife activity along with location, number and type of wildlife. Installation BASH plans will specify aircrew notification procedures for BWC changes. The most expeditious means of communicating the status change should be used, e.g., ATC or SOF radio transmissions combined with Automated Terminal Information Service (ATIS) updates or other broadcast medium. **Note:** BWC codes are based on observations of local airfield wildlife activity and are independent of Bird Avoidance Model (BAM) or Avian Hazard Advisory System (AHAS) risk hazard levels. **Note:** BWC SEVERE or MODERATE requires action from the installation's wildlife dispersal team to reduce the BWC to LOW as soon as possible. BWC codes are defined as: **(T-3)**

7.3.1.5.6.1. SEVERE. Wildlife activity on or immediately above the active runway or other specific location representing high potential for strikes.

Supervision and aircrews must thoroughly evaluate mission need before conducting operations in areas under condition SEVERE.

7.3.1.5.6.2. MODERATE. Wildlife activity near the active runway or other specific location representing increased potential for strikes. BWC MODERATE requires increased vigilance by all agencies and supervisors and caution by aircrews.

7.3.1.5.6.3. LOW. Wildlife activity on and around the airfield representing low potential for strikes.

7.3.1.5.7. Designate Phase I and Phase II periods of wildlife activity based on historical wildlife activity information. Phase I represents normal, baseline wildlife activity. Phase II represents times of significant increases in local wildlife activity, normally associated with migratory movements, seasonal increases of local wildlife populations, or local land use practices (farming, ranching, or hunting). Establish flight and scheduling procedures to minimize risks based on local hazards associated with Phase I and II. Publish Phase I and II designations in the appropriate DoD Flight Information Publications. Critical updates may be made using Notice to Airman System.

7.3.1.5.8. Regardless of Phase designation, the highest levels of daily wildlife activity normally occur +/- one hour of sunrise/sunset as birds move to and from their roosts. Flight operations should be avoided during these periods unless mission essential. A risk analysis shall be completed to determine the potential risk to operations during these periods. Missions scheduled during +/- one hour of sunrise and sunset should be included in pre-mission risk management and analysis worksheets. Appropriate measures should be taken to mitigate the risk if required.

7.3.1.5.9. Maintain a zero-tolerance towards large free-roaming animals on or adjacent to the aircraft movement area. **Note:** Free-roaming animals are, but not limited to, deer, canines, geese, etc. **(T-3)**

7.3.1.5.10. Grass Height. Mow aircraft movement area (AMA) to maintain a grass height between 7 and 14 inches. The AMA is that area of the airfield encompassed by the Primary Surface and the Clear Zones, as well as apron areas and taxiways, regardless of their location. As a minimum, turf shall be maintained 500 feet outside the AMA boundary where able. Installations located in arid climates where growing grass is difficult may develop natural vegetation on the airfield to limit attractiveness to wildlife. These situations require comprehensive vegetation/wildlife hazard management and will be reviewed individually by HQ AFSEC/SEFW for approval. Installation safety offices may request a grass height restriction waiver from HQ AFSEC/SEFW after MAJCOM coordination. **(T-1)**

7.3.1.5.11. Technical Assistance. Technical assistance is available through the USAF BASH Team, HQ AFSEC/SEFW, 9700 G Avenue, Suite 266, Kirtland AFB, NM 87117-5670. DSN: 246-5674/5848/5673 or Commercial: (505) 846-5674/5848/5673, and electronically by accessing the Safety Center web page. Obtain additional information on wildlife strike hazard reduction from AFPAM 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques*, and on wildlife strike

reporting from AFI 91-204, *Safety Investigations and Reports*, and AFMAN 91-223, *Aviation Safety Investigations and Reports*.

7.3.2. Hazardous Air Traffic Reporting (HATR) and High Accident Potential (HAP) Programs. HATR and HAP information is vital to Air Force flight safety. Use of information taken from these reports is for mishap prevention, not to initiate disciplinary actions. HATR information is not privileged information and is releasable outside Air Force channels except for the identity of the personnel involved. Responsibilities for establishing and administering the HATR and HAP program include:

7.3.2.1. Unit commanders will ensure AF Form 651, *Hazardous Air Traffic Report (HATR)*, and AF Form 457, *USAF Hazard Report*, are available to aircrews at base operations facilities, flying squadron operations offices, in trip kits and USAF ATC facilities. Commanders must emphasize the importance of identifying hazardous situations and direct the filing of appropriate HATRs or HAP events as a method of preventing future mishaps. **(T-3)**

7.3.2.2. Unit safety offices will investigate HAPs and HATRs IAW AFI 91-204 and AFMAN 91-223. The FSO or FSM will ensure HATR reporting procedures and requirements are briefed at least annually to aircrew and ATC personnel. Refer to AFMAN 91-223 for reporting requirements. **(T-1)**

7.3.3. Midair Collision Avoidance (MACA) Program. Units with flying programs must establish a written MACA program. The unit safety office is responsible for its creation, documentation and upkeep. The FSO/FSM works closely with the OG-determined OPR and other interested parties such as the Airfield Operations Flight Commander (AOF/CC), the airspace manager, local Fixed Base Operators (FBOs), Aircraft Owners and Pilots Association (AOPA), and the local Flight Standards District Officer (FSDO), to establish a comprehensive MACA program. Use the resources and services of the FAA FSDO accident prevention specialists. Tailor the MACA program to meet local needs. As a minimum, the FSO/FSM will coordinate with appropriate agencies to accomplish these key objectives: **(T-3)**

7.3.3.1. Ensure the free flow of MACA information between host and tenant organizations, effective communication between base and local airport managers and fixed base operators (FBOs), and actively support the HATR Program. **(T-3)**

7.3.3.2. Evaluate the midair collision potential with civil airlines and work with operators of nearby airfields to reduce risk and minimize the hazards. **(T-3)**

7.3.3.3. Develop a MACA pamphlet. The MACA pamphlet is a host-wing responsibility. Tenant units will provide MDS-specific information as required and will coordinate on the host-wing pamphlet. Overseas locations should consider publishing the pamphlet in the host country's language along with English. Provide educational programs/publications to general aviation servicing facilities to increase the use of available radar services among civil aircraft. Develop appropriate maps and graphics showing the base radar services and routes. Distribute the maps to all civil airfield managers, fixed base operators, military base operations, airports and other flying operations that use the surrounding airspace. **(T-3)**

7.3.3.3.1. **(Added-PACAF)** Wing safety offices supporting a flying mission shall publish a MACA pamphlet, review it annually and publish changes as needed. Include depictions of Military Operating Areas and Military Training Routes. Submit most current pamphlet to HQ PACAF/SEF and NAF/SE. Publish most current MACA pamphlet to local wing safety SharePoint site. (**T-2**)

7.3.3.4. Units may combine MACA programs with other military organizations in a 50-mile range of their base. This will require more coordination efforts but will result in a better product to be used by the area's civilian population.

7.3.3.5. Units and MAJCOMs are encouraged to participate in the DoD-endorsed and FAA-hosted **www.SEEandAVOID.org** (MACA website).

7.3.4. Awards Program. Ensure proper recognition of personnel through the Air Force Safety Awards Program as outlined in AFI 36-2833, *Safety Awards*. **(T-3)**

7.3.4.1. **(Added-PACAF)** See AFI 36-2833_PACAFSUP for more information.

7.3.5. Operational/Training Squadron Flight Safety Program. The squadron commander will maintain overall supervision of the flight safety program. The Squadron Assigned Flight Safety Officer (SAFSO) represents an extension of the wing flight safety program at the squadron level. In addition to managing the squadron flight safety program, these individuals are still responsible for carrying out all normal wing safety duties as requested by Wing COS. Units possessing aircraft with enlisted crew positions should also consider appointing an enlisted crewmember as additional duty flight safety NCO to assist in the flight safety program. **(T-3)**

7.3.5.1. The squadron commander will ensure that the following actions are accomplished by the SAFSOs: **(T-3)**

7.3.5.1.1. Upon appointment, contact the wing safety office for required training. **(T-3)**

7.3.5.1.2. Administer the unit safety program using this instruction as a guide and management tool. **(T-3)**

7.3.5.1.3. Disseminate flight safety information to unit crewmembers. **(T-3)**

7.3.5.1.4. Forward all flying safety matters of significance, which cannot be corrected at unit level through the unit commander to the COS. **(T-3)**

7.3.5.1.5. Assist in conducting wing safety inspections as requested and conduct unit self-inspections. **(T-3)**

7.3.5.1.6. Ensure a current file of applicable safety directives, to include this instruction, AFI 91-204, AFMAN 91-223, AFPAM 91-212 and AFI 36-2833 are maintained by the unit. **(T-3)**

7.3.5.1.7. Maintain Volume V of the squadron Flight Crew Information File (FCIF) IAW AFI 11-202, Volume 2, *Aircrew Standardization/Evaluation Program*, if applicable. Use of Volume V is optional IAW AFI 11-202, Volume 2, paragraph 9.1.3. If Volume V is utilized, procedures will be implemented to ensure all aircrews review Volume V. **(T-3)**

7.3.5.1.8. Maintain unit safety bulletin boards. **(T-0)**

7.3.6. Data-centric Proactive Safety Programs. Chiefs of Safety and unit-level staffs will use MFOQA, ASAP and LOSA proactive safety as correlated data streams for hazard identification and risk mitigation to prevent mishaps and accomplish the mission. Proactive safety programs enable leaders, safety professionals, aircrews and support personnel to achieve efficiencies in maintenance, operations, safety, tactics and training. These programs affect positive change in the Air Force by engendering a culture where personnel are willing to identify hazards and errors, not cover them up. See paragraphs **5.10 – 5.12** for a more detailed description of MFOQA, ASAP and LOSA.

7.4. Aero Club Operations. The host unit commander appoints an FSO as a safety advisor to the base Aero Club. If the host unit does not have an assigned FSO, the commander will obtain the assistance of a tenant unit FSO to provide safety assistance to the Aero Club. The host safety office may investigate Aero Club mishaps IAW AFI 91-204. However, the National Transportation Safety Board (NTSB) or host nation civil aviation authority has primary responsibility for investigating and reporting. Refer to AFI 34-217, *Air Force Aero Club Program*, for further guidance on Aero Club support. The wing safety advisor should attend the monthly aero club safety meetings.

7.5. Training Meetings and Briefings. The COS will ensure the following: **(T-3)**

7.5.1. Each flying unit will conduct quarterly aircrew flying safety meetings. This requirement is fulfilled whether conducted as a unit or Wing. Topics covered should include unit mishaps, MDS-specific trend analysis, local flying hazards (e.g. airspace, aerodrome), seasonal concerns (weather), human factors to include annual fatigue management and awareness training given by Aerospace Physiology or Aerospace Medicine, etc. **(T-3)**

7.5.2. Maintenance units receive timely briefings on maintenance-related mishaps and trends relevant to the unit's mission/MDS.

7.5.3. Airfield Operations personnel receive timely briefings on HATR and CMAV related mishaps, events and trends.

7.5.4. Interim Safety Board Training**.** The FSO/FSM conducts annual training for unit personnel identified to serve as interim safety board members in conjunction with or for the safety office. This requirement is N/A for AFRC. ISB composition is identified in AFMAN 91-223.

7.5.4.1. **(Added-PACAF)** Training shall include a review of all applicable references supporting aviation safety, applicable portions of the Mishap Response Plan, contents of the investigation kit(s), and techniques/lessons learned from previous ISB members. Training shall be recorded in AFSAS for those that have AFSAS accounts. For potential ISB members without AFSAS accounts, any format may be used to document training and will be maintained on file until the member is no longer available to support ISB duties. (**T-2**)

7.5.5. Other Activities Related to Flight Safety. The FSO/FSM/FSNCO or their designated representative, should attend Airfield Operations Board meetings, Foreign Object Damage Prevention Committee meetings and Standardization/Evaluation and Training review meetings.

7.5.6. **(Added-PACAF)** Where practical, include a Federal Aviation Administration (FAA) Flight Standards District Offices representative/host nation equivalent to discuss issues related to flight safety. Also include local flight safety members from other US services/host-nation military. If privileged safety information is disclosed, all personnel must be current on the annual privileged safety training. If non-DoD personnel attend, privileged safety information must not be disclosed. For details, see AFI 91-204, **Chapter 3**.

7.6. Inspections/Assessments and Monitoring.

7.6.1. The COS will conduct assessments/inspections of all assigned (host) flying units' flight safety programs for compliance with USAF and wing safety requirements IAW **Table 3.1.** Assessments/inspections of tenant unit flying safety programs will only be accomplished as stated in Base Support agreements. Refer to **Chapter 3** for additional guidance. **(T-3)**

7.6.2. The tenant's higher headquarters assesses the tenant's internal program.

7.6.3. USAF Hazard Reporting (HR). The FSO or FSM investigates reported flight-related hazards according to **Chapter 4.**

7.6.4. Flight Safety personnel (to include FSNCO and SAFSO) will inspect, assess and monitor flight-related workplaces, operations and support IAW **Chapter 3** criteria. Potential spot inspection/monitoring areas include but are not limited to: **(T-3)**

7.6.4.1. Airfield. Tenant units need only inspect/monitor unit-specific ramps and taxiways. Host has responsibility for entire airfield. (**Note:** May be accomplished in conjunction with activities prescribed in AFIs 13-204V2, *Airfield Operations Standardization and Evaluations*, and 13-204V3, *Airfield Operations Procedures and Programs*.)

7.6.4.1.1. High-interest areas.

7.6.4.1.2. Tenant units need only inspect/monitor unit-specific ramps and taxiways. Host has responsibility for entire airfield.

7.6.4.1.3. Ramps and runways (including taxiways, overruns, stressed pavement areas and unstressed pavement areas immediately next to runways).

7.6.4.1.4. Engine-run areas (including engine exhaust standoff distances and condition of pavement to prevent FOD).

7.6.4.1.5. Lighting systems (including runway lights, approach, taxiway, and ramp lights, and vehicle control lights).

7.6.4.1.6. Barriers and arresting gear.

7.6.4.1.7. Airfield obstructions (including obstacles on approach paths).

7.6.4.1.8. Airfield markings (including runway markings, distance markings, taxi lines, etc.).

7.6.4.1.9. Airfield signs (include distance remaining, instrument hold, visual flight rules (VFR) hold, taxiway guidance, etc.).

7.6.4.1.10. Vehicle traffic control on or around the airfield and parking areas.

7.6.4.1.11. Airfield vegetation and drainage.

7.6.4.1.12. Wildlife hazards present on the airfield.

7.6.4.2. Operations and Maintenance.

7.6.4.2.1. Supervisor of flying program.

7.6.4.2.2. Runway supervision program.

7.6.4.2.3. Emergency-response equipment (including crash-rescue vehicles, ambulances, communications and crash-recovery equipment).

7.6.4.2.4. Bird/Wildlife strike reporting.

7.6.4.2.5. Aircraft marshaling, fueling and towing procedures.

7.6.4.2.6. Foreign object damage-control program, control equipment and procedures.

7.6.4.2.7. Aero Club operations.

7.6.4.2.8. Aircraft generations, engine start and launch exercises.

7.6.4.2.9. Post-flight maintenance debriefing procedures.

7.6.4.2.10. Unit and transient (host only) maintenance operations.

7.6.4.2.11. Product Quality Deficiency Reporting System.

7.6.4.2.12. Flight safety information use in maintenance training flight.

7.6.4.2.13. Maintenance engine-run training procedures.

7.6.4.2.14. Engine-run areas (including engine exhaust standoff distances and condition of pavement to prevent FOD).

7.6.4.2.15. Snow removal plans and operations, if applicable.

7.6.4.2.16. Deicing training for aircrew and maintenance. Include flightline-deicing procedures.

7.6.4.2.17. Low-level routes, weapons ranges and drop zones.

7.6.4.2.18. Functional check flight procedures.

7.6.4.2.19. Assigned and attached unit's flight workplaces, briefings and meetings.

7.6.4.2.20. Life-support workplaces and training programs.

7.6.4.2.21. Egress training.

7.7. Airfield Maintenance, Construction and Waivers (Host). COS or designated SE representative monitors routine airfield maintenance and major construction projects. (**Note:** Ensure any conversations with the contractors concerning safety related matters are not construed as contract changes). On major construction projects, the COS or designated SE representative reviews the initial plan and follow-on plans for compliance with AFI 32-1023, *Designing and Constructing Military Construction Projects*, UFC 3-260-01, *Airfield and*

Heliport Planning and Design, and attends the preconstruction conference or briefing to consider if it will affect unit operations. **Note:** At OCONUS locations, plans shall be IAW SOFA, HNFA and BIA. **(T-3)**

7.7.1. COS will participate in annual Airfield Manager's review of airfield waivers per AFI 13-204V3. **(T-3)**

7.7.2. When able, COS should participate in risk analysis of items needing waivers and work to eliminate those items. Consider these factors:

7.7.2.1. The inspection of areas before use.

7.7.2.2. The impact of maintenance and construction on daily flying schedule and emergency situations.

7.7.2.3. The communications between the tower and contractor and the availability of the contracting agent.

7.7.2.4. Controlling vehicular traffic on the airfield and designating haul routes for contractor trucks.

7.7.2.5. Briefing pilots and transient aircrews with updated information.

7.7.2.6. Establishing the minimum allowable distance between equipment and the runway.

7.7.2.7. Marking obstructions, controlling foreign objects and assigning hearing protection.

7.7.2.8. Explosives safety criteria.

7.7.2.9. The potential impact of construction on wildlife hazards to airfield operations.

Chapter 8

GROUND SAFETY

8.1. Program Management. This chapter contains the minimum requirements for safety offices at all command levels. Ground safety mishap prevention efforts include both on-duty and off-duty activities.

8.1.1. Each installation ground safety manager will implement and manage a base-wide ground safety program IAW applicable AFPD/AFI 90-8xx and 91-series guidance, and other applicable regulatory guidance in conformance with the AFSMS. Newly assigned ground safety managers will conduct a ground safety program self-assessment within 90 days of taking the position. **(T-2)**

8.1.2. Wing subordinate units and tenant organizations implement a program that supports the installation program. **(T-1)**

8.1.3. Host safety offices may not impose host command-unique requirements on tenant units unless specified in the support agreement. Tenant USAF units without full-time qualified safety authorizations receive the same safety services as installation subordinate units. (**Note:** HAF, MAJCOM, AFOTEC and NAF safety offices are not configured as a traditional safety office IAW AFMS 106 A and are, therefore, treated as a tenant unit without an assigned safety staff. They will follow the host program unless specified in a host tenant support agreement.) Support Agreements will identify and delineate responsibilities. IAW DoDI 4000.19, *Support Agreements,* and AFI 25-201, *Intra-Service, Intra-Agency, and Inter-Agency Support Agreements Procedures,* non-USAF tenant units may be provided safety services based on support agreements (host may require reimbursement for services provided). **(T-2)**

8.1.4. One-deep safety positions will develop and maintain complete and thorough continuity folders covering all duties required by their positions.

8.2. Oversight Requirements. Ground safety personnel will conduct inspections of all assigned units. (See **Chapter 3**) **(T-2)**

8.3. Host Ground Safety Staff Responsibilities. Train managers, supervisors and employees to identify, evaluate and control workplace hazards. Ensure mishaps are investigated and reported IAW AFI 91-204 and AFMAN 91-224. **(T-2)**

8.3.1. Manage the US Air Force installation ground safety program, including operational, occupational, off-duty and traffic safety. **(T-2)**

8.3.1.1. Assist supervisors in developing and maintaining JSAs, and setting up programs to ensure organizational compliance with OSHA, DoD and Air Force safety requirements. **Note:** Overseas installations may need to consider application of host nation standards as well. **(T-2)**

8.3.1.2. Work cooperatively with other installation functions to include tenant units safety staff, Security Forces, Personnel, Civil Engineering, Contracting, Logistics Readiness Squadron (LRS), FSS, BE, Environmental, Public Health, FES Flight and AOP/AOPT personnel to provide an effective ground safety program. **(T-2)**

8.3.1.3. Monitor on-base sports facilities and activities. **(T-3)**

8.3.2. Implement an effective traffic safety program IAW AFI 91-207, *US Air Force Traffic Safety Program*. **(T-2)**

8.3.3. Review and recommend for approval, if appropriate, the use of new hazardous materials IAW AFI 32-7086, *Hazardous Materials Management.* Coordinate on updates of the installation's hazardous materials Authorized User List when requested by the installation CE's environmental function under the Installation Hazardous Materials Management Program (IHMP). **(T-2)**

8.3.4. Review Civil Engineering work requests, project design and specification for safety criteria. **(T-2)**

8.3.5. Provide technical safety consultation services to all base activities and promote on-duty and off-duty safety awareness. **(T-3)**

8.3.6. Budget for training, to include training of safety professionals, and safety promotional campaigns (Refer to AFI 65-601V1, *Budget Guidance and Procedures)*; budget, acquire and distribute safety education materials. **(T-2)**

8.3.7. Work with contracting officials to ensure requests for equipment, products and services using purchase orders and/or Government Purchase Card are reviewed for potential safety and health impact IAW AFI 64-117, *Air Force Government-Wide Purchase Card (GPC) Program*, AFI 32-7086, Hazardous Materials Management, and AFPAM 91-210, Contract Safety. (T-2)

8.3.8. Assist tenant units without full-time safety personnel with ground mishap reporting procedures and requirements. **(T-2)**

8.3.9. Coordinate Department of the Air Force civilian and Non-Appropriated Fund civilian mishap investigation information through the appropriate channels, and provide a representative to actively participate in the FECA Working Group, if one is held at the installation level. **(T-3)**

8.3.10. Maintain records of reportable and recordable mishaps IAW AFI 91-204. **(T-2)**

8.3.11. Maintain a master list or file of approved safety, fire protection and occupational health variances or exemptions to AFI 91-203 and any variances to AFOSH requirements that apply to the installation. The current approved variances/exemptions are available at the AFSEC/SEG SharePoint® website: **https://cs3eis.af.mil/sites/OO-SE-AF-18/default.aspx**. Evaluate and process new AFI/AFOSH standard variances IAW paragraph **1.7.4. (T-2)**

8.3.12. Responsible for developing and implementing the installation commander approved written procedures that define how to handle OSHA representative(s) during official installation visits or inquiries. These procedures will address any requirements called for in paragraph **8.8** of this instruction and those contained within DoDI 6055.1, Enclosure 3. **(T-1)**

8.3.13. Assist in the development and review of emergency response plans and procedures for handling events such as, but not limited to ground and aircraft emergencies, toxic spills, ventilation malfunctions, cleanup operations and emergency egress. These areas of review include: **(T-1)**

8.3.13.1. Disaster response required by AFI 10-2501.

8.3.13.2. HAZMAT response required by AFI 10-2501.

8.3.13.3. Response to severe weather warnings.

8.3.13.4. Crash recovery plans.

8.3.13.5. Notifying and convening Interim Safety Boards (ISBs) for ground-related mishaps.

8.3.14. Provide fully qualified ground safety personnel in support of AEF deployment taskings. Ground safety managers will know the current deployment status of all assigned military personnel and ensure the proper status information is provided for the Airman Readiness Tool Report. **(T-2)**

8.3.14.1. To ensure personnel are familiar with ground safety program responsibilities, the GSM or their supervisor will conduct a review of all appropriate skill level core tasks with individuals prior to their deployment. **(T-3)**

8.3.14.2. Individuals who do not meet required core tasks for appropriate skill level requirements will be required to receive appropriate training from their supervisor and/or GSM prior to deployment. **(T-3)**

8.3.15. Conduct newcomers' safety orientation (Local Conditions Course II). Additionally, ensure local hazards information is developed and available for personnel on extended (greater than 30 days) TDY to the installation. **(T-3)**

8.3.16. Conduct the Air Force Supervisor Safety Training (SST) that incorporates MAJCOM/FOA/DRU and organization/installation unique requirements into the core curriculum. Group or Wing level tenants with an assigned safety staff will conduct their own SST to ensure their assigned personnel are trained in their MAJCOM/FOA/DRU program specifics unless otherwise specified in support agreements. **(T-3)**

8.3.17. Assist COS in new commander safety orientations in units without full-time safety staff. **(T-3)**

8.3.18. Administer the ground safety awards program IAW AFI 36-2833. **(T-3)**

8.3.19. Conduct USR training. Training will be conducted using a locally developed training course that includes basic AF requirements as well as additional requirements levied by MAJCOM/FOA/DRU and local safety office supplements. The training may also be conducted using the electronic course provided by AFSEC/SEG, but will include MAJCOM/FOA/DRU/local unique requirements as an add-on. Refer to paragraph **2.2** for additional information. **(T-3)**

8.4. Tenant Unit and GSU Responsibilities. The tenant's higher headquarters will assess the tenant's internal program. **(T-3)**

8.4.1. Tenant and GSUs without full-time safety staff will appoint a ground USR IAW paragraph **2.2** and comply with the responsibilities outlined in paragraphs **2.2** and **8.5**. **(T-3)**

8.4.2. Tenant units with full-time qualified safety personnel carry out all program elements not performed by the host and conduct their assessments, inspections and mishap investigations IAW a formal support agreement. The support agreement will specify those responsibilities from paragraph **8.3** that the tenant and host have agreed to.

8.5. Unit Safety Representative (USR) Responsibilities. The commander is responsible for the unit safety program as referenced in paragraph **1.8.19.** The USR assists the unit commander by being knowledgeable of safety requirements, by assisting unit personnel and by keeping the commander informed on how effective safety and health requirements are carried out throughout the unit. USRs, in addition to the responsibilities listed in paragraph **2.2,** will: **(T-3)**

8.5.1. Advise the commander on safety related matters at least on a quarterly basis or more frequently as necessary and document key elements briefed. **(T-2)**

8.5.2. Assist supervisors and unit personnel in the hazard abatement process. **(T-3)**

8.5.3. Assist installation safety, unit commander and supervisors with mishap investigations. Ensure mishap notification procedures are established in the unit. **(T-2)**

8.5.4. Disseminate safety educational materials and verify unit safety briefings are being conducted. **(T-2)**

8.5.5. Support the spot inspection program IAW paragraph **3.7.4. (T-3)**

8.5.6. Support the installation safety program and attend USR meetings as determined by their appropriate safety office. **(T-2)**

8.5.7. Post AFVA 91-209, *Air Force Occupational Safety and Health Program,* in a conspicuous location readily accessible to all employees and applicants for employment. **(T-2)**

8.5.8. Provide the wing safety office with a current listing of all facilities owned/used by their unit for inspection purposes. **(T-3)**

8.6. Unit Motorcycle Safety Representative (MSR). Each unit commander with motorcycle riders will appoint, in writing, at least one MSR to coordinate the motorcycle safety program IAW AFI 91-207, *The US Air Force Traffic Safety Program.*

8.7. Hazard Identification and Abatement. The host ground safety manager will: **(T-1)**

8.7.1. Evaluate and process safety related hazard reports and maintain a master hazard report log. **(T-1)**

8.7.2. Assign RACs to safety hazards (and deficiencies, if applicable) and coordinate with health and fire protection officials when required. Comply with **Attachments 6** through **9,** which provide additional instructions for assigning RACs, determining abatement priority numbers and completing the AF Form 1118, *Notice of Hazard,* and AF Form 3, *Hazard Abatement Plan.* **Note:** Electronic systems that collect identical data and can produce a hard copy AF Form 3 may be used. **(T-1)**

8.7.3. Assist in establishing funding priorities by using the abatement priority number (APN) system for hazard abatement projects during the budgetary cycle. **(T-1)**

8.7.4. Maintain the installation master hazard abatement plan (MHAP), including AF Form 3, covering safety, fire and health hazards. **Note:** A fire hazard is a condition that can cause a fire to occur. A fire deficiency is a condition which reduces fire safety below acceptable levels, including noncompliance with standards, but by itself cannot cause a fire to occur. Fire Safety Deficiencies will not be included in the MHAP as they are managed IAW AFI 32-10141, *Planning and Programming Fire Safety Deficiency Correction Projects.* **(T-1)**

8.8. Department of Labor (DoL) Inspections and Investigations of DoD Working Conditions. IAW 29 CFR 1960.31 and 1960.35, OSHA and NIOSH officials, acting as representatives of the Secretary of Labor, are authorized to conduct announced or unannounced inspections of DoD workplaces, except uniquely military workplaces and operations, and nonmilitary-unique workplaces staffed exclusively by military personnel. The DoD Components are authorized to request through the DUSD (I&E) that NIOSH perform hazard evaluations. OSHA inspection procedures for federal agency workplaces are provided in OSHA Directive Number CPL 02-00-050 (Reference (u)).

8.8.1. The DoL may conduct, as part of its evaluation program, annual targeted inspections or program assistance visits of Air Force installations based on the comparative incidence of worker compensation claims. The DoL will prescribe special procedures in the notification process. OSHA representatives may question or privately interview any employee, supervisory employee or official in charge of an operation or workplace. Federal or state OSHA representatives must present identifying credentials and state the purpose of the visit to the installation commander or authorized representative before conducting an inspection of a workplace on an Air Force installation. Installation commanders, through execution of local approved written procedures IAW paragraphs **1.8.13.13** and **8.3.12,** will: **(T-1)**

8.8.1.1. Ensure Security Forces notifies the installation safety office of OSHA's arrival at the gate. **(T-2)**

8.8.1.2. Ensure the OSHA representatives will be met and escorted during their visit. **(T-2)**

8.8.1.3. Host an initial in-brief with DoL OSHA representatives. The installation safety office will notify their CC/CV and IG of OSHA's arrival. They will then notify as applicable, BE, Public Health, FES Flight, Civilian Personnel Office, tenant unit safety offices and others as needed of the in-brief meeting details. CC, IG, Contracting and Civilian Personnel Office attendance is optional. The BE, Public Health, FES Flight and tenant unit safety offices will be expected to attend based upon the OSHA inspector's stated purpose of their visit. **(T-2)**

8.8.1.4. Upon request, provide access to available safety, fire protection and health information on workplaces. **(T-2)**

8.8.1.4.1. While OSHA officials may review "For Official Use Only" mishap reports in the workplace during the course of their inspection, do not release "For Official Use Only"-marked reports or materials to them. OSHA requests for copies of such reports or materials must be obtained through the DoL IAW the provisions of AFI 91-204. **(T-2)**

8.8.1.4.2. OSHA officials with appropriate need to know may review Airmen exposure records and specific parts of Airmen medical records pertaining to the OSHA complaint. The OSHA official must safeguard the individual's medical information according to HIPAA laws.

8.8.1.5. Provide photographic or video support, if required. Videos or photographs taken on installations fall under the exclusive control of the installation commander. Air Force officials may review negatives, photographs and videos before release if they suspect possible disclosure of classified or proprietary information without the review.

8.8.1.6. Arrange a closing conference with the OSHA official if requested and invite labor representatives to attend.

8.8.2. Treat DoL OSHA notices of hazards in the same manner as an Air Force inspector report. Evaluate and assign a RAC to each hazard identified by OSHA inspectors. **(T-1)**

8.8.3. Ensure Airmen verify DoL inspection results, including all testing. Air Force tests or sampling for future testing should be accomplished at the same time and at the same location as the DoL testing, if possible. **(T-1)**

8.8.4. Ensure that DoL personnel conducting the inspection receive a coordinated response to DoL inspection reports as required and prescribed by the OSHA Citation instructions. If an OSHA inspection team visits the installation and it appears there may be possible notices of safety or unhealthy workplace violations, the installation commander's staff, to include IG, JA, PA, Contracting Office and others as appropriate, should be notified and involved in abatement plan establishment. Although a unit will be cited individually at a particular location, the identified hazard may, in fact, be classified a "Repeat" citation, because a similar finding was previously cited at another installation. This practice is because OSHA is treating the Air Force as an "Enterprise" organization. Therefore, the finding is considered a corporate matter rather than a singular installation matter. In such cases, notify AFSEC. AFSEC needs to be involved in the tracking of the hazard(s) from identification through proposed response to OSHA and subsequent closure. Upon receiving a citation, the cited unit will draft a proposed official response to the violation, which will be sent simultaneously to the applicable MAJCOM/DRU/FOA safety office and the AFSEC Ground Safety Office (SEG) for review prior to releasing the response to OSHA. Units will need to build this additional coordination into the time frame allowed for the suspense to OSHA. Provide copies of the inspection report, replies to DoL, and related correspondence through command channels to the addressees listed in paragraphs **8.8.5.1 – 8.8.5.9. (T-1)**

8.8.5. In addition to local notifications, such as installation JA, PA, CC or CV, and affected organizations or tenant activities, installation safety offices shall notify the agencies in paragraphs **8.8.5.1 – 8.8.5.9** within two duty days of any official DoL OSHA visit to an Air Force installation, to include AF-led Joint Bases. This requirement also applies when an installation receives a formal request from OSHA to self-investigate a fire, safety or health matter on OSHA's behalf. Notification shall include unit(s) or specific area(s) being inspected. Upon completion of the OSHA visit, health and fire officials, as applicable, shall coordinate responses to DoL OSHA visits and citations with the safety staff. If cited, the safety staff will transmit a supplemental report on investigations or inspection visits within two workdays after receiving the DoL OSHA citation(s). This reporting requirement applies to Air Force workplaces or operations performed by a contractor in which Air Force

workplaces, equipment or procedural deficiencies are identified in the citation. Transmit report by e-mail to: **afscseg@us.af.mil**. **(T-1)**

8.8.5.1. **usaf.pentagon.saf-ie.mbx.workflow@mail.mil** (SAF/IEE).

8.8.5.2. **usaf.pentagon.af-a4-7.mbx.workflow@mail.mil** (AF/A4).

8.8.5.3. **usaf.pentagon.af-se.mbx.workflow@mail.mil** (HQ USAF/SE).

8.8.5.4. **afsc.seg@kirtland.af.mil** (HQ AFSC/SEG).

8.8.5.5. **usaf.pentagon.af-sg.mbx.af-sg1-workflow@mail.mil** (AF/SEG Workflow).

8.8.5.6. **usaf.pentagon.af-sg.mbx.afmsa-sg3pb-workflow@mail.mil** (AFMSA/SG3PB).

8.8.5.7. AFCESA/**CEXFworkflow@us.af.mil** (HQ AFCEC/CEXF).

8.8.5.8. Applicable MAJCOM/FOA/DRU/SEG/SGP/SGPB/CE.

8.8.5.9. Applicable Intermediate Command/SEG/SGP/CE.

8.8.6. Include the following information: **(T-1)**

8.8.6.1. Date(s) of investigation/inspection.

8.8.6.2. Agency and name of inspector.

8.8.6.3. MAJCOM/FOA/DRU, installation, unit and workplace visited.

8.8.6.4. Reason for visit.

8.8.6.5. Results of investigation or inspection. If cited, also send in the supplemental message a copy of the violation reference or any notices of unsafe and unhealthful working conditions, along with the RAC assigned and any corrective action response for OSHA.

8.8.6.6. Problems encountered, if any.

8.8.6.7. If significant hazards or deficiencies are identified or problems occur during a DoL OSHA inspection or investigation, call the MAJCOM/FOA/DRU. The MAJCOM/FOA/DRU will notify AFSEC/SEG.

8.8.6.8. POC Name and DSN.

8.8.7. **(Added-PACAF)** The above information has been incorporated into the AFSAS OSHA Visits module. Utilize the OSHA module to the maximum extent available. (**T-1**)

8.9. DoL Occupational Safety and Health Administration (OSHA) Annual Visit Summary. AFSEC/SEG will use the procedures and information attained through paragraph **8.8** to complete the annual report required by the DoL. **(T-1)**

8.10. DoL Inspection of Contractor Operations. Within the 50 states and US territories, Air Force contractors operating from Air Force or privately-owned workplaces located on or off Air Force installations are subject to enforcement authority by federal and state safety and health officials. Authorized safety officials from states without OSHA-approved safety and health plans may, subject to the exceptions in this instruction, exercise jurisdiction over contractor operations.

At overseas locations, local government agencies may conduct inspections of contractor workplaces or operations as stipulated in status of forces or country-to-country agreements. **(T-0)**

8.10.1. Federal OSHA officials may perform OSH inspections of Air Force contractor workplaces in areas where the US holds exclusive federal jurisdiction. Check with base legal office/JA to determine which areas of the installation fall under federal jurisdiction. **(T-0)**

8.10.2. The DoL does not have authority over working conditions for which another federal agency or certain state agencies exercise statutory authority to prescribe or enforce standards or regulations affecting safety and health. Thus, OSHA authority does not extend to working conditions specifically covered by:

8.10.2.1. Any nuclear safety or health standard or instruction implementing Title 42, U.S.C., 2012, 2021, 2121(b), and 2201(b).

8.10.2.2. Any explosives safety standard or instruction implementing Title 10, U.S.C., 172, *Ammunition Storage Board.*

8.10.3. Regardless of whether or not a state has an OSHA-approved plan, state safety and industrial hygiene (IH) officials have no authority in Air Force contractor workplaces located in areas where the US holds exclusive federal jurisdiction.

8.10.4. A notice for a DoL inspection or investigation of contractor operations on an Air Force installation will be reported IAW paragraph **8.8.5** of this instruction.

8.11. U.S. Department of Labor (DoL) Inspections of DoD Working Conditions. Safety and health standards are enforceable by federal or state officials as follows: **(T-0)**

8.11.1. Safety and Health Standards Enforcement. IAW Sections 1960.31 and 1960.35, OSHA and NIOSH officials, acting as representatives of the Secretary of Labor, are authorized to conduct announced or unannounced inspections of DoD workplaces except for uniquely military workplaces and operations, and nonmilitary-unique workplaces staffed exclusively by military personnel. the DoD Components are authorized to request through the DUSD9I&E) that NIOSH perform hazard evaluations. OSHA inspection procedures for federal agency workplaces are provided in OSHA Directive Number CPL 02-00-150.

8.11.2. State OSHA officials, operating under a federally-approved plan and subject to the terms of any variance, tolerance or exemption granted by DoL, may enforce state OSHA standards in workplaces. Check with the base legal office/JA to determine which areas of the installation fall under exclusive federal jurisdiction. **(T-0)**

8.11.3. Admit federal and state OSHA without delay on Air Force installations during regular working hours. **(T-0)**

8.11.4. When federal or state OSHA officials require entry to a classified or restricted area, the official must meet security requirements.

8.11.5. DoD agencies are responsible for resolving issues related to citations or requests for delays, variations, tolerances or exemptions of applicable safety and health standards.

Chapter 9

WEAPONS SAFETY

9.1. Program Management. The Weapons Safety program comprises four disciplines: explosives safety, missile safety, nuclear surety and directed energy weapon (DEW) safety.

9.1.1. Units at and above squadron level with an explosives, missile, nuclear or directed energy weapons mission must have a weapons safety program. **(T-2)**

9.1.1.1. **(Added-PACAF)** Each unit handling, maintaining, storing, installing or removing missiles, explosives, chemical or nuclear weapons will appoint an ADWSR. The primary role for the ADWSR is to work with the installation WSM on items that affect the unit and keep the commander informed. (**T-2**)

9.1.2. The host coordinates weapons safety for the entire installation. Tenant units implement mission unique mishap prevention programs where the host does not have a mission in that area. Tenant units must coordinate, through a MOA or Memorandum of Understanding, any additional program functions with the host to avoid duplication and clearly delineate responsibility. **(T-3)**

9.1.3. **(Added-PACAF)** The following documentation shall be maintained by each installation weapons safety office (**T-2**):

9.1.3.1. **(Added-PACAF)** Continuity book/binder/folder or centrally accessible electronic copy continuity binder (see paragraph 9.5.4 of this supplement for additional requirements).

9.1.3.2. **(Added-PACAF)** Copies of explosive site plans submitted.

9.1.3.3. **(Added-PACAF)** Waivers, exceptions, and deviations.

9.1.3.4. **(Added-PACAF)** Spot inspection log and reports.

9.1.3.5. **(Added-PACAF)** Applicable portions of higher headquarters inspections/visits.

9.2. Weapons Safety Personnel Management and Manning Plan. Weapons Safety personnel are normally from the 2WXXX or 2MXXX career fields. Civilian personnel with the appropriate series (WG or GS, 0018, 0017-series) experience in the safety career program may be used in all positions that do not have a military necessity. It is the responsibility of the COS to recruit, train and staff the Weapons Safety function. **(T-2)**

9.2.1. MAJCOM Chief of Weapons Safety must have munitions, missile or nuclear weapons experience.

9.2.2. Individuals will be scheduled for formal Weapons Safety Management Course L3AZR2W071-0C2A within 90 days of assuming weapons safety position and complete the course within six months of being assigned. MAJCOMs must ensure all weapons safety personnel in their command are properly trained. MAJCOMs also ensure that bases or units develop standardized local lesson plans if intermediate or MAJCOM standardized plans are not provided. Additional nuclear surety training requirements are listed in AFI 91-101, *Air Force Nuclear Weapons Surety Program*. **(T-2)**

9.2.3. Upon completion of training course L3AZR2W071-0C2A, Weapons Safety Management Course, the Air Force Career Field Manager (AFCFM) will immediately award SEI 375 to the individuals.

9.2.4. Based on mission needs, Weapons Safety personnel are highly encouraged to attend the following courses: MINA, Introduction to Mishap Investigation (IMI), AMMO-47 Lightning Protection for Air Force Facilities, and AMMO-65 DoD Contractor's Explosives Safety Standards. The MAJCOM weapons safety office will identify any additional training requirements for WSMs tasked to manage a DEW safety program.

9.3. Explosives Safety Standards. Air Force explosives safety standards are in AFMAN 91-201, *Explosives Safety Standards*. Criteria for specific explosives are specified in technical publications and other standard publications, such as command and local directives.

9.4. Weapons Safety Personnel. Manage Weapons Safety program to ensure Air Force units understand and comply with all explosives, missile, nuclear surety and directed energy safety standards.

9.4.1. Review waivers, exemptions and deviations from established explosives safety criteria and ensure that compensatory measures are integrated into local written procedures according to paragraph **9.4.5** below. **(T-1)**

9.4.2. Advise commanders of the increased damage potential these exceptions allow.

9.4.3. Assist units in performing a risk assessment for explosives operations according to applicable directives. **(T-2)**

9.4.4. Ensure that units identify and document compensatory measures to minimize mishaps, eliminate violations and reduce risk. **(T-2)**

9.4.5. Coordinate on all local written procedures affecting weapons safety and perform annual review. **(T-2)**

9.4.6. Remain aware of planning and activities on the installation that affect weapons safety. The WSM must conduct documented initial and annual reviews on munitions-related operating instructions, explosives test plans, deployment plans, OPLANs, OPORDs and local directives involving the storage, handling and inspection of nuclear weapons, missiles, explosives or directed energy weapons. Reviewed documentation must be maintained by safety office. Archived/inactive test plans, safety appendices or written procedures do not require annual review unless reactivated. **(T-2)**

9.4.7. Advise each new wing and group level commander responsible for an explosive safety program within 60 days of appointment on applicable waivers, exemptions, deviations and compensatory measures as well as the associated risk for each. Commanders below group level will be briefed by appointed ADWSRs, when appropriate. **(T-2)**

9.4.7.1. **(Added-PACAF)** ADWSRs shall brief their commander as part of the commander's orientation. The briefing will be documented via MFR and filed in the ADWSR continuity book in **TAB A**. (**T-2**)

9.4.8. Participate in mishap prevention and RM determination in the following areas: **(T-2)**

9.4.8.1. Maintenance, storage, alert, research and developmental test, and operating locations.

9.4.8.2. Flight line explosives operations.

9.4.8.3. Operational procedures for aircraft carrying hazardous materials.

9.4.8.4. Explosives Ordnance Disposal (EOD) proficiency/demolition ranges.

9.4.8.5. Nuclear surety elements. (See AFI 91-101).

9.4.8.6. Munitions maintenance handling equipment (MMHE) quality assurance programs.

9.4.8.7. Weapon systems maintenance.

9.4.8.8. Weapon systems modifications, special exercises and test programs.

9.4.8.9. Planning for contingencies.

9.4.8.10. Concurrent Servicing Operations.

9.4.8.11. Licensed locations.

9.4.8.12. Installation support (Continental United States only) for Department of Energy (DOE) shipments (SAFE HAVEN). (See AFMAN 91-201).

9.4.8.13. Weapons safety training for unit personnel.

9.4.8.14. Weapons test review process, if applicable.

9.4.8.15. Explosives movement route.

9.4.8.16. Hot Cargo Pads and Inspection Points/Secure Holding Location for Explosives-Loaded Commercial Vehicles.

9.4.8.17. Management, storage and disposition of Materials Potentially Presenting an Explosives Hazard (MPPEH).

9.4.8.18. Aerial port explosives operations.

9.4.8.19. Small arms ranges.

9.4.8.20. Field training exercise areas where explosives are used.

9.4.8.21. Missile Alert Facilities (MAF) and Launch Facilities (LF).

9.4.9. Annually review installation explosives location map and provide changes and corrections to CE. Review must be documented and maintained by the safety office. CE published maps should be coordinated with logistics, operations and safety. The reviews can be documented on separate logs and should include but not be limited to the following applicable areas: **(T-2)**

9.4.9.1. Explosives safety “clear zones” required around each location based on quantity-distance criteria.

9.4.9.2. Primary and alternate explosives movement routes through the installation.

9.4.9.3. Authorized flight line locations for conducting explosives operations to include concurrent servicing operations activities, explosives aircraft cargo on or off loading, and combat aircraft explosives loading.

9.4.9.4. Locations for handling hung ordnance and gun-clearing operations.

9.4.9.5. Arm and de-arm areas.

9.4.9.6. Explosives support workplaces, such as flightline munitions holding areas.

9.4.9.7. Base explosives prohibited zones (see AFMAN 91-201 and UFC 3-260-01). **Note:** At OCONUS locations, consideration must be given to SOFAs, HNFAs and BIAs.

9.4.9.8. Vehicle inspection points and suspect vehicle areas.

9.4.9.9. Parking spots for aircraft loaded with munitions or explosives identified in AFMAN 91-201.

9.4.9.10. Potential electromagnetic radiation hazard zones that could affect munitions operations. After 100% evaluation, plot only those zones that actually impact munitions operations to include primary and alternate explosive routes. The review must be documented and maintained by Weapons Safety. The reviews can be documented on separate logs.

9.4.9.11. DEW operations and maintenance location hazard zones that could affect munitions operations. After 100 percent evaluation, plot only those zones that actually impact munitions operations to include primary and alternate explosive routes; identify hazardous DEW effects to Potential Explosive Sites, including ordnance and fuel. The review must be documented and maintained by Weapons Safety. The reviews can be documented on separate logs.

9.4.9.12. EOD range(s).

9.4.9.13. Base weapons range(s)

9.4.9.14. Restrictive easement(s).

9.4.9.15. **(Added-PACAF)** Net Explosive Weight limits shall be listed on the explosives location map and must accurately reflect DDESB-approved explosive weights (**T-2**).

9.4.10. With the assistance of Ground Safety, assign RACs to weapons safety hazards. **(T-2)**

9.4.11. **(Added-PACAF)** Meet with the installation Fire Department to review pre fire plans for licensed locations.

9.4.12. **(Added-PACAF)** Attend airfield managers meetings, installation community planners meeting or working groups, facility working groups, etc. to stay abreast of planning issues that affect explosive safety**.**

9.5. Weapons Safety Program Requirements. Units that maintain explosives must:

9.5.1. With the assistance of base civil engineering and safety, submit explosives site plans according to AFMAN 91-201. The installation safety office is the OPR for all explosives site plans. **(T-2)**

9.5.2. Request a license for facilities that store small quantities of explosives according to AFMAN 91-201. **(T-2)**

9.5.3. Review and help develop plans and procedures for handling emergencies to include, but not limited to, SAFE HAVEN, HAZMAT response, AFI 10-2501 or UFC 3-260-01, and when required by law (e.g., Clean Air Act; Environmental Planning Community Right To

Know Act; secure explosives holding areas IAW the Defense Travel Regulation, Part II, **Chapter 25**), or accidental release RM programs for explosives. **Note:** At OCONUS locations, consideration must be given to SOFAs, HNFAs and BIAs. **(T-2)**

9.5.4. **(Added-PACAF)** Maintain a hard copy or centrally-accessible electronic copy continuity binder that includes, at a minimum, the following information in each lettered tab; additional information may be added by the WSM at his discretion after **TAB H**: (**T-2)**

9.5.4.1. **(Added-PACAF)** TAB A: Commanders' Safety Emphasis Letters.

9.5.4.2. **(Added-PACAF)** TAB B: ADWSR appointment letter and documented training.

9.5.4.3. **(Added-PACAF)** TAB C: ADWSR guide and/or local publications.

9.5.4.4. **(Added-PACAF)** TAB D: Inspection checklists.

9.5.4.5. **(Added-PACAF)** TAB E: Unit spot inspection logs.

9.5.4.6. **(Added-PACAF)** TAB F: Past two annual unit inspection reports.

9.5.4.7. **(Added-PACAF)** TAB G: Weapons Safety Crosstell.

9.5.4.8. **(Added-PACAF)** TAB H: Copies of all unit AF Forms 2047, *Explosive Safety License*.

9.6. Missile Safety. Missile systems are ground-launched or air-launched and do not include unpiloted drones or remotely piloted vehicles. The aerospace vehicle, ground support and operational equipment, personnel, and the operational environment are all sources of mishaps. Typically, missile launch operations will be conducted from a MRTFB range and will comply with DoDD 3200.11, *Major Range and Test Facility Base (MRTFB)*, and DoDI 3200.18, *Management and Operation of the Major Range and Test Facility Base*, in addition to AFI 99-103, *Capabilities-Based Test and Evaluation*, and AFI 13-212, *Range Planning and Operations*, safety requirements as described in **Chapters 1** and **2** of this instruction.

9.7. Nuclear Surety. The goal of the Air Force Nuclear Weapons Surety Program is to incorporate maximum nuclear surety, consistent with operational requirements, from weapon system development through dismantlement. AFI 91-101 contains nuclear surety program requirements.

9.8. Directed Energy Weapons (DEW). New weapons systems using the electromagnetic spectrum to produce high-energy lasers, high-power microwaves, particle beams and conventional-munition-driven electromagnetic pulse (EMP) systems are in various stages of development. AFPD 91-4 and AFI 91-401 provide Air Force DEW safety policy, including the requirements for safety certification.

9.9. Munitions Rapid Response Team. Hill AFB's Munitions Rapid Response Team (MRRT) is manned with personnel knowledgeable in conventional munitions areas. This team is available to support MAJCOMs and units whenever they have a conventional weapons mishap or problem. They can be activated to respond within 24 to 48 hours. See **Attachment 3** for specific guidance.

9.10. Department of Defense Explosives Safety Board (DDESB). The DDESB is a joint board of the DoD. It is subject to the direction, authority and control of the Secretary of Defense, under the Deputy Under Secretary of Defense (Environmental Security).

9.10.1. The board consists of a chairperson and an officer (O-6/GS-15 or above) from each of the military departments. In addition, each military department must designate an alternate. Within the Air Force, AF/SE provides the primary and alternate members.

9.10.2. The DDESB establishes DoD explosives safety policy and is responsible for the DoD Explosives Safety Management Program (ESMP). DDESB conducts Component-level programmatic evaluations according to DoDI 6055.16, *Explosives Safety Management Program*, which requires the Secretaries of the Military Departments to establish, resource, implement and maintain effective DoD Component-level ESMPs. Each year DDESB evaluates one of the Military Departments ESMPs. This is a top to bottom review (HAF, MAJCOM, NAF and installation) of the services' explosives safety program.

9.11. Weapons, Explosives and DEW Training.

9.11.1. The MAJCOM/DRU/FOA weapons safety office must provide MAJCOM/Center-unique WSM training to their NAF- and installation-level weapons safety personnel.

9.11.1.1. **(Added-PACAF)** See PACAF/SEW training guide for PACAF specific WSM training.

9.11.2. The installation WSM provides weapons safety training to all appointed ADWSRs on their responsibilities and program management. **(T-2)** ADWSRs are required to be trained within 30 working days of appointment, with recurring training as determined by the MAJCOM.

9.11.2.1. **(Added-PACAF)** Recurring training shall be conducted 12 months after initial training. (**T-2**)

9.11.2.2. **(Added-PACAF)** The ADWSR training provided by the WSM should cover ADWSR responsibilities and to prepare ADWSRS to:

9.11.2.2.1. **(Added-PACAF)** Ensure unit personnel receive explosive safety training prior to being involved in explosives operations.

9.11.2.2.2. **(Added-PACAF)** Assist supervisors in developing procedures and instructions dealing with the use, storage or transportation of explosives. Ensure locally written explosives operating procedures are coordinated with WSM. Ensure a copy of each published procedure is provided to the members of the unit performing the explosive operations.

9.11.2.2.3. **(Added-PACAF)** Identify hazards in the Hazards of Electromagnetic Radiation to Ordnance (HERO) package and implement mitigation procedures as required.

9.11.2.2.4. **(Added-PACAF)** Understand reporting and investigating procedures for mishaps, Dull Swords, and reporting hazards.

9.11.2.2.5. **(Added-PACAF)** Utilize applicable checklists and corrective action requirements.

9.11.2.2.6. **(Added-PACAF)** Incorporate Risk Management processes in explosive operations.

9.11.2.2.7. **(Added-PACAF)** Understand and utilize the Safety Awards Program.

9.11.2.2.8. **(Added-PACAF)** Review explosive facility license prior to submitting to WSM.

9.11.3. Installation weapons safety, ADWSR or designated representative conducts explosives safety training, which augments the job training provided by the supervisor. The installation weapons safety staff evaluates and monitors this training, approves lesson plans and reviews them annually. All personnel (supervisory and non-supervisory) who operate, handle, transport, maintain, load or dispose of missiles, explosives or nuclear weapons must receive initial explosives safety training before performing any of these tasks. All personnel tasked to work on aircraft configured with explosives/ordnance will receive training that includes how to identify an armed aircraft and a familiarization of the hazards involved when working on or around explosives loaded aircraft, ensure initial explosives safety training is provided before performing any of these tasks. Recurring training must be provided not later than the end of the 15th month following initial training. **Exception:** Personnel who store and/or handle only the following are exempt from initial and refresher explosives safety training. **(T-2)**

9.11.3.1. Small arms ammunition, including cartridge-actuated tools in quantity-distance hazard class/division 1.4.

9.11.3.2. Document destroyers.

9.11.3.3. Small tear gas items, such as grenades.

9.11.3.4. Aircraft, vehicle and facility fire extinguisher cartridges.

9.11.3.5. Other hazard class/division 1.4 items in their packaged configuration only. Personnel who will unpack and handle unpackaged items other than the exceptions listed above still require training.

9.11.4. Personnel conducting or directly supporting DEW operations, maintenance, testing or training must receive training prior to use, within 30 days of assignment to unit, and every 15 months thereafter. **(T-3)**

9.11.5. **(Added-PACAF)** Weapons, explosives, and DEW safety training shall comply with the following: (**T-2**)

9.11.5.1. **(Added-PACAF)** Weapons safety training may be conducted by other qualified personnel such as loading standardization crew, security police training section, etc. Training may also be accomplished using an ADWSR-approved computer-based training (CBT).

9.11.5.2. **(Added-PACAF)** Individuals overdue training shall not perform any explosives- or weapons-related duty until training requirements are satisfied. (**T-2**)

9.11.5.3. **(Added-PACAF)** Training may be accomplished using an ADWSR-approved CBT and local conditions developed specific to their location as appropriate.

9.11.5.4. **(Added-PACAF)** Specific hazards involved with handling unit assigned explosives by class/division, to include personal protective equipment.

9.11.5.5. **(Added-PACAF)** Firefighting guidance for explosive operations and storage.

9.11.5.6. **(Added-PACAF)** Personnel and explosive limits for storage and operations.

9.11.5.7. **(Added-PACAF)** Emergency procedures to include mishap and evacuation procedures.

9.11.5.8. **(Added-PACAF)** Use of simulators and smoke-producing munitions, as applicable.

9.11.5.9. **(Added-PACAF)** Maintenance on explosives-loaded aircraft IAW T.O. 11A-1-33, *Handling and Maintenance of Explosives Loaded Aircraft,* as applicable.

9.11.5.10. **(Added-PACAF)** Explosive operations that are affected by electromagnetic radiation as described in AFI 91-208.

9.11.5.11. **(Added-PACAF)** All personnel who may be dispatched to work on explosives-loaded aircraft will receive weapons safety training. This training must include how to identify armed aircraft and familiarization of the hazards involved when working explosives loaded aircraft. This training is required initially and every fifteen (15) months thereafter.

9.11.5.12. **(Added-PACAF)** Missile safety training will be included in weapons safety training for units using air-launched missiles such as AIM-XX or AGM-XX. Missile and explosive safety training will include as a minimum the subjects listed below: (**T-2**)

9.11.5.12.1. **(Added-PACAF)** Toxic, explosive, and hazardous aspects of the specific weapons system: e.g., propellants, radiation, electrical, etc.

9.11.5.12.2. **(Added-PACAF)** Safety equipment provided to enhance worker safety.

9.11.5.12.3. **(Added-PACAF)** Unique handling and transportation problem areas; e.g., trailer turning radii, tie-down procedures, etc.

9.11.5.12.4. **(Added-PACAF)** Lessons learned from past local and like-unit mishaps, HAPs, or crosstell.

9.12. Weapons Safety Committees. These committees include the Explosives Safety Committee, the Non-Nuclear Munitions Safety Board, the Nuclear Weapons Systems Safety Group and the Directed Energy Weapons Safety Board. The committees are chaired by an AFSEC/SEW representative and are composed of the chiefs of weapons safety or their MAJCOM representatives. These committees discuss matters of mutual concern that cross MAJCOM lines.

Chapter 10

SPACE SAFETY

10.1. Program Management. Every unit conducting space-related missions must have a comprehensive Space Safety program. Reference AFI 91-217, *Space Safety and Mishap Prevention Program,* for specific Space Safety program requirements. Reference AFMAN 91-222, *Space Safety Investigation and Reports*, for specific investigative reporting guidance. Reference AFI 91-110, *Nuclear Safety Review and Launch Approval for Space or Missile Use of Radioactive Material and Nuclear Systems,* for specific guidance on launches with nuclear materials on-board. **(T-1)**

10.2. Program Overview. The Air Force operates responsibly with due regard for the safety of the general public, AF personnel, space support personnel, and public and government resources. The Space Safety program includes mishap prevention guidance across the life cycle of space systems and their unique support equipment, to include Design, Systems Development, Integration, Testing, Pre-Launch, Launch Operations, Range Operations, Orbital Operations and Ground-Based Space Systems.

10.3. Design, Systems Development, Integration, Testing and Pre-Launch. Design decisions have the potential to impact the operational safety of a system. Therefore, the acquisition organization shall address the impact of design decisions on the launch, on-orbit, reentry and disposal/end-of-life (EOL) requirements in this document during the development and sustainment phases. Acquisition organizations shall comply with all safety standards that address these downstream risks. **(T-1)**

10.3.1. Space safety personnel shall participate in program performance reviews/assessments during the system development and sustainment phases.

10.3.2. Include local System Safety Managers at all milestone decision points to effectively manage the risks in each program.

10.3.3. Safety programs shall emphasize test program validation (to include procedures discipline, readiness reviews and test execution risk management) and configuration control in order to minimize mishaps.

10.4. Launch Operations and Range Operations Safety. The launch and range safety program outlines safety responsibilities and tasks for pre-launch processing at the launch site, launch operations and the reentry of launch vehicle components or reentry vehicles. It includes safety responsibilities and requirements for launch vehicles/components, reentry vehicle/components, controlled reentry and reusable launch vehicles/components, including their jettisoned components. **Note:** Weapon safety programs cover intercontinental ballistic missile test launches.

10.5. Orbital Operations Safety. The high cost of orbital assets, their unique operational design and the irrecoverable nature of orbital hardware makes mishap prevention a critical component of orbital systems, from the initial design phase through EOL activities. The orbital safety program covers all activities associated with the development, testing and operation of space vehicles in orbit or deep space, to include satellite command and control systems, spacecraft design, orbital operations, reentry, recovery and disposal elements.

10.6. Ground-Based Space Systems Safety. Ground-based space systems include unique space support equipment as well as space systems that don't directly support launch operations or on-orbit satellite operations, such as space control or warning systems.

10.7. Space Nuclear Safety. This program ensures that radioactive material and nuclear power systems used in space at or above threshold amounts have the proper design, development, assembly, maintenance, storage, handling, launch and operational use (including final disposition) with the maximum safety consistent with operational requirements. Safety reviews and launch approval for launches containing nuclear material shall be conducted IAW AFI 91-110. Programs using nuclear power systems or large amounts of nuclear material also fall under the Interagency Nuclear Safety Review Panel (INSRP), of which HQ AFSEC/SES is the DoD representative.

10.8. Space Safety Council (SSC). The SSC assists the AF/SE in fulfilling oversight responsibilities on matters concerning safe operations in the space (and related mission areas) environment through effective governance and management. The SSC also serves to improve Space Safety effectiveness and advocate for the consistent application of DoD, civil, commercial, academic and international standards or practice across the space enterprise. HQ AFSEC/SES chairs the SSC and has a composition of MAJCOMs/DRUs/organizations with space missions that affect Air Force operations. The SSC will convene at least twice per year. Reference AFI 91-217 for specific guidance.

10.9. Space Safety Training. Assigned Space Safety personnel shall receive training in all applicable aspects of Space Safety according to the unit's specific operations (e.g., risk analysis and management, System Safety, space environment hazards, testing, and conjunction assessment). Space Safety personnel shall receive training in mission specific safety tasks, as applicable: test safety, human factors, risk management, design, range systems and operations, launch systems and operations (including conjunction on-launch assessment and upper stage disposal), orbital systems and operations (including debris minimization, conjunction assessment, collision avoidance and end-of-life actions), and ground-based space systems and operations (including space control and warning systems/operations). Space Safety personnel may also need to be trained on ground safety concerns (e.g., fall protection, safety inspections, respiratory protection) to support mission operations. **(T-3)**

Chapter 11

SYSTEM SAFETY

11.1. Overview. This Chapter establishes the roles, responsibilities and policy requirements for Safety personnel in support of System Safety. System Safety is the application of engineering and management principles, criteria and techniques to achieve acceptable risk within the constraints of operational effectiveness and suitability, time and cost throughout all phases of the system life cycle. This chapter also defines how Safety personnel and organizations interact, influence and advise the other Air Force communities that are corporately responsible for System Safety in the Air Force. System acquisition and sustainment programs are subject to the mandatory policy and guidance described in paragraph **11.1.3.** System safety principles are used to manage safety risks across many functional disciplines within the AF and form the basis for risk management.

11.1.1. System Safety must be a planned, integrated, comprehensive effort employing both engineering and management resources. Effective System Safety efforts depend on clearly defined safety objectives and system performance requirements. System Safety objectives shall include, but not be limited to, prevention or mitigation of all reportable mishaps that may be associated with a system's use and function throughout its life cycle. Losses of systems, mission degradation, cost and schedule impacts shall be considered. The intent is not to duplicate work performed by related or other functional disciplines, but to ensure it is done in a systematic manner that addresses and manages mishap risk.

11.1.2. System Safety efforts consist of eight essential elements that Program Managers will document and periodically review:

11.1.2.1. Documenting the system safety approach. **(T-1)**

11.1.2.2. Hazard identification and analysis over the system life cycle. **(T-1)**

11.1.2.3. Assessment of mishap risk, expressed as severity and probability of consequences. **(T-1)**

11.1.2.4. Identification and assessment of potential risk mitigation measures. **(T-1)**

11.1.2.5. Implementation of measures to reduce risks to acceptable levels. **(T-1)**

11.1.2.6. Verification of risk reduction. **(T-1)**

11.1.2.7. Acceptance of risks by appropriate authorities. **(T-1)**

11.1.2.8. Tracking of hazards and residual risks throughout the system life cycle. **(T-1)**

11.1.3. Within the System Safety Program, acquisition and sustainment programs must document and periodically review:

11.1.3.1. System Hazard Tracking Logs. These logs shall communicate sufficient information to identify and track the status of each hazard. To ensure appropriate management attention, the status of hazards is required to be presented at program and technical reviews. The System Safety effort supports program and technical reviews with current information of all hazards. The hazard tracking logs must contain the minimum fields required by MIL-STD-882E:

11.1.3.1.1. A hazard description. **(T-1)**

11.1.3.1.2. Unique identification information. **(T-1)**

11.1.3.1.3. Risk assessment information, including the initial assessment, the target risk level, interim assessments, as required, and the final (residual) risk assessment. **(T-1)**

11.1.3.1.4. Information concerning the mitigation action(s). **(T-1)**

11.1.3.1.5. Current status of the risk reduction effort. **(T-1)**

11.1.3.1.6. A record of user concurrence and risk acceptance by appropriate authorities. **(T-1)**

11.1.3.1.7. A link with the PESHE. **(T-1)**

11.1.3.2. Risk Mitigation. Programs shall use the system safety design order of precedence defined in MIL-STD-882E.

11.1.3.2.1. Eliminate hazards through design selection.

11.1.3.2.2. Reduce risk through design alteration.

11.1.3.2.3. Incorporate engineered features or devices.

11.1.3.2.4. Provide warning devices.

11.1.3.2.5. Incorporate signage, procedures, training and PPE.

11.1.3.3. Risk Acceptance. Every hazard that cannot be eliminated must be mitigated to the maximum extent possible and formally accepted by the appropriate level of leadership as specified in DoDI 5000.02, *Operation of the Defense Acquisition System*, and AFI 63-101/20-101, *Integrated Life Cycle Management*. **(T-1)**

11.1.4. Acquisition and sustainment communities implement system safety as an integral part of a System Program Office's systems engineering activity as outlined in AFI 63-101/20-101.

11.1.5. Program Managers are solely responsible for organizing their offices, based on system acquisition program size and complexity, to execute the system safety requirements elaborated in the DoD and Air Force policy in DoDI 5000.02, AFI 63-101/20-101, and MIL-STD-882E, *DoD Standard Practice for System Safety.* Acquisition and Sustainment Program Managers must integrate system safety RM into their program's overall Systems Engineering effort at the Integrated Product Team (IPT) level where day-to-day engineering decisions are being made. This allows System Safety to most effectively influence system design. **(T-1)**

11.1.6. For high risks requiring Component Acquisition Executive (CAE) acceptance or serious risks requiring Program Executive Officer (PEO) acceptance, program managers prepare a written safety risk assessment IAW **Attachment 15** that describes the hazards, predicted risks (stating both consequences and probabilities), available mitigation measures, costs or other limitations, proposed action(s), alternatives, resulting net mishap risk and the total of expected adverse consequences for the period of acceptance. For high risks, coordination with the lead command(s), PEO and AF/SE is required before submission for acceptance. Serious-level safety risk acceptance packages must be coordinated with the lead

commands and HQ AFSEC before assessments are submitted for acceptance. Program managers are required to reassess CAE- or PEO-accepted risks in response to any change that alters the risk level, milestone reviews, key decisions following risk acceptance, or when four years have elapsed since the last risk acceptance. Consideration shall be given to actual incident and loss experiences for the period and advances in mitigation technologies and methods. Revalidated risk assessments are then coordinated and submitted for acceptance by the appropriate authority for the new predicted risk levels.

11.1.6.1. Program risk acceptance packages and tracking are only necessary for those risks that are inside the design/specification/requirement envelope. Those outside the envelope are handled by using the user's/operator's RM process.

11.1.6.2. Program safety offices shall clearly define and document mishap risk acceptance authority during life cycle system decisions. **(T-1)**

11.1.6.3. Risk packages can use the risk matrix defined in MIL-STD-882E and associated probabilities in MIL-STD-882E, Table A-II; however, tailoring of this matrix to the specific programs is permitted. Tailored risk matrices must be approved by the CAE and risk packages must clearly define the matrix parameters used and document CAE aproval. Contracts using previous versions of MIL-STD-882 may continue using those versions for contract purposes; however, new risk acceptance packages must be converted to the MIL-STD-882E matrix and definitions (or an approved tailored matrix and definitions). IAW DoDI 5000.02, the Milestone Decision Authority, or designee, approves tailoring of the MIL-STD-882E Matrix.

11.2. Responsibilities.

11.2.1. The Assistant Secretary of the Air Force for Acquisition (SAF/AQ):

11.2.1.1. Is the risk acceptance authority for high program safety risks.

11.2.1.2. Establishes engineering and technical policy and procedures for Air Force Space and non-Space Systems Acquisition and Sustainment, including policy and procedures for all Acquisition and Sustainment programs to execute System Safety as an integrated part of Systems Engineering.

11.2.1.3. Performs periodic reviews of Acquisition and Sustainment programs. These include required reviews of the results of each program's ESOH RM efforts. This ensures that System Safety is overseen within the context of other cost, schedule and performance issues.

11.2.1.4. Represents the Air Force in Acquisition and Sustainment Program System Safety matters with other DoD components and both Governmental and non-Governmental agencies.

11.2.1.5. Ensures program offices support system-related Class A and Class B mishap investigations to the extent necessary to analyze hazards that contributed to the accident, and provide recommendations for materiel risk mitigation measures, especially those that minimize potential human errors.

11.2.2. The Air Force Chief of Safety (AF/SE):

11.2.2.1. Develops System Safety policy and guidance.

11.2.2.2. Reviews and coordinates on the risk acceptance packages for risks classified as High. Evaluates safety risk assessment portions of High and Serious risk acceptance.

11.2.2.3. Provides independent assessments and advice on overall Acquisition and Sustainment Program safety (residual hazards and associated risks) to Headquarters Air Force senior leadership, as appropriate.

11.2.2.4. Participates in Air Force Review Boards (AFRBs) and other HAF-level reviews for Acquisition and Sustainment Programs. These reviews are one of the key opportunities to influence System Safety in Acquisition and Sustainment Programs.

11.2.2.5. Represents the Air Force in system safety matters with other DoD components, other government agencies, and other non-government agencies.

11.2.2.6. Collects and consolidates System Safety Group (SSG) recommendations and inputs for the Air Force Operational Safety Council (AFOSC).

11.2.2.7. Requires all system-related Class A and B safety mishap investigation reports include the program office analyses of hazards that contributed to the mishap and program office recommendations for materiel risk mitigation measures, especially those that minimize potential human errors.

11.2.2.8. Develops and implements System Safety training programs and handbooks.

11.2.2.9. Provides advisors and consultants to System Safety Groups.

11.2.2.10. Reviews Air Force technical and management documents (capabilities management documents, program management directives, SSG charters) for inclusion of appropriate safety requirements.

11.2.2.11. Reviews and comments on mishap reports for technical content and lessons learned.

11.2.2.12. Provides members, advisors and consultants to the Non-nuclear Munitions Safety Boards (NNMSB), Laser System Safety Review Board (LSSRB) and safety study groups for terrestrial nuclear reactors. Provides a senior advisor to the chair of the US Air Force Nuclear Weapons System Safety Group (NWSSG). Refer to AFI 91-205, *Nonnuclear Munitions Safety Board*, and AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules*.

11.2.2.13. Evaluates the System Safety of Directed Energy Weapons (DEW) needed for Air Force operations via the DEW Safety Board (DEWSB). This safety consideration is a System Safety effort which considers the DEW hazard posed to Airmen and all pertinent Air Force equipment. Safety of a DEW device shall be considered before purchase or during design, using AFI 91-401 safety design criteria.

11.2.2.14. For system-related mishaps, determine whether the Program Manager previously identified the hazards that played a role in the mishap sequence and had included those hazards in its Systems Engineering ESOH RM efforts.

11.2.3. Major Commands (MAJCOMs):

11.2.3.1. Major Acquisition Commands (AFMC and AFSPC). These Commands establish and maintain the Air Force's capability to support system safety efforts on major weapon system acquisitions.

11.2.3.1.1. Ensure program offices and the lead and using commands coordinate when modifications or changes in system use affect safety.

11.2.3.1.2. Evaluate mishaps and mishap trends to identify deficiencies that engineers and managers may have overlooked or incorrectly analyzed during system development.

11.2.3.1.3. Keep HQ AFSEC informed of the programmatic changes of the on-going and future acquisition and sustainment programs. Specifically, notifies AFSEC when System Safety managers change programs and when programs change from acquisition to sustainment and which organization is responsible for system safety.

11.2.3.1.4. Ensure level of support, training and experience of System Safety staff is appropriate for each Program.

11.2.3.1.5. Ensure all Center system safety managers annually report RM policies conforming to paragraph **11.1.3,** along with a current list of all CAE- or PEO-accepted residual risks for their programs. Provide a consolidated annual report for all programs to AF/SE and SAF/AQ.

11.2.3.1.6. Appoint a trained System Safety manager to act as the point of contact to facilitate system safety matters.

11.2.3.1.7. Air Force Materiel Command (AFMC):

11.2.3.1.7.1. Coordinates system safety across the Centers associated with non-Space Program acquisitions.

11.2.3.1.7.2. Ensure Centers document safety criteria and hazards identified during their efforts. Provides support as required to ensure the responsible organizations include a Safety hazard analysis with any development or modification to be evaluated, assessed or tested within AFMC and the using command.

11.2.3.1.7.3. Facilitates information exchange between program managers, chief engineers, HQ AFSEC and the user to help maintain operational safety of AFMC managed weapon systems and end items.

11.2.3.1.7.4. Ensures HQ AFMC/SES forwards to HQ AFSEC/SEFE not later than 1 November in every even-numbered year, an update to the USAF Aviation Safety Equipment Database in the format described in **Attachment 2,** reflecting fleet status on the last day of the preceding fiscal year.

11.2.3.1.7.5. Chairs System Safety Engineering Analysis (SSEA) efforts as required by each system.

11.2.3.1.8. Air Force Space Command (AFSPC). Ensures launch and on-orbit hazards are identified. Advises inputs to the acquisition framework to ensure system safety is considered throughout the space system life cycle.

11.2.3.2. Operational MAJCOMs.

11.2.3.2.1. Each MAJCOM with acquisition responsibilities must appoint a trained System Safety manager to act as the point of contact to facilitate System Safety matters. MAJCOM Safety Offices and System Safety personnel:

11.2.3.2.1.1. Specify any requirements for safety features that could reduce risk, hazards or their effects. Safety personnel must identify particular safety constraints as early as possible to the Program Office, preferably as a part of a formal requirements document, endorsed by the Lead Command's proponent office for the system. These System Safety constraints could affect the command mission, base locations, unique operational use, support concepts or meteorological operating environments dealing with the weapons system.

11.2.3.2.1.2. Participate as SSG members and System Safety Working Group (SSWG) members, as appropriate. Ensure the Programmatic Environment, Safety and Occupational Health Evaluation (PESHE) includes adequate operational safety criteria. Ensure material mishap recommendations are included in the Lead MAJCOM cycle and efforts/results are addressed by program offices.

11.2.3.2.1.3. Designate a trained focal point in the MAJCOM Safety Office responsible for System Safety advocacy for the Command. Provide AFSEC/SEF/SEG, AFMC/SES and AFSPC/SEK (space programs only) with the name of the focal point. **Note:** Trained focal point is someone who has completed a formal System Safety course.

11.2.3.2.1.4. Work closely with program managers to facilitate the Lead Command's coordination role in the System Safety risk acceptance process. Jointly determine the overall level of risk and document the acceptance of this risk level with the appropriate authorities.

11.2.3.2.1.5. Use the principles of system safety to discover previously unidentified hazards and/or changes in the level of risks in fielded systems. Provide relevant information to the program manager for risk mitigation efforts.

11.2.3.2.1.6. Ensure assigned System Safety personnel are properly trained.

11.2.3.2.2. Lead Commands will consolidate Using Command's requirements and represent these needs to program offices.

11.2.4. Program Executive Officers (PEOs) ensure that programs within their portfolios are integrating ESOH concerns into the overall systems engineering process using the system safety methodology in MIL-STD-882E, as required by DoDI 5000.02 and AFI 63-101/20-101. They perform periodic program and technical reviews of programs within their portfolios. These required reviews include the results of each program's System Safety and safety RM efforts. This ensures that System Safety is overseen alongside other cost, schedule, and performance issues. Finally, PEOs serve as acceptance authorities for program safety risks classified "Serious."

11.2.5. Acquisition and Sustainment Program Managers:

11.2.5.1. Program managers ensure that ESOH concerns are integrated into the overall systems engineering process using the system safety methodology in MIL-STD-882E as required by DoDI 5000.02 and AFI 63-101/20-101. **(T-1)**

11.2.5.2. Program offices must clearly define, document and adapt safety risk assessment matrices and tables using MIL-STD-882E guidance and hazard analyses, that detail: probability and severity levels, and specifies the approval authorities that will be used to manage risk to major systems/functions within their specific program(s). For example, MIL-HDBK-516B, *DoD Handbook Airworthiness Certification Criteria,* defines major functions for air vehicles; program managers for other enterprise items may develop similar breakouts to define major systems/functions for their specific items, i.e., 90- and 91-series publications and others may aid the practitioner in establishing meaningful discipline-specific risk criteria, e.g., nuclear weapons, space, AFOSH standards. Risk acceptance will be IAW DoDI 5000.02 and any tailoring of MIL-STD-882E shall be accomplished IAW DoDI 5000.02 and AFI 63-101.

11.2.5.3. Program offices must document and report status of all high and serious safety risks as part of their RM. This information is also required to be documented in the PESHE. Current High- and Serious-level safety risks must be presented at each Program and Technical Review. The PESHE should link to the program's hazard tracking logs to maintain currency of lifecycle ESOH hazards. **(T-1)**

11.2.5.4. For High and Serious risks, program managers must prepare a written risk decision package describing the hazards, predicted risks (stating both consequences and probabilities), available mitigation measures, costs or other limitations, proposed action(s), alternatives, resulting net mishap risk and the total expected consequences for the period of acceptance. **Attachment 15** guidance is mandatory for High and Serious risk acceptance packages and recommended for all other risk assessments.

11.2.5.4.1. High-level safety risk acceptance packages must be coordinated with the lead commands and AF/SE before assessments are submitted for acceptance. Serious-level safety risk acceptance packages must be coordinated with the lead commands and HQ AFSEC before assessments are submitted for acceptance. Programs that interface with or carry weapons should also notify and coordinate applicable High/Serious risk packages with the NNMSB and the NWSSG, as applicable. **(T-1)**

11.2.5.4.2. Program managers must reassess CAE- or PEO-accepted risks in response to any change that alters the risk level, milestone reviews, key decisions following approval, or four years have elapsed since the last risk assessment. Reassessments should consider actual incident and loss experiences for the period and advances in mitigation technologies and methods. Revalidated risk assessments must be coordinated and submitted for acceptance by the appropriate authority for the new predicted risk levels. **(T-1)**

11.2.5.4.3. Risk packages will use the risk matrix defined in MIL-STD-882E. Contracts using previous versions of MIL-STD-882E may continue using those versions for contract purposes; however, new risk acceptance packages must be

converted to the MIL-STD-882E matrix and definitions. Any tailoring of MIL-STD-882E shall be accomplished IAW DoDI 5000.02 and AFI 63-101/20-101. **(T-1)**

11.2.5.4.4. Program managers should assess safety risks associated with modifications using the methodology outlined in **Attachment 15.**

11.2.5.5. IAW AFI 63-101, all system-related Class A and B mishap investigation reports must include the Program Manager analysis of hazards that contributed to the accident and recommendations for materiel risk mitigation measures, especially those that minimize the potential for human errors. **(T-1)**

11.2.5.6. The PM shall provide safety releases containing all identified hazards, implemented mitigation measures and accepted risks to developmental and operational testers as part of testing and fielding new or modified systems or end items prior to any test involving personnel. As a minimum, the safety release will contain the information in **Attachment 16,** *Safety Release,* of this AFI. **(T-1)**

11.2.6. System Safety Managers (SSMs) and Engineers monitor operational experience, mission changes, environmental effects or system modifications to identify and correct hazards throughout the life cycle of a system or facility. When a program (e.g., an aircraft or a space vehicle) has an embedded sub-program (e.g., an aircraft engine or hosted payload), which could create inter-related safety risk at the higher system level, both program managers will ensure their Systems Engineering Plans include processes to identify inter-related safety risks and to integrate RM and mitigation efforts for safety risks. **(T-1)**

11.2.6.1. When assigned to Program Offices, SSMs and System Safety Engineers (SSEs):

11.2.6.1.1. Will have direct lines of communication to PMs to advise them on system safety matters. **(T-1)**

11.2.6.1.2. Will complete a MAJCOM-approved System Safety Course within 90 days of initial assignment to a system safety position. Safety offices must document reasons for assigned individuals who have not completed training within 120 days of assignment. **(T-1)**

11.2.6.1.3. Must have introductory space safety course training when assigned to a program involved in the acquisition of a space system. **(T-1)**

11.2.6.1.4. Work within the Program Manager's organizational structure to perform system safety functions IAW the methodology in MIL-STD-882E. **(T-1)**

11.2.6.1.5. Participate in the development and maintenance of the Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE) document. **(T-1)**

11.2.6.1.6. Integrate System Safety efforts with systems engineering and other functional areas within the program. **(T-1)**

11.2.6.1.7. Identify and assess safety hazards and risks throughout the program life. Ensures safety portions of PESHE are current and coordinated through the Center System Safety Manager (CSSM). Annually report safety RM policies, accepted mishap risks and those that require PEO or higher action for their program to the Center system safety manager IAW paragraph **11.2.7.2.7. (T-1)**

11.2.6.1.8. Incorporate safety requirements and design criteria into appropriate program documents. **(T-1)**

11.2.6.1.9. Work with Systems Engineering staff to provide System Safety risk assessments for program and technical reviews. **(T-1)**

11.2.6.1.10. Develop, recommend and oversee efforts to verify effectiveness of mitigation measures. **(T-1)**

11.2.6.1.11. Develop and implement tracking procedures for all identified hazards and mitigation measures. Document management decisions for acceptance of mishap risks. **(T-1)**

11.2.6.1.12. When appropriate, develop operating limits and other safety risk mitigation measures in concert with the lead, using or operational commands. System Safety personnel must identify and document particular safety constraints as early as possible. **(T-1)**

11.2.6.1.13. Conduct SSGs/SSWGs, when required, for their program. **(T-1)**

11.2.6.1.14. Prepare formal risk assessment packages for acceptance at the appropriate level IAW **Attachment 15,** DoDI 5000.02, AFI 63-101/20-101 and MIL-STD-882E. **(T-1)**

11.2.6.1.15. Ensure System Safety requirements are clearly defined within the Systems Engineering process for their program. **(T-1)**

11.2.6.1.16. As part of the preparations for fielding new or modified systems, ensure AFOTEC, using commands and Air Force Sustainment Center Chief of Safety (AFSC/SE) are provided with a listing of all high and serious safety risks, their mitigation measures, mishap risk assessments, residual hazards and risk acceptance documentation. **(T-1)**

11.2.6.1.17. Identify budget requirements that support mishap investigations and corrections of deficiencies in support of their program. **(T-1)**

11.2.6.1.18. Provide updates to the USAF Aviation Safety Equipment Database no later than 1 November in every even-numbered year to HQ AFMC/SES reflecting fleet status on the last day of the preceding fiscal year. **Attachment 2** contains the required information and format. **(T-1)**

11.2.6.2. When assigned as a Center System Safety Manager (CSSM):

11.2.6.2.1. AFMC Centers will have a trained full-time CSSM in the center safety office, unless waived by HQ AFMC/SES. SMC will appoint a trained full-time CSSM unless waived by HQ AFSPC/SE. The CSSM should be level II acquisition certified.

11.2.6.2.2. Each laboratory technical directorate and test center will have a trained SSM in the laboratory/test center safety office. (The laboratory/test CSSM can be a part-time individual, depending on the local system safety efforts.) If a center/laboratory has a full-time system safety staff, the chief of this staff will be the CSSM or laboratory SSM. All center/laboratory SSMs will document safety criteria and hazard identification and resolution for in-house and for contractual programs.

CSSMs will identify program/project documents to be coordinated by the center/laboratory SSM. **(T-1)**

11.2.6.2.3. CSSMs should be members of applicable center senior engineering venues such as Acquisition Strategy Panel, to remain informed of top-level issues and provide cross-tell.

11.2.6.2.4. CSSMs or their designated staff members will be members or advisors of SSGs and Materiel Safety Task Groups (MSTGs) and Configuration Control Boards (CCBs). (Full-time SSMs may represent system safety in lieu of the CSSM on program-unique CCBs, MSTGs, and SSGs.) **(T-1)**

11.2.6.2.5. CSSMs will conduct annual meetings with all center system safety personnel to cover refresher training, cross-tell items, and new developments in system safety. **(T-1)**

11.2.6.2.6. The CSSM will coordinate on the safety portion of PESHEs for programs managed at the Center. **(T-1)**

11.2.6.2.7. CSSMs must provide annual overviews to the MAJCOM/SE and AF/SE on the safety RM policies and status of all risks requiring PEO or CAE action for all programs managed at their Center. **(T-1)**

11.2.6.2.8. Promote standardization through the cross-flow of best practices.

11.2.6.3. When assigned to Lead/Using Command, System Safety Officers, Managers, and engineers:

11.2.6.3.1. Must be familiar with System Safety policy and guidance. **(T-1)**

11.2.6.3.2. Support the Initial Capabilities Document (ICD), Capability Development Document (CDD) and Capability Production Document (CPD) development effort IAW AFPD 90-8, *Environment, Safety, and Occupational Health Management and Risk Management.* Safety personnel must work with the Environmental and BE staffs to identify ESOH constraints as early as possible to prevent adverse impacts on command mission, base locations, operational use, support concepts or meteorological operating environments associated with systems.

11.2.6.3.3. Assist in coordinating user concurrence for safety risk acceptance decisions.

11.2.6.3.4. Interpret hazard data provided by the program manager for the system users.

11.2.7. Units.

11.2.7.1. Ensure the unit RM effort uses Program Manager's System Safety hazard information in its risk assessments.

11.2.7.2. Participate, as appropriate, in SSGs and SSWGs to identify risks and hazards.

11.2.7.3. Coordinate issues affecting System Safety with the MAJCOM Weapon System Representative, the Program Office, the System Safety Group and HQ AFSEC, as appropriate.

11.2.8. Test Organizations. During both development and operational test and evaluation, test organizations will review and validate program office risk assessments for hazards that were not eliminated through redesign. The test organizations and AFOTEC will provide the using commands with their recommendations on program office risk assessments. The test organizations and AFOTEC will provide to the program office a summary of the test hazards and the mitigating actions for all test hazards.

11.3. System Safety Groups (SSG). In addition to the day-to-day systems engineering and system safety activities, program offices should use SSGs to collect and cross feed user inputs/insights into the program's System Safety efforts and to provide all a view of all safety issues currently in work. SSG members are detailed in paragraph **11.3.3.**

11.3.1. All aircraft and space programs on the acquisition master list (AML) are required to conduct SSGs. Programs for subordinate systems used on aircraft or space systems shall address system safety issues within the SSG for the aircraft or space systems in which they are to be integrated, and are not required to have separate SSGs. Separate SSGs are not typically required for programs covered under AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules*, AFI 91-205, *Nonnuclear Munitions Safety Board*, or AFI 91-401, *Directed Energy Weapon Safety*. SSGs are optional for all other programs not previously addressed. HQ AFSEC will maintain a list of aircraft and space programs that conduct SSGs.

11.3.2. The program manager, deputy program manager or chief engineer chairs the SSG. SSGs meet at least annually as scheduled by the chair. In addition, any member of the SSG may request the chair call a meeting. Meetings may be waived with concurrence of all required attendees. Each SSG will address the following as appropriate:

11.3.2.1. Program status. **(T-1)**

11.3.2.2. Fleet safety assessment. **(T-1)**

11.3.2.3. Analyses of major safety design trade-offs and modifications. Analysis will include risk hazard indices, proposed corrective actions and their effect and status. **(T-1)**

11.3.2.4. Status of planned, pending, active and disapproved safety modifications. **Attachment 15** has guidelines and considerations for modification planning and risk assessment. **(T-1)**

11.3.2.5. Safety investigation recommendations affecting the system. A discussion of High Accident Potential (HAP) reports that have occurred since the last meeting. **(T-1)**

11.3.2.6. User/operator issues. **(T-1)**

11.3.2.7. Safety risk mitigation options. **(T-1)**

11.3.2.8. Unmitigated hazards. **(T-1)**

11.3.2.9. System Safety program scope, including contractual requirements and deliverable System Safety data. **(T-1)**

11.3.2.10. Overall safety assessments, especially before milestone reviews. **(T-1)**

11.3.2.11. Major modifications or engineering change proposals. **(T-1)**

11.3.2.12. The need to establish SSWGs as necessary to work detailed System Safety issues. **(T-1)**

11.3.2.13. Making safety recommendations during design, development, test, operations, sustainment and disposal. **(T-1)**

11.3.2.14. Assigning mishap risk indices to each SSG discussion and action item. **(T-1)**

11.3.2.15. Aircraft Information Program status to emphasize the collection and analysis of safety data. **(T-1)**

11.3.3. The SSG develops and coordinates the SSG charter. The SSG charter will address the purpose and scope, mandatory membership, operating procedures and administration of the group. All mandatory members must commit to supporting SSG meetings and must sign the charter. Minimum mandatory membership includes the Chairperson (Program Manager, Deputy or Chief Engineer), Program System Safety Manager/Engineer/Officer (as appropriate, Center System Safety Manager, AFSEC, HQ AFMC/SE (for non-space systems), HQ AFSPC/SE (for space systems), the Lead MAJCOM safety office, AFOTEC and the Lead MAJCOM user representative. Optional, advisory members include SAF/AQRE, the contractor system safety manager, program engineering staff (as needed based on issues at hand), Space Launch Ranges, and other DoD and industry organizations (as appropriate) as determined by mandatory members. **(T-1)**

11.3.4. Within 30 working days, SSG minutes shall be sent to all SSG members and advisors and to SAF/AQR, AFMC/EN or SMC/EN (as applicable), HQ AFSEC, HQ AFSPC/SE or HQ AFMC/SE (as applicable), AFOTEC/SE, and the owning command. **(T-1)**

11.3.5. SSG recommendations that require capability changes or materiel modifications by the program office must be validated and documented IAW the process and criteria outlined in AFI 10-601.

11.4. Networks, Automated Information Systems, and Non-Developmental Items. Program managers are required to conduct a System Safety analysis appropriate for the system or item. For non-developmental items, the analysis should review usage history, verify intended use similarities, evaluate differences, and plan for adequate safety evaluation for all Air Force-unique modifications or changes in use. This System Safety review should be accomplished by the procuring/buying agency that is in the best position to assess the intended use and necessary modification. For example, Federal Aviation Regulation (FAR) certification requirements are incrementally implemented and may not apply to all models or year groups of similar aircraft. Operations from military fields and or with military support equipment provide unique hazard opportunities that may not have been considered in the original design. Exercise care in accepting FAA certification as a sufficient indication for safety of the design.

11.5. System Safety Engineering Analysis (SSEA). The SSEA program evaluates new operations that are currently prohibited due to the perceived risks (e.g., aircraft hot refueling, concurrent servicing operations, concurrent servicing operations supporting combat sortie generation and wet wing/rapid defueling operations). Based upon the successful demonstration and evaluation, approval may be granted to use the operation/procedures.

11.5.1. SSEA of a proposed operation is performed by a highly qualified team under controlled conditions. The team conducts actual demonstrations and analysis of the operation

to validate overall risk assessment and recommend actions. The SSEA team is normally chaired by the AFMC System Safety Office and includes experts from AFSEC and the developing/supporting and operational commands. At the discretion of the SSEA Team Chief, low-risk SSEAs may be done via the in-house "tabletop" method without a demonstration.

11.5.2. A using command requests a SSEA in writing to AFMC/SES and informs HQ AFSEC. Requests must include:

11.5.2.1. A complete description of the proposed operation.

11.5.2.2. Justification for accepting the increased risk.

11.5.2.3. Recommended location and dates for the SSEA demonstrations.

11.5.2.4. Identification of other DoD, Government or foreign agencies that might be involved.

11.5.3. The SSEA team reports the results of the analysis, including operational concepts, system descriptions, risk assessments, hazard analyses, descriptions of the demonstrations, and conclusions and recommendations to the requester.

Chapter 12

HAZARD ABATEMENT

12.1. Purpose. The purpose of the hazard abatement program is to eliminate, control or limit exposure of personnel to hazardous conditions. It provides senior leaders, functional managers, supervisors and workers with a risk-based systemic process for identifying hazard mitigation and elimination strategies for hazards in all workplaces and operations. Additionally, it provides a tracking system for hazards from identification through closure.

12.2. Responsibilities.

12.2.1. Each installation establishes a program to abate hazards based on a priority system. **(T-2)**

12.2.2. Commanders, supervisors and employees at all levels are responsible for abating hazardous conditions. **(T-2)**

12.2.3. Commanders protect national resources, both human and material, and have the responsibility to take action in implementing safety measures. **(T-2)**

12.2.4. Functional managers correct hazards in their areas of responsibility. **(T-2)**

12.2.5. The safety office helps commanders assess and prioritize abatement actions and provide the commander with follow-up support until the hazard is eliminated. **(T-2)**

12.2.6. Send projects beyond the capability of local commanders to the parent MAJCOM/FOA/DRU.

12.3. Planning and Engineering. Use RM processes during the planning, design and execution phases to identify and eliminate hazards as early as possible when they will have the least cost and operational impact on the program. Continually review plans, specifications and drawings to identify and eliminate hazards until the equipment or workplace is operating with acceptable risk levels. Reevaluate risk assessments when any factor applied in the decision-making process changes. **(T-2)**

12.4. Procedural Actions. Develop procedures or restrictions to minimize risk if planning or engineering actions cannot be used to eliminate hazards. If necessary, impose restrictions such as operational limits, frequent inspections, protective equipment or stopping the operation until corrective action is taken. **(T-2)**

12.5. Hazard Elimination Hierarchy. The hierarchy provides a systematic way to determine the most effective feasible method to reduce risk associated with a hazard. The types of hazards employees are exposed to, the severity of the hazards and the risk the hazards pose to employees should all be considered in determining methods of hazard prevention, elimination and control.

12.5.1. In general, the following hierarchy should be followed in determining hazard elimination/mitigation and control methods:

12.5.1.1. Elimination.

12.5.1.2. Substitution of less hazardous materials, processes, operations, or equipment.

12.5.1.3. Engineering controls.

12.5.1.4. Warnings.

12.5.1.5. Administrative controls.

12.5.1.6. PPE as determined by an hazard analysis. **Note:** PPE should be used when all other hazard controls have been exhausted or more significant hazard controls are not feasible.

12.5.2. Feasible application of this hierarchy of controls shall take into account:

12.5.2.1. The nature and extent of the risks being controlled.

12.5.2.2. The degree of risk reduction desired.

12.5.2.3. The requirements of applicable local, federal, and state statutes, standards and regulations.

12.5.2.4. Recognized best practices in industry.

12.5.2.5. Available technology.

12.5.2.6. Cost-effectiveness.

12.5.2.7. Internal organization standards.

12.5.3. When controlling a hazard, first consider methods to eliminate the hazard or substitute a less hazardous method or process. This is best accomplished in the concept and design phases of any project. If this is not feasible, engineering controls such as machine guards and ventilation systems should be considered. This process continues down the hierarchy until the highest-level feasible control is found. Often, a combination of controls is most effective. In cases where the higher order controls (elimination, substitution and implementation of engineering controls) do not reduce risk to an acceptable level, lower order controls, e.g., warnings, administrative controls, or personal protective equipment, will be used to complement engineering controls to reduce risks to an acceptable level. **(T-2)**

12.5.3.1. Design for Minimum Risk (Engineering). Engineering controls are the preferred method of reducing exposure to hazards, but are not always feasible. Following are examples of engineering controls that can be implemented.

12.5.3.1.1. Substitution of a less hazardous material.

12.5.3.1.2. Change process to minimize exposure to a hazard.

12.5.3.1.3. Isolation or enclosure of a process.

12.5.3.1.4. Ventilation of a work area.

12.5.3.1.5. Use of local exhaust, i.e., fume hoods.

12.5.3.1.6. Reduce energy potential, e.g., use a lower voltage/amperage device.

12.5.3.2. Incorporate Safety Devices. Safety devices include such features as machine guards, lockouts/interlocks and limiting switches.

12.5.3.3. Provide Warning Devices. Warning devices are typically audible/aural/sensory features that alert one of a hazard.

12.5.3.4. Develop Procedures and Training.

12.5.3.4.1. Administrative. Administrative control methods, such as adjusting work schedules, good housekeeping or encouraging best work practice can reduce hazard exposures. Provide written guidance (e.g., TO notes/warnings/cautions) and training.

12.5.3.4.2. Personal Protective Equipment (PPE). PPE is determined by hazard identification in hazard analysis. PPE should be used when all other hazard controls have been exhausted or more significant hazard controls are not feasible.

12.5.4. When engineering controls have been studied, investigated and implemented, yet still do not bring employees' exposure levels to below permissible exposure limits, or when engineering controls are determined to be infeasible, then a combination of controls must be applied and followed by all affected parties. **(T-2)**

12.6. Hazard Abatement Requirements. To abate hazardous conditions:

12.6.1. Abate hazards in military-unique equipment and processes through established systems for modification and upgrade, e.g., Product Quality Deficiency Reporting Program (T.O. 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution*), and Flight Manual Changes (AFI 11-215, *Flight Manual Procedures*). Additionally, when possible, use the same criteria specified in paragraphs **12.6.2.1 – 12.6.4.7.**

12.6.2. Hazard abatement in nonmilitary-unique workplaces must:

12.6.2.1. Abate RACs 1, 2 and 3 hazards as soon as possible. **(T-1)**

12.6.2.2. Identify abatement actions for RACs 4 and 5 hazards as soon as possible. **(T-1)**

12.6.3. Select an abatement method and, if possible, interim control measures based on the hierarchy outlined in paragraph **12.5. Note:** Assigned RAC will remain until completely abated even though interim control measures are in effect.

12.6.4. Other factors that affect decisions on abatement actions are:

12.6.4.1. Impact to mission.

12.6.4.2. Technical feasibility and cost of available options.

12.6.4.3. Number of personnel exposed and length of time exposed.

12.6.4.4. Previous mishap experience.

12.6.4.5. Future use of workplaces or equipment.

12.6.4.6. Alternative methods to control the hazard or protect personnel.

12.6.4.7. Interim control measures in effect.

12.6.5. **Attachment 6** through **9** provide additional instructions for assigning RACs, determining abatement priority numbers, and completing AF Forms 3 and 1118.

12.7. Critical/Imminent Danger Situations. Anyone identifying a critical/imminent danger situation will immediately bring it to the attention of the commander and supervisor in charge. Commanders or supervisors must take immediate action to eliminate or control the hazard or cease operations and withdraw exposed personnel until the situation is safe. **(T-2)**

12.8. Posting Notification of Hazards. The fire, safety or health officials complete the AF Form 1118 identifying RAC 1, 2 and 3 hazards according to **Attachment 8** and forward to the supervisor for posting not later than the end of the next duty day. The control number for the AF Form 1118 will be assigned by the host wing safety office. This will ensure the control number is compatible with the associated AF Form 3 should it become required. A copy of the AF Form 1118 will be sent to the host wing safety office by the office assigning the RAC. Supervisors must alert all affected employees and contractors of the hazardous condition, any interim control measures and permanent corrective actions underway or programmed. Supervisors post the AF Form 1118 in the workplace immediately upon receipt. AF Form 979, *Danger Tag*, may be used for this purpose on equipment. Refer to AFI 91-203 for additional guidance. **(T-2)**

12.8.1. Location. Post AF Form 1118 on, at or as near as possible to the hazard. However, where the nature of the hazard or workplace is such that this is not practical, post notices in a prominent place where all employees can see them. The workplace supervisor must ensure the posted AF Form 1118 is maintained in good condition and employees are kept informed of any changes. If adverse conditions are present, enclose the notice in a suitable protective cover. **(T-2)**

12.8.2. Removal. The issuing office will be the authority to remove a posted AF Form 1118, *Notice of Hazard.* Removal of notices will only occur after the hazard has been corrected, or three (3) working days (excluding weekends and federal holidays), whichever is later, following validation by the issuing authority. **(T-2)**

12.9. Installation Master Hazard Abatement Plan (MHAP). Commanders/Functional Managers will ensure all identified RAC 1, 2 and 3 hazards are entered into the formal installation MHAP. **(T-2)**

12.9.1. Those RAC 1, 2 or 3 hazards will be entered on an AF Form 3 IAW **Attachment 9.** Safety, fire or health officials assist functional managers in preparation of the AF Form 3. After commander/functional manager approves and signs the AF Form 3, send to the installation safety office. **(T-2)**

12.9.2. The host installation safety staff maintains the installation MHAP. The MHAP consists of the following:

12.9.2.1. A fiscal year log of all RAC 1, 2 and 3 items.

12.9.2.2. A complete set of AF Form 3s and AF Form 1118s from across the installation.

12.9.2.3. Other related or supporting documentation.

12.9.2.4. The signed approval called for in paragraph **12.9.5** or a cross reference to the appropriate ESOHC minutes if the option is used to track commander approval via the ESOHC.

12.9.3. Squadron commanders or functional managers will conduct a semiannual review of AF Form 3s pertaining to their areas of responsibilities and reflect that review in Block 22 of the AF Form 3. **(T-2)**

12.9.3.1. Commanders/functional managers notify the safety personnel of any changes in hazard abatement status and annotate changes on the AF Form 3.

12.9.3.2. Completed hazard abatement projects must be certified by the appropriate agency; safety, fire, or health, to ensure the hazard was abated properly. Certification in this particular instance means the appropriate official has performed a site visit to verify the hazard has been fully abated. **(T-2)**

12.9.4. The ESOHC will review open MHAP items at least once a year. They will address project delays and other problems during each ESOHC. The ESOHC minutes will reflect the review and delays or problems respectively. **(T-2)**

12.9.5. Annually, the COS will send a written copy of the MHAP to the installation commander for review and approval of priorities for projects. The copy sent to the commander will include a cover letter addressing the purpose of the review and description of the request for the commander's review and signature. The package will include a list of all open plan entries and those closed since the last annual review. The open list will be prioritized by RAC and Abatement Priority number (APN). See **Attachment 7. Note:** Locations utilizing the AF and MAJCOM/FOA/DRU level Risk models which are included in scheduled Facilities Utilization Boards (FUBs) and ESOHC meets the intent of this paragraph and that of **Attachment 12. 9.2.4. (T-2)**

12.9.6. The host safety office will make the MHAP available for review locally by representatives of recognized employee organizations, if such organizations exist. **(T-2)**

12.9.7. MAJCOM/FOA/DRU ground safety personnel will send copies of AF Form 3s received from subordinate installations or units to HQ AFSEC/SEG and AFMOA/ SG3P or AFCEC/DF, if appropriate, when MAJCOM funding authority for abatement action is exceeded.

12.9.8. RAC 4 and 5 hazards are not part of the installation MHAP. Safety staffs, including tenant units, will track RAC 4 and 5 hazards until closed. AF Form 3 or AF Form 1118 is optional for RACs 4 and 5. MAJCOM/FOA/DRU may delineate additional tracking requirements.

12.9.9. Once a hazard is transferred to the MHAP (RACs 1 – 3) or the RAC 4 and 5 tracking mechanism, close out applicable source hazard report or inspection report. **(T-2)**

12.10. Funding for Hazard Abatement. Funding for hazard abatement projects should be entered into the Planning, Programming and Budget process. Hazard abatement projects should compete for the necessary funds within the planning, programming, and budgeting system framework.

12.10.1. Incorporate safety, fire and health requirements into repair and construction projects. For projects that exceed local funding authority, follow requirements in AFI 32-1021, *Planning and Programming Military Construction (MILCON) Projects*, or AFI 32-1032, *Planning and Programming Appropriated Fund Maintenance, Repair, and Construction Projects*, as applicable, and send projects to the parent MAJCOM for centralized programming. Identify the portion of project cost attributable to hazard abatement. **(T-2)**

12.10.2. Civil Engineering provides actual cost data for abatement of hazards in workplaces and real property installed equipment to the functional manager. The functional manager

consolidates the information and sends it to the installation safety staff at least once a year for centralized reporting. **(T-2)**

12.11. End of Year Annual Hazard Abatement Survey Report. At the beginning of each new fiscal year AFSEC/SEG will send a data call for the end of year hazard abatement information required to complete the DoD report called for within DoDI 6055.01. This data call will be sent to each MAJCOM/FOA/DRU for subsequent distribution to their subordinate units that serve as the host installation safety office. Each host installation safety manager obtains information from installation civil engineering and functional managers in order to submit the data call back to their higher headquarters, who will, in turn, compile the results and send the composite product back to AFSEC/SEG within the suspense date assigned. FOAs and DRUs are not to submit the annual survey report if the host installation reports their hazard abatement actions through a MAJCOM. At joint bases where the Air Force is not the lead, the Air Force office will complete the data sheet to reflect only the Air Force specific hazards on the installation Master Hazard Abatement Plan or its equivalent. **(T-2)**

Figure 12.1. Annual Hazard Abatement Program Survey Report (RCS: HAF-SEC(A) 9363) MAJCOM--FOA--DRU SECTION A—Hazards Abated During FY__.

		NUMBER OF HAZARDS ABATED	TOTAL PROJECT COST ($000)	ABATEMENT COST ($000)
MILITARY CONSTRUCTION PROGRAM (MCP)	RAC 1			
	RAC 2			
	RAC 3			
OPERATIONS AND MAINTENANCE (O&M)				
	RAC 1			
	RAC 2			
	RAC 3			
		TOTAL		
SECTION B—ABATEMENT FUNDED				
MCP	RAC 1			
	RAC 2			
	RAC 3			
O&M	RAC 1			
	RAC 2			
	RAC 3			
		TOTAL		
SECTION C—ABATEMENT UNFUNDED				
MCP	RAC 1			
	RAC 2			
	RAC 3			
O&M	RAC 1			
	RAC 2			
	RAC 3			
		TOTAL		

Figure 12.2. (MAJCOM/FOA /DRU) Annual Hazard Abatement Survey Report (RCS: HAF-SEC(A) 9363) OSH Hazards - Programmed (Unfunded) RAC 1 Annual Hazard Abatement Survey Report.

1	2	3 PROJECT IDENTIFICATION						4 NARRATIVE
BASE	HAZARD TO BE ABATED	A TITLE	B PROJECT NUMBER	C PROGRAM DECISION PACKAGE (PDP)	D PROGRAM FY	E COST ($000)		
						(1) TOTAL	(2) ABATE-MENT	

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Attachment 1

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AF Form 1118, *Notice of Hazard*

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AF Form 9, *Request For Purchase*

AF Form 847, *Recommendation For Change of Publication*

AF Form 979, *Danger Tag*

AF Form 1754, *Job Capability and Safety Analysis (LRA)*

FORM CA-10, *What A Federal Employee Should Do When Injured At Work*

Abbreviations and Acronyms

ACC—Air Combat Command

ADLS—Air Force Distributed Learning Service

ADWSR—Additional Duty Weapons Safety Representative

AEF—Air Expeditionary Force

AETC—Air Education and Training Command

AEW/G—Air Expeditionary Wing/Group

AFCEC—Air Force Civil Engineering Center

AFCFM—Air Force Career Field Manager

AFCMRS—Air Force Combined Mishap Reduction System

AFECD—Air Force Enlisted Classification Directory

AFFARS—Air Force Federal Acquisition Regulation Supplement

AFFOR—Air Force Forces

AFDW—Air Force District of Washington

AFGSC—Air Force Global Strike Command

AFI—Air Force Instruction

AFJMAN—Air Force Joint Manual

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFMOA—Air Force Medical Operations Agency

AFMS—Air Force Manpower Standard

AFMSA—Air Force Medical Support Agency

AFOSC—Air Force Operational Safety Council

AFOSH—Air Force Occupational Safety and Health

AFOTEC—Air Force Operational Test Evaluation Center

AFPAM—Air Force Pamphlet

AFPC—Air Force Personnel Center

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AFSAS—Air Force Safety Automated System

AFSC—Air Force Specialty Code

AFSEC—Air Force Safety Center

AFSMS—Air Force Safety Management System

AFSOC—Air Force Special Operations Command

AFSPC—Air Force Space Command

AFTO—Air Force Technical Order

AHAS—Avian Hazard Advisory System

AMA—Aircraft Movement Area

AMC—Air Mobility Command

AMIC—Aircraft Mishap Investigation Course

AMIP—Aircraft Mishap Investigation and Prevention

AML—Acquisition Master List

ANG—Air National Guard

ANSI—American National Standards Institute

AOF—Airfield Operations Flight

AOPA—Aircraft Owner’s and Pilot’s Association

AOPT—Aerospace and Operational Physiology Training

AOR—Area of Responsibility

APN—Abatement Priority Number

ARCCOS—Air Reserve Component Chief of Safety

ART—Air Reserve Technician

AS—Allowance Standards

ASAP—Airman Safety Action Program

ASPM—Aviation Safety Program Manager

ATC—Air Traffic Control

ATIS—Automated Terminal Information Service

BAM—Bird Avoidance Model

BASH—Bird/Wildlife Aircraft Strike Hazard

BE—Bioenvironmental Engineering

BHWG—Bird Hazard Working Group

BIA—Bilateral Infrastructure Agreements

BWC—Bird Watch Condition

C—Celsius

CAE—Component Acquisition Executive

CAMS—Core Automated Maintenance System

CAS -B—Combat Automated System – Base

(Added-PACAF) CBT – Computer—Based Training

CCB—Configuration Control Board

CCIP—Commander's Inspection Program

CCIR—Commander's Inspection Report

CDD—Capability Development Document

CEI—Cost Effectiveness Index

CEU—Continuing Education Unit

CFR—Code of Federal Regulations

CIP—Common Installation Picture

CMAVs—Controlled Movement Aerial Violations

COMMAFOR—Commander, Air Forces

CONOPS—Concept of Operations

COR—Contracting Officer's Representative

COS—Chief of Safety

CPD—Capability Production Document

CSSM—Center System Safety Manager

DAO—Designed Acquisition Officials

DART—Days Away Restricted and/or Transfer Case

DASHO—Department of the Air Force's Designated Agency Safety and Health Officer

DDESB—Department of Defense Explosives Safety Board

DEW—Directed Energy Weapons

DEWCB—Directed Energy Weapons Certification Board

DFARS—DoD Federal Acquisition Regulation Supplement

DoD—Department of Defense

DoDD—Department of Defense Directive

DoDI—Department of Defense Instruction

DOE—Department of Energy

DOEHRS—Defense Occupational and Environmental Health Readiness System

DoL—Department of Labor

DRF—Disaster Response Force

DRU—Direct Reporting Unit

DUI—Driving Under the Influence

DUSD—Deputy Undersecretary of Defense

DWI—Driving While Intoxicated

EESOH-MIS—Enterprise, Environmental, Safety and Occupation Health – Management Information System

EMS—Environmental Management System

EOC—Emergency Operations Center

ESOH—Environmental Safety and Occupational Health

ESOHC—Environmental, Safety, and Occupational Health Council

F—Fahrenheit

FAA—Federal Aviation Administration

FAR—Federal Aviation Regulation

FAR—Federal Acquisition Regulation

FBO—Fixed Base Operator

FDT&E—Force Development, Test and Evaluation

FECA—Federal Employees' Compensation Act

FES—Fire Emergency Services

FGS—Final Governing Standards

FOA—Field Operating Agency

FOD—Foreign Object Damage

FOUO—For Official Use Only

FSDO—Flight Standards District Officer

FSM—Flight Safety Manager

FSNCO—Flight Safety Non-Commission Officer

(Added-PACAF) FSNCO—Flight Safety Noncommissioned Officer

FSO—Flight Safety Officer

FUB—Facilities Utilization Board

GCC—Geographic Combatant Command

GMV—Government Motor Vehicle

GO81—CAMS for Mobility

GOCO—Government-Owned, Contractor Operated

GSCC—Ground Safety Corporate Committee

GSM—Ground Safety Manager

GSU—Geographically Separated Unit

HAF—Headquarters Air Force

HAFMD—Headquarters Air Force Mission Directive

HAP—High Accident Potential

HATR—Hazardous Air Traffic Report

HAZMAT—Hazardous Material

(Added-PACAF) HERO— Hazards of Electromagnetic Radiation to Ordnance

HIPAA—Health Insurance Portability and Accountability Act

HMIRS—Hazardous Material Information Resources System

HNFA—Host Nation Funded Construction Agreements

HQ—Headquarters

HRA—High-Risk Activities

HRB—Hazard Review Board

HSI—Human System Integration

IAW—In Accordance With

ICD—Initial Capabilities Document

ICPA—Injury Compensation Program Administration

IEMP—Installation Emergency Management Plan

IG—Inspector General

IGEMS—Inspector General Evaluation Management System

IH—Industrial Hygiene

IHMP—Installation Hazardous Material Management Program

IMDS—Integrated Maintenance Data System

IPT—Integrated Product Team

ISB—Interim Safety Board

IT—Information Technology

JRFL—Joint Restricted Frequency List

JSA—Job Safety Analysis

JSTO—Job Safety Training Outline

JSUPT—Joint Specialized Undergraduate Pilot Training

LDTO—Lead Developmental Test Organization

LF—Launch Facility

LOSA—Line Operations Safety Audit

LSO—Launch Safety Officer

LSSRB—Laser System Safety Review Board

MACA—Midair Collision Avoidance

MAF—Missile Alert Facility

MAF LOG C2—Mobility Air Force Logistics Command and Control

MAJCOM—Major Command

MDS—Mission Design Series

MFOQA—Military Flight Operations Quality Assurance

MFT—Multi-Functional Team

MI—Management Inspection

MILCON—Military Construction

MICT—Management Internal Control Toolset

MIL STD—Military Standard

MINA—Mishap Investigation Non-Aviation

MLC—Medical Law Consultant

MHAP—Master Hazard Abatement Plan

MMHE—Munitions Maintenance Handling Equipment

MOA—Memorandum of Agreement

MRRT—Munitions Rapid Response Team

MRT—Mission Readiness Training

MRTFB—Major Range and Test Facility Base

MSTG—Materiel Safety Task Group

MTF—Medical Treatment Facility

MTR—Military Training Routes

NAF—Non-Appropriated Funds

NAF—Numbered Air Force

NAICS—National American Industry Classification System

NATO—North Atlantic Treaty Organization

NEC—National Electrical Code

NFPA—National Fire Protection Association

NGB—National Guard Bureau

NIOSH—National Institute for Occupational Safety and Health

NNMSB—Non-Nuclear Munitions Safety Board

NSC—National Safety Council

NWSSG—Nuclear Weapons Systems Safety Group

OA—Operations Analysis

OCR—Office of Collateral Responsibility

OEBGD—Overseas Environmental Baseline Guidance Document

OJT—On-the-Job Training

OL—Operating Location

OPLANS—Operational Plans

OPM—Office of Personnel Management

OPR—Office of Primary Responsibility

OSA—Organizational Safety Assessments

OSD—Office of the Secretary of Defense

OSHA—Occupational Safety and Health Administration

OT&E—Operational Test and Evaluation

PACAF—Pacific Air Force

(Added-PACAF) PACAF—Pacific Air Forces

PDCA—Plan, Do, Check, Act

PDO—Publishing Distribution Office

PE—Program Evaluation

PEO—Program Executive Officer

PERSCO—Personnel Support for Contingency Operations

PESHE—Programmatic, Environment, Safety and Occupational Health Evaluation

PH—Public Health

PIT—Pilot Instructor Training

PM—Program Manager

PME—Professional Military Education

PMR—Program Management Review

PMV—Private Motor Vehicle

POC—Point of Contact

POL—Petroleum, Oils and Lubricants

PPE—Personal Protective Equipment

PWS—Performance Based Work Statement

RAC—Risk Assessment Code

RAV—Risk Assessment Visit

RCO—Range Control Officer

RDS—Records Disposition Schedule

RDT&E—Research, Development, Test and Evaluation

RM—Risk Management

ROA—Range Operating Authority

RSO—Range Safety Officer

RTRM—Real-Time Risk Management

SAFSO—Squadron Assigned Flight Safety Officer

SAR—Safety Assessment Report

SAT—Safety Analysis Team

SAV—Staff Assistance Visit

SDS—Safety Data Sheets

SEI—Special Experience Identifier

SGP—Chief of Aerospace Medicine

SIB—Safety Investigation Board

SMC—Space and Missile System Center

SME—Subject Matter Expert

SOF—Status of Forces

SOFA—Status of Forces Agreement

SOH—Safety and Occupational Health

SPE—Safety Program Evaluation

SSAC—Senior Safety Advisory Council

SSEA—Systems Safety Engineering Analysis

SSHA—System Safety Hazard Analysis

SSG—Systems Safety Group

SSM—System Safety Manager

SSO—Space Safety Officer

SST—Supervisor Safety Training

STANAG—Standardization Agreement

TCIR—Total Case Incident Rate

TDY—Temporary Duty

TO—Technical Order

TTP—Tactics, Techniques and Procedures

UEI—Unit Effectiveness Inspection

UMD—Unit Manning Document

US—United States

USR—Unit Safety Representative

USAF—United States Air Force

USAFA—United States Air Force Academy

USAFE—United States Air Force Europe

UTM—Unit Training Manager

VFR—Visual Flight Rules

VI—Visual Information

VPP—Voluntary Protection Program

WSM—Weapons Safety Manager

WWW—World-Wide Web

Terms

Airmen—All-encompassing term used to indicate all Department of the Air Force members, both uniformed military and government civilian employees.

Air Force Hazard Communication Program (AFHCP)—Implementation of the Hazard Communication Standard (29 CFR 1910.1200) and AFI 90-821, *Hazard Communication*. The purpose of the AFHCP is to reduce the incidence of chemically induced illnesses and injuries. It informs employees of the hazards and proper preventive measures to be taken when using or handling hazardous materials in the workplace.

Air Force Occupational Safety and Health (AFOSH)—-An overarching term for the Air Force Occupational Safety and Health Program.

Air Force Occupational Safety and Health (AFOSH) Standards—-48-series written standards prescribing occupational health guidance.

Air Force Safety Management System (AFSMS)—It is the framework upon which the USAF mishap prevention program is built. Provides organizations with an effective framework for continual improvement of safety performance. It enables organizations ability to minimize risks and reduce the occurrence and cost of injuries, illnesses, fatalities and property damage. The system requires goal setting, planning, executing and measuring performance to be successful.

Air Reserve Component (ARC)—Used when referring to both the AFRC and ANG as one entity. All units, organizations, and members of the ANG and AFRC (10 U.S.C. 261) on active duty, on active duty for training, or in drill status, and ANG and AFRC technicians; include ANG and AFRC property and equipment.

Annual Safety Inspection—Method to identify workplace/facility hazards used by safety staffs at the wing and below level. These are conducted by qualified safety personnel annually on all workplaces and facilities.

Annual Safety Management Review—An examination of the mishap prevention program at all levels of execution to evaluate the safety management system and the performance of programs or elements managed within the system. The review is performed by senior leadership and safety professionals to ensure the system continues to be suitable, adequate and effective for its intended purposes, and for making decisions or authorizing actions that need to be taken by staff to ensure the continuous improvement of one or more of its programs or elements.

Area of Responsibility (AOR)—Theater of operations for Combatant Command missions and operations such as US Central Command (USCENTCOM), US Northern Command (USNORTHCOM), US European Command (USEUCOM), US Pacific Command (USPACOM) or US Southern Command (USSOUTHCOM).

Convening Authority—The individual who has the authority to order a safety investigation. For additional guidance, refer to AFI 91-204.

Critical/Imminent Danger—Conditions or practices in a workplace which could reasonably be expected to cause death or severe physical harm immediately or before such dangers can be eliminated through normal abatement procedures. RAC 1 hazards are classified as critical/imminent danger.

Days Away, Restricted, and/or Transfer Case Incidence Rate—The rate of all civilian injuries and illnesses resulting in days away from work, restricted work activity, and/or job transfer. This rate is calculated for a work site for a specified period of time (usually one year).

Department of Defense Civilian Personnel—Includes Senior Executive Service (SES), General Schedule (GS), National Security Personnel System (NSPS) and federal wage system employees, including ANG and AFRC technicians, unless in military duty status. Includes non-appropriated fund employees who are not military personnel working part time; Corps of Engineers Civil Works employees; Youth Opportunity Program (YOP) and student assistance program employees; Direct-Hire Foreign-national civilians employed by the Air Force (Air Force Foreign Nationals [AFFN]) and Army-Air Force Exchange Service employees.

Department of the Air Force Military Personnel—These are Air Force personnel on active duty with the Air Force or ANG and AFRC personnel on military duty status. Includes Air Force Academy cadets; also includes Reserve Officer Training Corps (ROTC) cadets engaged in directed training activities. Includes members of other US military services serving on extended active duty with the Air Force or foreign-national military personnel assigned to the Air Force.

Designated Employee Representative—An individual selected by civilian employees, either directly or through an exclusive representation bargaining agreement, to represent them as a member of the safety and environmental councils and to take part in other activities as outlined in this instruction.

Evaluations—Method of appraising the effectiveness of mishap prevention program management. Addresses the areas of commander supervisory support, compliance with program directives and the effectiveness of mishap prevention programs (performance).

Exemption—Grants permanent relief from a requirement.

Fire Hazard—A condition that can cause a fire to occur. The distinction between fire hazard and fire safety deficiency (FSD) is important because the documentation, reporting, and correction procedures differ for each. Only fire hazards are included in the Hazard Abatement Plan and FSDs are managed separately.

Fire Safety Deficiency (FSD)—A condition which reduces fire safety below the acceptable level, including noncompliance with standards, but by itself cannot cause a fire to occur. A clear distinction between hazards and deficiencies may not always be possible; therefore, the judgment and experience of a qualified fire official must be relied upon. Fire safety deficiencies will not be assigned a RAC.

Flexible Culture—One of the four sub-cultures that make up an Informed Culture. A Flexible Culture is a collection of behaviors and beliefs that acknowledge the inevitability of human error and unsafe conditions and which allow quick and smooth reactions to address hazards before mishaps result.

Flight Safety Manager—A civilian assigned to perform Flight Safety Officer duties.

Formal Inspection Report—A report with a particular prescribed format.

Full-time—Individuals in primary duty safety positions. See definition for safety and health officials. Does not include additional duty safety personnel such as USRs and SAFSOs.

Functional Managers—The senior operating official at all levels exercising managerial control of an activity or operation. This individual usually can acquire and commit resources for the abatement of occupational safety and health hazards. Functional managers are designated by MAJCOM/FOA/DRU or installation commanders.

Geographically Separated Unit (GSU)—Any Air Force unit that is geographically separated beyond a reasonable commuting distance from its servicing military personnel flight.

Hazard—A condition, procedure or practice that creates a potential for producing death, injury, illness, fire, property damage, equipment damage or environmental damage.

Hazard/Deficiency Abatement—Eliminating or permanently reducing a hazard by complying with applicable safety requirements or taking equivalent protective measures.

Hazard/Deficiency Severity—An assessment of the expected consequences if a hazard, if left unabated, results in a mishap. The Air Force defines severity by the degree of injury, illness, or resource damage that can result from a specific mishap.

Hazard Reporting—A process, by which any person assigned, attached or under contract to the Air Force, may report a hazard. This includes any event or condition that affects aviation, ground, weapons or space.

High Interest Areas—These areas have the greatest risk to life or property damage, experienced repeated mishaps, or in the judgment of the safety office, require added oversight. They can also be work areas or operations that need additional attention or inspections because of increased mishap potential due to the nature of work performed, physical conditions or type of materials handled.

High-Risk Activities—These are activities having a higher potential for personnel injury due to the level of competition, speed, risk, or skills needed and requiring greater agility, stamina and dexterity. Some examples of high-risk activities are flying civil aircraft, hang gliding, skydiving, parasailing, white-water rafting, motorcycling and auto racing, scuba diving, bungee jumping and bronco and bull riding. **Note:** MAJCOM/FOA/DRU can determine within the command what are considered high risk activities.

Informal Report—A report with no particular format. (e.g. spot inspection, high interest)

Informed Culture—A term used to describe the optimal state of an organization's safety culture, in which each individual sees his or her role as a fundamental part of the organization's commitment to safety and achievement of organizational safety goals. Four prerequisite sub-cultures help create an Informed Culture: a Just Culture, a Reporting Culture, a Learning Culture and a Flexible Culture.

Inspections—The process of determining compliance with safety and health standards through physical surveys of workplaces, operations, and facilities.

Interim Control Measure—Temporary action taken to reduce the degree of risk associated with a hazard pending completion of an abatement project.

Job Safety Training Outline (JSTO)—An outline of mandatory safety training items that supervisors use when conducting workcenter safety training for their specific work areas. See **Attachment 4.**

Joint Activity Service Billet—An activity, operation or organization in which elements of more than one Military Department of the United States, as reflected in joint manpower programs documents, perform joint missions under auspices of OSD, the chairman of the Joint Chiefs of Staff or the commander of a combatant or combined command.

Just Culture—One of the four sub-cultures that make up an Informed Culture. A Just Culture is an organizational environment where front line operators or others are not punished for actions, omissions or decisions taken by them that are commensurate with their experience and training, but where gross negligence, willful violations and destructive acts are not tolerated. Just Culture focuses on improving system designs and employee procedures to include: better system operations; creating redundant safety systems to trap or mitigate errors; pre-identifying high-risk operations; and leadership actions designed to limit at-risk behaviors.

Learning Culture—One of the four sub-cultures that make up an Informed Culture. A Learning Culture exists when an organization has the willingness and ability to implement proper recommendations from safety information that is produced through continuous risk assessment of hazards.

Major Command—For the purpose of mishap prevention (MAJCOM) includes ACC, AETC, AFMC, AFRC, AFSPC, AFGSC, AFSOC, AMC, ANG, PACAF and USAFE.

Major Subsystem—A subsystem to the aircraft without which the mission of the platform could not be accomplished successfully. Major subsystems include, but are not limited to, propulsion, ejection system, radar systems.

Military-Unique Workplaces, Operations, Equipment and Systems—Military and civilian operations, systems and equipment that are unique to the national defense mission and military services. These operations, systems and equipment are exempted from the scope of the Occupational Safety and Health Act of 1970 (Title 29, U.S.C., Sections 651-678). An example of the Air Force operations, systems and equipment that are unique to the national defense mission are military aircraft, missiles and missile sites, early warning systems, military space systems, ammunition, military flight operations, chemical warfare gear, associated research test and development activities, and actions required under emergency conditions.

Mishap—A mishap is an unplanned occurrence, or series of occurrences, that results in damage or injury and meets Class A, B, C, D and E mishap reporting criteria IAW AFI 91-204**.**

Multi-Functional Team (MFT)—As defined 63- and 64-series guidance publications, MFT is a team of stakeholders responsible for a Service's acquisition. It includes not only representatives of the technical and procurement communities, but also stakeholders of the Service's acquisition and the contractors who provide the services. The team may consist of subgroup(s) responsible for routine contract actions. The team could be a Business Requirements Advisory Group (BRAG), Mission Area Acquisition Team (MAAT), Integrated Product Team (IPT), working group, an A-76 IPT or Steering Group, etc.

National Consensus Standards—Standards published by recognized standards organizations such as the ANSI, NFPA, American Conference of Governmental Industrial Hygienists,

Compressed Gas Association, and NIOSH. National consensus standards adopted by OSHA are part of OSHA standards.

Notice of Hazard—A written warning of a condition, procedure, or practice which constitutes a hazard. As used in the context of this instruction, "Notice of Hazard" refers to AF Form 1118.

Occupational Deficiency—Conditions, procedures and practices not compliant with OSHA or AFOSH requirements, but do not, in themselves, create a potential for producing an occupational injury or illness mishap. Deficiencies may, however, create a potential for secondary injuries or illnesses or may contribute to the severity of an injury or illness that has already occurred. Examples include, but are not limited to, program management items or the absence of an eyewash stations. A clear distinction between hazards and deficiencies may not always be possible; therefore, the judgment and experience of qualified safety, fire protection and health personnel must be relied upon.

Occupational Hazard—Conditions, procedures, and practices directly related to the workplace that can create a potential for producing occupational injuries, property or equipment damage, mission degradation, damage to the environment, or illnesses.

Performance Appraisal—A systematic comparison of an employee's performance of duties and responsibilities with performance standards.

Quality Assurance Personnel—Individuals designated to perform quality assessment functions, and manage performance in accordance with the Performance Plan. They serve as on-site technical managers assessing contractor performance against contract performance standards. Personnel in this area have many titles, such as Quality Assurance Evaluator (QAE), Quality Assurance Specialist (QAS), Functional Area Evaluators (FAEs), and Contracting Officer Technical Representative (COTR).

Quality Assurance Program Coordinator (QAPC)—Mission support group or AFMC/AFSPC Center-level individual, normally from the contracting activity, selected to coordinate and manage the Performance Management Assessment Program (Quality Assurance Program).

Qualified Safety, Fire Protection, Bioenvironmental Engineering and Health Officials—Air Force civilian and military personnel assigned to full time positions for the respective disciplines. Air Force civilian personnel who meet the Office of Personnel Management standards for safety and occupational health manager or specialist, safety engineering technician, safety engineer, fire protection engineer or specialist, medical officer, health physicist, industrial hygienist, occupational health nurse or environmental health technician job qualification standards. Safety, fire protection, and health personnel with experience or up-to-date training in occupational safety, fire protection, and health hazard recognition and evaluation are considered as meeting the qualifications of safety, fire protection, and health inspectors. Air Force military personnel, who possess a safety, fire protection, Bioenvironmental Engineering, aerospace medicine, or medicine Air Force Specialty Code. Civilians (NSPS equivalent to GS) are considered fully qualified IAW 29 CFR 1960 and military at the Air Force Specialty Code (AFSC) 7 level or can be a 5 level if task certified. (See 29 CFR 1960.25, *Qualifications of Safety and Health Inspectors and Agency Inspections*).

Risk Management—The application of a systematic process or thinking to detect, assess, and control risk to enhance total organizational performance.

Safe Haven—Designated area to which noncombatants of the United States Government's responsibility, and commercial vehicles and material, may evacuate during a domestic or other valid emergency. Temporary storage provided Department of Energy classified shipment transporters at Department of Defense workplaces to assure the safety and security of nuclear material and/or non-nuclear classified material. Also includes parking for commercial vehicles containing Class A or Class B explosives.

Safety—The programs, RM activities, and organizational and cultural values dedicated to preventing injuries and accidental loss of human and material resources, and to protecting the environment from the damaging effects of DoD mishaps.

Safety Assessment—Method of appraising the effectiveness of mishap prevention program management used by wing safety staffs to evaluate each standalone group and squadron safety program conformance and performance within the SMS. Like program evaluations, assessments address the areas of commander and supervisory support, compliance with program directives, and the effectiveness of mishap prevention program. Assessments may be conducted in conjunction with the required annual safety inspection.

Safety Evaluation—Method of appraising the effectiveness of mishap prevention program management used by HQ AFSEC to evaluate MAJCOM and DRU safety program conformance and performance within the SMS. Also used for FOAs with assigned safety staffs. Addresses the areas of commander supervisory support, compliance with program directives and the effectiveness of the mishap prevention program.

Safety Program Evaluation—Method of appraising the effectiveness of mishap prevention program management used by MAJCOM/DRU/FOA safety staffs to evaluate wing, NAF and Center safety program conformance and performance within the SMS. Also used for FOAs with assigned safety staffs. Addresses the areas of commander supervisory support, compliance with program directives and the effectiveness of the mishap prevention program. These evaluations are conducted IAW AFI 90-201 through the Inspector General's office.

Spot Inspection—These inspections are no-notice inspections to check the day-to-day safety and health of an organization, work center, facility, etc.

Standards—Safety and health standards (including emergency temporary standards) issued under the Occupational Safety and Health Act of 1970 (Title 29, U.S.C., Sections 651-678). This includes national consensus standards adopted by OSHA by reference.

System Safety Groups (SSGs)—Augment the program office system safety function; it is not a substitute or replacement. While many SSG members are not assigned to the Program Office, they advise the system program manager or single manager on safety matters. They act as an integrated product team (IPT) for system safety. The members assist the program office in identifying risks, assessing these risks, and recommending solutions to these risks. The SSG includes safety experts associated with the particular weapon system.

System Safety Working Groups (SSWGs)—Are a subset of System Safety Groups (SSGs). SSWGs are usually formed when a full SSG wants to research a problem without tying-up the full membership. The SSG will generally form an SSWG to work a problem separately and report back to the SSG. An SSWG augments an SSG; it's not a substitute.

Team Concept—A diverse group of individuals working together with complementary skills who are committed to a common purpose, have group goals, take an approach for which they are mutually accountable.

Tier/Waiver

Tier 0 (T-0)—Determined by respective non-AF authority (e.g., Congress, White House, Office of Secretary of Defense, Joint Staff). The waiver authority is non-applicable, or external to AF.

Tier 1 (T-1)—Non-compliance puts Airmen, Commanders or the USAF strongly at risk of mission or program failure, death, injury, legal jeopardy or unacceptable fraud, waste or abuse. The waiver authority is the MAJCOM/CC, delegable no lower than MAJCOM Director, with the concurrence of the AFI Certifying Official. **Note:** For acquisition and sustainment program manager mandates in this instruction, the waiver authority is SAF/AQ (delegate to the PEO-level), with the concurrence of the AFI Certifying Official.

Tier 2 (T-2)—Non-compliance may degrade mission or program effectiveness or efficiency and has potential to create moderate risk of mission or program failure, injury, legal jeopardy or unacceptable fraud, waste or abuse. The waiver authority is the MAJCOM/CC (delegable no lower than MAJCOM Director). **Note:** For acquisition and sustainment program manager mandates in this instruction, the waiver authority is the PEO for the program.

Tier 3 (T-3)—Non-compliance may limit mission or program effectiveness or efficiency and has a relatively remote potential to create risk of mission or program failure, injury, legal jeopardy or unacceptable fraud, waste, or abuse. The waiver authority is the Wing/DRU/FOA/CC (delegable no lower than Group/CC or equivalent).

TRiPS—(Travel Risk Planning System)—TRiPS program assists in travel planning. TRiPS is accessed through the Air Force portal (**https://www.my.af.mil/trips/af/Login.aspx**).

Total Case Incidence Rate (TCIR)—A number that represents the total recordable civilian injuries and illnesses per 100 full-time employees, calculated for a worksite for a specified period of time (usually one year).

Unit Safety Committee—Organized and maintained to monitor and assist an agency's safety and health program. The committee assists in helping to maintain an open channel of communication between employees and management in the workplace. The committees provide a method by which employees can utilize their knowledge of workplace operations to assist management with improving policies, conditions, and practices. **Note:** The term "team concept" is used synonymously with "safety committee".

Unit Safety Representative—General term for a person assigned to a unit who is responsible for the additional duty safety responsibilities. May be a representative of flight, ground or weapons, and may include a more specific title such as Additional Duty Weapons Safety Representative (ADWSR) or Squadron Assigned Flight Safety Officer (SAFSO), etc.

United States—The several States, the District of Columbia, the Commonwealths of Puerto Rico and the Northern Marina Islands, American Samoa, Guam, Midway and Wake Islands, the United States Virgin Islands, any other territory or possession of the United States, and associated navigable waters, contiguous zones, and ocean waters of which the natural resources are under the exclusive management authority of the United States.

Urgent Action Notice—Significant event notifications sent out by the Air Force Service Watch Center (AFSWC). These notifications are also called AFSWC notifications.

Variance—An approved temporary or permanent change to a procedure, criterion, or rule prescribed in safety standards which provides the same degree of protection to personnel.

Workplace—The physical location where work is performed for the Air Force by Air Force personnel or where Air Force operations take place.

Attachment 2

USAF AVIATION SAFETY EQUIPMENT DATABASE REPORTING

A2.1. Purpose and Scope. The database will be maintained by HQ AFSEC/SEFE in an electronic spreadsheet format and will be organized into aircraft categories of Bomber, Cargo/Transport, Fighter/Attack, Helicopter, Remotely Piloted Aircraft, Reconnaissance/Battle Management/C3I, Special Operations, Tanker, Trainer and Other.

A2.2. Aircraft. Each aircraft model will be described to the level necessary to convey configuration differences, e.g., EC-135N, KC-135R, F-16CM, F-16B Block 15.

A2.3. Inventory. The number of aircraft in this model as of the end of the fiscal year will be provided. If still in production, the planned production buy and current inventory as of the end of the fiscal year will be reported. Provide the following information for each item listed below:

A2.3.1. The nomenclature, manufacturer and status of each equipment item for each Model Design Series.

A2.3.2. If an update or procurement is in progress, document the current configuration, the new configuration, its Initial Operational Capability (IOC) date and its expected completion date by Fiscal Year Quarter.

A2.3.3. If an item is planned but not funded, do not report it. If an item is in source selection, report it as to be determined (TBD) and include estimated IOC and completion dates.

A2.3.4. If an item is installed only on a portion of the fleet, identify the extent of its installation (e.g., 20% of fleet).

A2.3.5. Elaboration of each data element and requests for more detailed information are provided in the descriptions below. For each item, provide a Point of Contact to address further questions or clarifications.

A2.4. Crash Survivable Parametric Recorder (Flight Data Recorder). Report any data recorder specifically designed to survive an aircraft crash and provide parametric data to a mishap investigation, e.g., LAS-209F, MU-1003. Additionally, document program's current compliance with applicable Air Force requirements contained within Aircraft Information Programs publications (AFH 63-1402, *Aircraft Information Program*). For any retrofit programs in progress, indicate when the retrofit program commenced, the status of the program (number complete), and what organization is accomplishing the retrofits.

A2.5. Crash Survivable Acoustic Recorder (Cockpit Voice Recorder). Report any acoustic recording device specifically designed to survive an aircraft crash and provide evidence to a mishap investigation, e.g., A90A, VADAR. Additionally, document its compliance with USAF/SE requirements statement of 1997 for 2-hour recording capability and compliance with FAA TSO 123a.

A2.6. Emergency Locator Transmitter (ELT)/Crash Position Indicator (CPI). Report any devices whose purpose includes alerting Search and Rescue to the location of aircraft wreckage and/or crew. Document compliance with FAA TSO C-126.

A2.7. Traffic Alerting and Collision Avoidance System (TCAS). Identify the generation of the TCAS system (TCAS I, TCAS II, ETCAS, V7.0 ACAS) or transponder only mode. Also, identify any Automatic Airborne Collision Avoidance Systems.

A2.8. Global Positioning System (GPS). Identify either stand-alone receiver or integrated GPS capability. If integrated into a navigation/avionics suite, then provide information of next higher-level assembly.

A2.9. Ground Collision/Proximity Warning Systems (GPWS). Identify the generation of the GPWS system (First, Second, Third, Fourth, EGPWS, TAWS) and Class (Class A, B, C). If an additional function of another device, then provide information about the device that generates the warning, e.g., Flight Control Computer. Document compliance with USAF/XO Memorandum, Implementation of AF Navigation and Safety Master Plan and Policy Clarification for GPWS, ADF, and GPS Navigation Systems, 13 March 1997 and FAA TSO C151b.

A2.10. Ground Collision Avoidance System (GCAS). For Bomber, Fighter/Attack and Special Operations aircraft, identify any type of GCAS equipment, or if an additional function of another device, then provide information about the device that generates the warning or pull-up command, e.g., GCAS, AGCAS, TFR, TAR.

A2.11. Windshear Detection System (WDS). If an additional function of another device, then provide information about the device that provides detection, e.g., FSAS, MARK VII GPWS.

A2.12. Other Electronic Storage Devices. Identify any other devices that if they survive a mishap, contain recorded information that could be of use to a mishap investigation. Examples could be a central computer that stores information on system faults, Head-Up-Display tapes, Multi-Function Display tapes, Quick Access Recorders, Signal Acquisition Units or a structural life usage recorder.

Attachment 3

MISHAP RESPONSE

A3.1. General. Pre-mishap response planning by safety staffs must address appropriate participation in all base-level responses, including: **(T-2)**

A3.1.1. Major mishaps.

A3.1.2. Hazardous materials mishaps.

A3.1.3. Natural disasters.

A3.1.4. Nuclear weapons mishaps.

A3.1.5. Conventional weapons mishaps.

A3.1.6. Directed Energy Weapons mishaps

A3.2. The basic response planning document for Major Accident Response, Natural Disasters, Enemy Attack, and Distribution is AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations*.

A3.3. Emergency Operations Center (EOC). The EOC responds to peacetime major accidents and natural disasters to provide on-scene command and control of Air Force military resources and functional expertise. The EOC and its members will meet the requirements in AFI 10-2501. **Note:** Ideally, the safety representative to the EOC should not be responsible for assembling the interim safety board (ISB). **(T-2)**

A3.4. Safety Response to Other than Major Peacetime Accidents. Some mishaps may not warrant a full activation of the Disaster Response Force (DRF). However, the safety staff may need some EOC elements to support investigation of these less severe incidents, such as Combat Camera or Civil Engineering Specialists. Each safety staff should consult with their supporting readiness and emergency management flight to determine how to formally provide for partial EOC support when the full DRF is not activated.

A3.5. Munitions Rapid Response Team. The Air Force Life Cycle Management Center Munitions Sustainment Division (AFLCMC/EBH) has developed a conventional munitions rapid response team to support Air Force units throughout the world anytime a munitions incident occurs. The team includes experts (engineers, equipment specialists, program managers and safety personnel) from associated conventional munitions programs. These personnel are able to travel anywhere in the world within 24 to 48 hours to assist in determining the cause of failure. If your MAJCOM/FOA/DRU or unit has an incident, and this team's help is desired, contact the AFLCMC Munitions Operations and Readiness Branch (AFLCMC/EBHM) via the Global Ammunition Control Point (GACP) Customer Relationship Management (CRM) System at **https://www.my.af.mil/ammoprod/wm/** to request support or by calling DSN 312-777-AMMO (2666); DSN 312-775-AMMO (2666); Commercial 801-777-AMMO (2666) or 801-775-AMMO (2666).

Attachment 4

JOB SAFETY TRAINING OUTLINE (JSTO)

A4.1. Mandatory Items. The items below are mandatory and will be briefed to all personnel. This Job Safety Training Outline will be used to develop written job safety training information from which all individuals within the work center will be trained. The following areas will be discussed in detail by the immediate supervisor with all employees upon initial assignment prior to starting work or when work conditions or tasks change. Document training as specified in paragraph **1.8.22.5.2.** Deployed and installation commanders may dictate more stringent requirements. **(T-1)**

A4.1.1. Hazards of the job and specific safety guidance that applies to their workplace. **(T-1)**

A4.1.2. Hazards of the work area environment to include, but not limited to, awareness of identified confined spaces (permitted and unpermitted), recognition of danger and caution tags, and the Hazard Communication Program requirement, i.e., Employee's Right to Know. **(T-1)**

A4.1.3. Proper personal lifting techniques (Refer to AFI 91-203, *Air Force Consolidated Occupational Safety Instruction*). **(T-1)**

A4.1.4. Location of medical facilities and procedures for obtaining treatment. **(T-1)**

A4.1.5. Location and use, as appropriate, of emergency and fire protection equipment. **(T-1)**

A4.1.6. Emergency procedures that apply to the workplace, including evacuation, fire reporting, emergency numbers, alarm and extinguisher location(s). **(T-1)**

A4.1.7. Requirements and procedures for reporting mishaps, occupational injury and occupational illness. **(T-1)**

A4.1.8. Reporting unsafe equipment, conditions or procedures to supervisor immediately. **(T-1)**

A4.1.9. Requirements of Air Force Traffic Safety Program, including mandatory use of seat belts and helmets, speed limits, local traffic hazards, and personal RM. Additionally, brief use of electronic devices while operating a GMV/PMV on- or off-base IAW AFI 91-207, paragraph 3.2. If applicable, discuss motorcycle safety training requirements before riding a motorcycle. **(T-1)**

A4.1.10. Purpose and location of AF Form 457, *USAF Hazard Report*. **(T-1)**

A4.1.11. Location and content of Air Force Visual Aid (AFVA) 91-209, *Air Force Occupational Safety and Health Program*. **(T-1)**

A4.1.12. Purpose of the AF Form 1118, *Notice of Hazard*. **(T-1)**

A4.1.13. CA 10, *What a Federal Employee Should do When Injured at Work.* **(T-1)**

A4.1.14. Fetal Protection Program Awareness. Reference: AFI 48-145, *Occupational and Environmental Health Program.* **Note: Air Force Reserve –** AFRCI 41-104, *Pregnancy of Air Force Reserve Personnel.* **(T-1)**

A4.1.15. **(Added-PACAF)** High-Risk Activities Program. Ensure all personnel are briefed on requirements before participating in high-risk activities. (**T-2**)

A4.2. Job Specific Training Items. To be accomplished as required based on job tasks and documented prior to employee performing task. If a particular training of this type is called for within a CFETP, then no additional documentation beyond the CFEPT is required. Supervisors will provide specific training subjects based on the needs of the job and provide application-level training. **Note:** Subjects listed below may not be mandatory for every job but dependent upon the type job/tasks individuals will be performing. **(T-2)**

A4.2.1. Personal Protective Equipment (use, location, fit, care, limitations). Reference: 29 CFR 1910.132, AFI 91-203, **Chapter 14**, *Personal Protective Equipment (PPE)*, and other directives. **(T-2)**

A4.2.2. Hazardous Energy Control (Lockout/Tagout). Reference: 29 CFR 1910.147 and AFI 91-203, **Chapter 21**, *Hazardous Energy Control (Lockout and Tagout).* **(T-2)**

A4.2.3. Hazard Communication. Reference: AFI 90-821, *Hazard Communication*, and 29 CFR 1910.1200. **(T-2)**

A4.2.4. Bloodborne Pathogens. Reference: 29 CFR 1910.1030. **(T-2)**

A4.2.5. Hearing Conservation. Reference: AFOSH Standard 48-20, *Occupational Noise and Hearing Conservation Program*. **(T-2)**

A4.2.6. Confined Space Program (Entrant, Attendant, Supervisor, Monitor and Rescue Team). Reference: AFI 91-203, **Chapter 23**, *Confined Spaces*, and 29 CFR 1910.146. **(T-2)**

A4.2.7. Manual and Powered Hoist. Reference: AFI 91-203, **Chapter 35**, *Material Handling Equipment.* **(T-2)**

A4.2.8. Respiratory Protection Program. Use AF Form 2767, *Occupational Health Training and Protective Equipment Fit Testing (LRA)*. Reference: AFOSH Standard 48-137, *Respiratory Protection Program*. **(T-2)**

A4.2.9. Vehicle Mounted Elevated Work Platforms, Self-Propelled and Manual Platforms. Reference: AFI 91-203, **Chapter 16**, *Mobile Elevating Work Platforms.* **(T-2)**

A4.2.10. Fall Arrest System(s). Reference: AFI 91-203, **Chapter 13**, *Fall Protection*, 29 CFR 1910.66 and 29 CFR 1926.503. **(T-2)**

A4.2.11. Forklift (Material Handling Equipment). Reference: AFI 91-203, **Chapter 35**, and 29 CFR 1910.178. **(T-2)**

A4.2.12. Explosives Safety Training. Reference: AFMAN 91-201, *Explosives Safety Standards*, and this instruction. **(T-2)**

A4.2.13. Pole/Tower Climbing. Reference: AFI 91-203, **Chapter 30**, *Communication Cable, Antenna and Communication Systems*. **(T-2)**

A4.2.14. Wearing Jewelry in the workplace. Reference: AFI 91-203, **Chapter 9**, *Jewelry*, and applicable technical data. **(T-2)**

A4.2.15. Portable and fixed ladder safety. Reference: AFI 91-203, **Chapter 7**, *Walking Surfaces, Guarding Floor and Wall Openings, Fixed Industrial Stairs, and Portable and Fixed Ladders.*

A4.2.16. Cardiopulmonary Resuscitation (CPR) Training. Reference: AFI 91-203, **Chapter 1**, *Introduction.* **(T-2)**

A4.2.17. Flight Line Driving. Reference: AFI 91-203, **Chapter 24**, *Aircraft Flight Line – Ground Operations and Activities,* and other governing directives. **(T-2)**

A4.2.18. Fetal Protection Program. Job Specific. Reference: AFI 48-145. **Note:** Air Force Reserve **–** AFRCI 41-104, *Pregnancy of Air Force Reserve Personnel.* **(T-2)**

A4.2.19. Medical Surveillance Examination (Scheduling, Administration, Reporting and Follow-up). Reference: AFI 48-145. **(T-2)**

A4.3. Documentation of Training. Document training as specified in paragraph **1.8.22.5.2. (T-0)**

A4.4. Maintenance and Disposition of Training Documentation Product. Maintain as prescribed by the records disposition schedule (**https://www.my.af.mil/afrims/afrims/afrims/rims.cfm**), Table & Rule: T 91 - 04 R 24.00 or T 91 - 04 R 25.00. Supervisors will maintain the training documentation as prescribed in paragraph **Attachment 1. 8.22.5.** When an individual deploys/transfers to another Air Force position/location, the training documentation will be transferred physically or electronically to the new supervisor by the individual. The new supervisor will review the training documentation product, transfer current training completion dates as necessary and initial Hazardous Communication (HAZCOM) date and other onetime training to a new training documentation product if necessary and retain the old product IAW the Air Force Records Disposition Schedule. The supervisor will destroy the training documentation product one year after personnel are separated or retired. **(T-3)**

Attachment 5

JOB SAFETY ANALYSIS (JSA)

A5.1. Sequence Of Basic Steps: Break the task down into its basic steps. For example, what is done first, what is done next? You can do this by: (1) observing the task, (2) discussing it with workers, (3) using your experience and knowledge of the task, or (4) a combination of all three. Record the steps in the task in their normal order of occurrence. Describe what is done; not the details or how it is done. Three or four words are normally enough to describe each task step. **(T-3)**

A5.2. Potential Mishap Causes Or Hazards: For each task step, ask yourself what mishap could happen to workers performing the task and what the probability would be of the mishap occurring. Get the answers by: (1) observing the task, (2) discussing the task with workers and/or (3) using "lessons learned" from other mishaps. Ask the questions: **(T-3)**

A5.2.1. Can workers be struck by or contacted by anything?

A5.2.2. Can they strike against or be exposed to any item that can cause injury?

A5.2.3. Can they be caught in or between anything?

A5.2.4. Can they fall?

A5.2.5. Can they overexert themselves?

A5.2.6. Are they required to do repetitive lifting or heavy lifting?

A5.2.7. Are there potential hazards such as chemical substances, physical agents (including noise, ergonomic and thermal stress), ionizing and non-ionizing radiation or biological exposures?

A5.3. Recommended Safe Task Procedure: For each potential mishap cause or hazard identified, consider the following questions:

A5.3.1. How should workers perform the task step to avoid the mishap or eliminate the potential hazard?

A5.3.2. What can be done to eliminate or mitigate the hazard by redesigning the work area or equipment?

A5.3.3. How can the procedure be modified to eliminate the hazard? **Note:** Be sure to describe in detail the precautions workers must take and ensure that these steps are placed in the task procedure or checklist. Take special care to ensure important steps or details are not inadvertently omitted from the task and that guidance is clear, specific and easily understood by workers.

Table A5.1. Job Safety Analysis (Worksheet).

JOB: _____ DATE: _____

WORKCENTER: _____ SUPERVISOR: _____

TITLE OF WORKER WHO PERFORMS TASK: _____

REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE): _____

ANALYSIS BY: _____ REVIEWED BY: _____

1. SEQUENCE OF BASIC STEPS:	2. POTENTIAL HAZARDS OR MISHAP CAUSES:	3. RECOMMENDED PROCEDURES OR ACTIONS:

Attachment 6

RISK ASSESSMENT CODES (RAC)

Note: This attachment is not for use for Systems Safety processes. Those are addressed in MIL-STD-882E.

A6.1. Risk Assessment Codes are an expression of the degree of risk associated with a hazard or occupational deficiency that combines hazard severity and mishap probability into a single numeric identifier. RACs are tools used by fire, safety and health professionals and commanders to prioritize abatement plans and mitigate hazards. It may not be possible to assign a RAC to every hazard or circumstance and the lack of a RAC should not dissuade efforts to mitigate hazards.

A6.1.1. This instruction describes the basic RACs and provides some guidelines for assigning priorities based on cost, effectiveness and exposure. The discipline specific chapters also provide additional guidance for assessing the risks of the applicable hazards.

A6.1.2. Risk Assessment Codes. Only qualified ground safety and fire protection and assign a RAC to each hazard after an evaluation of the concern. There are two methods for calculating RACs. Which method is used depends on what type of hazard is present. Safety, fire and ergonomic hazards use one calculation method and health-related hazards use another. **(T-2)**

A6.2. Safety, fire and ergonomic RACs are determined by plotting the probability (A, B, C or D) that a mishap will occur and the potential mishap severity (I, II, III or IV) if it does happen (**Table A6.1**). Fire safety deficiencies will not be assigned a RAC. Fire safety deficiencies are addressed in AFI 32-10141, *Planning and Programming Fire Safety Deficiency Correction Projects.*

A6.3. Health-related RACs are determined by plotting the health hazard severity and illness probability categories (**Table A6.8**).

A6.3.1. Health Hazard Severity Category (HHSC). The HHSC reflects the magnitude of exposure to a single physical, chemical, or biological agent and the medical effects of exposure.

A6.3.1.1. Determine the HHSC by totaling the exposure and medical effects points and use the following table: **(T-2)**

A6.3.2. Illness Probability Category (IPC). The IPC is a function of the duration of exposure and the number of exposed personnel.

A6.3.2.1. Determine the IPC for health hazards by totaling the exposure duration and number of personnel exposed points and use the following guide: **(T-2)**

A6.4. Commanders will consider this RAC system when determining which hazards/ deficiencies warrant the expenditure of limited resources. **(T-2)**

A6.5. Assigned RACs will continue to be tracked in the installation hazard abatement plan until completely abated even when interim control measures are in place. **(T-2)**

Table A6.1. Safety and Ergonomic Hazard Risk Assessment Code Matrix.

Hazard Severity		Mishap Probability			
Description	Code	A Likely to occur immediately	B Probably will occur in time	C Possible to occur in time	D Unlikely to occur
Death, permanent total disability, or loss of facility or asset of $2,000,000 or	I	1 Critical/Imminent	1 Critical/Imminent	2 Serious	4 Minor
Permanent partial disability or major property damage of $500,000 up to $2,000,000	II	1 Critical/Imminent	2 Serious	3 Moderate	4 Minor
Lost workday injury or compensable injury, or minor property damage $50,000 up to	III	2 Serious	3 Moderate	4 Minor	5 Negligible
Injury involving first aid or minor supportive medical treatment, a minimal threat to personnel or property (damage less than $500), or a	IV	4 Minor	4 Minor	5 Negligible	5 Negligible

Table A6.2. Exposure Points.

	Exposure Conditions			
Alternate Route Exposure?	< Action Level	Occasionally > Action Level; Always < Occupational and Environmental Exposure Limit (OEEL)	> Action Level; < OEEL	> OEEL
No	0	3	5	7
Yes	2	4	6	9

Table A6.3. Medical Effects Points.

	Medical Conditions				
Probability	Permanent, severe, disabling, irreversible illness or death, such as asbestosis and lung cancer	Permanent, non-severe illness or loss of capacity, such as permanent hearing loss	Temporary reversible illness with a variable but limited period of disability, such as metal fume fever	Temporary reversible illness requiring supportive treatment, such as eye irritation and sore throat	No medical effect, such as nuisance noise or nuisance order
High	8	6	4	2	0
Low	7	5	3	1	0

Table A6.4. Health Hazard Severity Category (HHSC).

Sum of Exposure and Medical Effects points	**HHSC**
13-17	1
9-12	2
5-8	3
0-4	4

Table A6.5. Duration of Exposure Points.

	Exposure Duration		
Type of Exposure	**1-8 hours/week**	**> 8 hours/week, not continuous**	**Continuous**
Irregular, Intermittent with **low** probability	1	4	--
Irregular, Intermittent with **high** probability	2	6	--
Regular, Periodic with **low** probability	2	5	8
Regular, Periodic with **high** probability	3	7	8

Table A6.6. Number of Exposed Personnel Points.

Number of workers in the similar exposure group (SEG) who perform the process(es) that produce the hazard	Exposed Personnel Points
1-2	1
3-4	2
5-6	3
7-9	4
10-29	5
30-49	6
49-100	7
>100	8

Table A6.7. Illness Probability Category (IPC).

Sum Exposure Duration and Exposed Personnel Points	IPC
14-16	1
10-13	2
5-9	3
0-4	4

Table A6.8. Health-Related RAC Matrix.

	IPC			
HHSC	**1**	**1**	**2**	**3**
1	1	1	2	3
2	1	2	3	4
3	2	3	4	5
4	3	4	5	5

Attachment 7

ABATEMENT PRIORITY NUMBER

A7.1. The abatement priority number (APN) is a two-part code: the RAC and the cost effectiveness index (CEI). CEI measures cost effectiveness of a hazard abatement project and represents a ratio of the project cost and its potential effectiveness. The APN will be used to determine the relative priority of abatement actions. Use the APN in establishing funding priorities for hazard abatement projects during the budgetary cycle. Compute APN: **(T-2)**

A7.1.1. Step 1. Determine RAC from **Table A6.1,** based on mishap severity and probability of occurrence.

A7.1.2. Step 2. Determine the severity probability multiplier (M) from the matrix in **Table A7.1,** using the same severity and probability used to determine the RAC.

Table A7.1. Severity and Probability Multiplier Matrix.

Severity	Probability			
	A	B	C	D
I	188	63	21	7
II	63	21	7	2
III	21	7	2	1
IV	7	2	1	0.26

Note: The multipliers in table represent a proportional distribution of the severity and frequency of mishaps.

A7.1.3. Step 3. Determine exposure (E), or the average number of personnel exposed daily to the hazard during the course of the year.

A7.1.4. Step 4. Determine the total abatement project cost (C). If actual costs are not known, use best available estimate.

A7.1.5. Step 5. Compute the CEI by dividing the C for abatement by the product of M and E, or CEI = C/ (M) (E).

A7.1.6. Step 6. Determine APN by listing the RAC followed by the CEI in parenthesis, or APN = RAC (CEI).

A7.1.7. Step 7. Determine relative priority of abatement projects by comparing the CEI of projects within identical RACs. **Note:** The lower the CEI, the higher its relative priority within the same RAC.

A7.2. To use APNs to establish a priority list of projects, follow these steps: **(T-2)**

A7.2.1. Step 1. Determine RAC. Assumptions: Given a hazard that will probably occur in time (Probability B) and would result in a permanent partial disabling injury (Severity II) if it resulted in a mishap. Therefore, the assigned RAC from **Table A6.1** would be 2.

A7.2.2. Step 2. Determine multiplier (M). Plot mishap probability (B) versus hazard severity (II) on **Table A7.1** to obtain a multiplier of 21.

A7.2.3. Step 3. Determine exposure (E). Assumption: The functional manager or supervisor determined that on an average day 25 people are exposed to the hazard.

A7.2.4. Step 4. Determine the total cost of project (C). Example: The total cost of the project to abate the hazard as provided to the functional manager by Civil Engineering is $2,100.

A7.2.5. Step 5. Determine CEI. CEI = C/ (M) (E); (M) (E) = 21x25, therefore CEI = 2100/ (21) (25) = 4.

A7.2.6. Step 6. Determine APN. APN will be (RAC) (CEI) = (2) (4).

A7.2.7. Step 7. Determine relative priority. The APN will now be used to prioritize this project in relation to other RAC 2s for which APNs have been computed. A hypothetical priority listing containing this project is shown in table A7.2.

Table A7.2. Abatement Priority Number Index.

RAC	CEI	APN	Priority
1	(3)	1(3)	1
1	(113)	1(113)	2
2	(4)	2(4)	3
2	(15)	2(15)	4
3	(11)	3(11)	5
3	(96)	3(96)	6
Note: The APN system is not used to compare projects of two different RACs.			

Attachment 8

INSTRUCTIONS FOR COMPLETING AF FORM 1118, *NOTICE OF HAZARD*

A8.1. AF Form 1118. Qualified ground safety, fire protection, and health (BE, PH, flight surgeon and (or) occupational medicine physician) officials are the sole issuing authorities for AF Form 1118.

A8.2. Control Number. The control number for the AF Form 1118 will be the agency code (S, F, H), date of hazard identification, and sequential number, e.g., S-20061201-1. The numbering system will coincide with the corresponding Hazard Abatement Plan (AF Form 3). **(T-2)**

A8.3. Location. Note the building number, room number and function involved where the hazard is located, and nomenclature of the hazardous item or procedure, e.g., Building 18, Room 217, Civil Engineering Carpenter Shop, Table Saw. **(T-2)**

A8.4. Hazardous Condition. Describe in detail the nature of the hazard, including a reference to the standard or requirement violated, if any. **(T-2)**

A8.5. Risk Assessment Code. List RAC, followed by RAC description, e.g., "1 (Imminent Danger)." **(T-2)**

A8.6. Interim Control Measures. Identify temporary measures needed to reduce the degree of risk associated with the hazard to an "acceptable degree" until permanent corrective actions are implemented. Assigned RAC will remain until completely abated even though interim control measures are in effect. **(T-2)**

A8.7. Permanent Corrective Action. List the action that will permanently eliminate the identified hazard. Include associated document number, e.g., install new exhaust system; CE work order and project number. **(T-2)**

A8.8. Contact Point. Name, grade, office symbol and telephone number of individual responsible for elimination of the hazard. **(T-2)**

A8.9. Estimated Completion Date. Self-explanatory. **(T-2)**

Attachment 9

INSTRUCTIONS FOR COMPLETING AF FORM 3, *HAZARD ABATEMENT PLAN*

A9.1. The AF Form 3 is for an identified RAC 1, 2, or 3 hazard requiring more than 30 calendar days to abate. The form then becomes part of the installation's formal master hazard abatement plan. This does not prevent its use for RAC 4 or 5 hazards or deficiencies. Electronic systems that collect identical data and can produce a hard copy of AF Form 3 may be used. **(T-2)**

A9.2. Prepare a separate AF Form 3 for each individual hazard. **(T-2)**

A9.3. The commander or functional manager ensures AF Form 3, Parts I and II, are completed in as much detail as possible and then sent to the appropriate installation safety, fire protection or health office: **(T-2)**

A9.3.1. Part I—Hazard Information:

A9.3.1.1. Item 1 – Type of Hazard. Select the type hazard from the drop-down menu. Indicate whether the hazard is part of a facility, property, traffic, etc.

A9.3.1.2. Item 2 – Category. Select appropriate category from the drop-down menu: Safety, Fire or Health.

A9.3.1.3. Item 3 – Control Number. The control number is issued by the installation safety office, leave blank unless provided by the safety office.

A9.3.1.4. Item 4 – Date. Use the drop-down calendar to select the date this form was initiated.

A9.3.1.5. Item 5 – Date Hazard Discovered. Use the drop-down calendar to select the date this hazard was discovered.

A9.3.1.6. Item 6 – Risk Assessment Code (RAC). Use the drop –down menu and select appropriate RAC (i.e., 1 (I, A), 3 (II, C), etc.) as provided by safety, fire or health officials.

A9.3.1.7. Item 7 – Discovery Method. Use the drop-down menu to select method indicating how the hazard was originally identified.

A9.3.1.8. Item 8 – Exposure. Enter the average number of personnel exposed to the hazard daily.

A9.3.1.9. Item 9 – Description of Hazard. Provide a word description of the hazard to illustrate its potential impact if not abated. This includes the condition, procedure or practice that creates a potential for producing death, injury, illness, fire, property, equipment or environmental damage.

A9.3.1.10. Item 10 – Organization. List the organization responsible for the hazard abatement.

A9.3.1.11. Item 11 – Office Symbol. Self-explanatory.

A9.3.1.12. Item 12 – Facility Number. Enter facility number, leave blank if not in a facility.

A9.3.1.13. Item 13 – Specific Location/Description. Provide additional descriptor, i.e., NE corner, etc.

A9.3.1.14. Item 14 – Functional Manager/POC Name. Last, First, Middle Initial. See **Attachment 1**, ***Terms,*** for definition.

A9.3.1.15. Item 15 – Grade/Rank. Enter the appropriate Grade/Rank.

A9.3.1.16. Item 16 – Duty Phone.

A9.3.1.17. Item 17 – Signature. Select electronic signature.

A9.3.2. Part II—Abatement Information:

A9.3.2.1. Item 18 – Interim Control Measures. List all temporary measures taken to reduce the risk associated with the hazard pending completion of permanent abatement action (i.e., issuance of specific PPE, termination of operations, specific work-around procedures, etc.)

A9.3.2.2. Item 19 – Residual RAC Level. Select the Residual RAC Level after Interim Control Measures are applied to the hazard. **Note:** Interim controls do not reduce original RAC level. The Residual RAC level must be a RAC 4, 5 or lower.

A9.3.2.3. Item 20 – Description of Permanent Abatement Action. Provide a description of the permanent abatement action taken or programmed to eliminate or reduce the hazard.

A9.3.2.4. Item 21 – Method of Abatement. Select from the drop-down menu to method used to abate the hazard, e.g., CE Work Order, Local Purchase, military construction (MILCON) project, etc.

A9.3.2.5. Item 22 – Project/Work Order number. Self-explanatory.

A9.3.2.6. Item 23 – Status of Project/Work Order #. Using the drop-down menu, enter the status of the abatement project, i.e., awaiting materials, under construction, in design, in review, unfunded, etc.

A9.3.2.7. Item 24 – Project Cost. Indicate total cost associated with project identified in Item 22. If actual costs are not known, use best available estimate.

A9.3.2.8. Item 25 – Abatement Cost (if different from project cost). If the cost to abate the hazard is not the total cost of the project, enter only the cost associated with correction of the hazard. For example, a $500,000 facility renovation project will correct hazardous electrical wiring estimated to cost $25,000. Item 24 would show $500,000 and Item 25 would show $25,000. If actual costs are not known, use best available estimate.

A9.3.2.9. Item 26 – Estimated Date of Completion. Use the drop-down calendar to select the projected date of completion.

A9.3.3. Part III—For Safety/Fire/Health Use:

A9.3.3.1. Item 27 – Severity. Use **Table A7.1.**

A9.3.3.2. Item 28 – Probability. Use **Table A7.1.**

A9.3.3.3. Item 29 – Multiplier. Use **Table A7.1.**

A9.3.3.4. Item 30 – Exposure. Same as Item 8.

A9.3.3.5. Item 31 – Cost. Abatement Cost. Same as Item 25.

A9.3.3.6. Item 32 – RAC. Same as Item 6.

A9.3.3.7. Item 33 – Cost Effectiveness Index (CEI). See **A7.1.5.**

A9.3.3.8. Item 34 – Abatement Priority Number (APN). **See A7.2.**

A9.3.4. Part IV—Semi-Annual Review Records:

A9.3.4.1. Item 35 – Status of Project/Work Order #. Use drop-down to select the current status of the project (i.e., awaiting materials, under construction, in design, in review, unfunded, etc.).

A9.3.4.2. Item 36 – Comments Regarding Progress. Enter any comments regarding progress of abatement actions.

A9.3.4.3. Item 37 – Date.

A9.3.4.4. Item 38 – Functional Manager/POC Name. Last, First, Middle Initial.

A9.3.4.5. Item 39 - Grade/Rank. Enter the appropriate Grade/Rank.

A9.3.4.6. Item 40 – Duty Phone.

A9.3.4.7. Item 41 – Signature. Select electronic signature.

A9.3.4.8. Item 42 – Other Related Notes. Use this area to add any additional comments regarding the status of the hazard abatement process.

A9.3.5. Part V—Hazard Closure:

A9.3.5.1. Item 43 – Hazard Closed and Verified By: Enter name of qualified safety, fire or health official that verified hazard is fully abated. Last, First, Middle Initial and Office Symbol.

A9.3.5.2. Item 44 – Grade/Rank. Enter the appropriate Grade/Rank.

A9.3.5.3. Item 45 – Signature. Select electronic signature.

A9.3.5.4. Item 46 – Date Hazard Fully Abated. Use drop-down calendar to select completion date.

Attachment 10

PRE-DEPARTURE TRAVEL SAFETY (EXAMPLES ONLY)

A10.1. Purpose . The Pre-Departure Travel Safety Program is a recommended management tool for commanders and supervisors. It helps military and civilian employees on orders, especially those under the age of 26, reduce the potential for a traffic mishap by identifying and mitigating risks involving travel by private motor vehicle for leave, PCS and temporary duty assignments.

A10.2. Overview. Commanders, managers and supervisors will help guide and mentor employees in applying personal RM when planning for a trip. Consider the following factors to guide the discussion on assessing risk and identifying mitigating strategies, but also consider and address other factors based on the unique nature of each situation. This interactive briefing may be documented on AF Form 4392, *Pre-Departure Safety Briefing Form.* Another tool for commanders and supervisors to consider is use of the Travel Risk Planning System (TRiPS) program to assist in travel planning for all personnel. TRiPS is accessed through the Air Force portal (**https://www.my.af.mil/trips/af/Login.aspx**).

A10.2.1. Urge the driver to carefully and thoroughly plan the trip, allowing time for rest prior to departure and to take a break at least every two hours.

A10.2.2. Travelers are not to drive more than 10 hours during any 24-hour period. Motorcyclists are highly encouraged to travel fewer hours. Highly recommend that travelers get a good night's sleep (7-8 hours) while traveling.

A10.2.3. Airmen must ensure they have sufficient funds available to cover expenses (a shortage of funds often leads to exhausting, marathon driving).

A10.2.4. Travelers must check the weather forecast and road conditions for the intended route of travel.

A10.2.5. Discourage driving during late night hours. Remind the traveler that there is a greater chance to encounter impaired (intoxicated, fatigued) drivers on the road at night than during the day.

A10.2.6. Stress the value of occupant restraint devices (mandatory for military personnel), including child restraints and the use of helmets and personal protective equipment by motorcyclists; review the hazard of reduced visibility due to factors such as darkness, weather, sun glare; and touch on the issue of being alert for road hazards such as animals crossing the roadway, stalled or slow-moving vehicles, and so forth.

A10.2.7. Stress the importance of vehicle condition — vehicle defects also contribute to mishaps.

A10.2.8. Discuss the main causes of injury and death by vehicle mishaps in the Air Force, which include speeding or excessive speed for conditions, fatigue, inattention or distraction, not wearing seatbelts and the effects of medication and alcohol.

A10.3. Additional Information. Advise the member to contact their unit commander, first sergeant, flight commander, immediate supervisor or command post in the event of a mishap or

if an emergency situation arises. Ensure the individual is provided the phone numbers of the points of contact.

Attachment 11

AIR FORCE OFF-DUTY HIGH-RISK ACTIVITIES PROGRAM

A11.1. Purpose. The Off-duty High Risk Activity (HRA) Program is a recommended management tool for commanders and supervisors. The intent of the program is to ensure participants are familiar with the hazards and injury potential associated with their particular activity. This program is intended for military personnel only.

A11.2. High-Risk Activities. These are activities having a higher potential for personal injury due to the level of competition, speed, risk or skills needed and requiring greater agility, stamina and dexterity. Some examples of high-risk activities are flying civil aircraft, hang gliding, skydiving, parasailing, white-water rafting, motorcycle and auto racing, scuba diving, bungee jumping, bronco and bull riding, and extreme sports or any activity identified by the commander. **Note:** MAJCOM/FOA/DRU can determine within the command what are considered high risk activities.

A11.2.1. **(Added-PACAF)** PACAF High-Risk Activities are established in the PACAF High-Risk Activity Guide located at: **https://hickam.eis.pacaf.af.mil/HQ%20PACAF/Staff/SE/Occupational_Safety/_layouts/15/start.aspx#/SitePages/Home.aspx**

A11.3. Commander's/Supervisor's Responsibility. Commanders or supervisors will ensure all personnel are briefed about the HRA program regardless of their participation in high-risk activities. Each individual should be surveyed and if it is determined they are actively engaged or about to engage in an HRA they should meet one on one with their commander or supervisor. Ideally implemented, a HRA interview is not a briefing. It is for the purpose determining the mental and physical readiness, and situational awareness preparedness of participants before the HRA occurs. The interviewer can discuss with the interviewee the risks of the activities and ascertain some idea of the likelihood that the participant can enjoy the activity without an unacceptable level of risk. Through this process the interviewer can determine such things as level of experience, knowledge of PPE requirements, physical safety aspects of the area of participation, level of supervision or oversight by qualified professional staffs or officials, rules or recommended practices of professional organizations, and so on. It is also a chance to discuss the mental and physical preparedness of the participant. If interviewers determine participants are not adequately trained or are inexperienced, they should encourage participants to seek additional training through a nationally recognized institute before participating in the activity. **(T-3)**

A11.4. Individual Responsibility. Individuals planning to engage in high-risk activities such as those described in paragraph **A11.2,** will be encouraged to inform his or her immediate supervisor, and schedule an interview their supervisor, squadron commander or designee. The individual engaging in a high-risk activity is responsible for applying sound RM practices to avoid jeopardizing life or limbs and their ability to perform their Air Force duties. **(T-3)**

A11.5. Documentation. AF Form 4391, *High-Risk Activities Worksheet*, may be used to document the briefing, completed by the squadron commander, individual's supervisor, safety officer or training manager.

Attachment 12

CONTINUING EDUCATION AND TRAINING COURSES

Table A12.1. Continuing Career Safety Professional Development (Recommended Safety Courses).

Course Subjects - Topics
Occupational Safety and Health Standards for the Construction Industry
Occupational Safety & Health Standards for the General Industry
Occupational Safety and Health for Other Federal Agencies
Introduction to Industrial Hygiene for Safety Personnel
Principles of Ergonomics Applied to Work-related Musculoskeletal Disorders
National Fire Protection Association (NFPA) Life Safety
National Electric Code (NEC) Electrical Standards
Collateral Duty Course for other Federal Agencies
Control of Hazardous Energy (Lockout-Tagout)
Machinery and Machine Guarding Standards
Hazard Evaluation and Risk Assessment
Permit-Required Confined Space Entry
OSHA Recordkeeping and Inspections
Bloodborne Pathogens Exposure Control
Environmental Compliance Assessment
Disaster Site Worker Train-the-Trainer
Evacuation and Emergency Planning
Hazardous Waste Management
Scaffolding, Cranes, and Rigging
Excavation and Trenching
Traffic Control Technician
Health Hazard Awareness
Respiratory Protection
Fall Arrest Systems
Voluntary Protection Programs
Risk Management
System Safety Course
Other (may include management, writing and other courses designed to improve safety professional management and/or technical skills)

Table A12.2. Continuing Career Safety Professional Development (AFSEC Courses Awarding Continuing Education Units).

Course	CEUs
Aircraft Mishap Investigation Course (AMIC)	10.5
Aviation Safety Program Management (ASPM)	3.5
Mishap Investigation Non-Aviation (MINA)	7.0
Safety Managers Course (SMC)	3.5
Introduction to Mishap Investigation (IMI)	3.5
Risk Management Application and Integration (RM A&I)	2.1
Board President Course (BPC)	2.1
Chief of Safety (COS)	2.8
Air Reserve Component Chief of Safety (ARCCoS)	2.8
ACC Ground Safety Program Management Course (GSPMC)	3.3
Human Factors (HF)	2.0

Attachment 13

SAFETY EDUCATION AND TRAINING

A13.1. Safety Training. Air Force Catalog (AFCAT), *USAF Formal Schools* found at the following website **https://etca.randolph.af.mil** (formerly AFCAT 36-2223), outlines specific safety-related courses (those listed below with a number designation). Refer to the AFCAT for full course descriptions and prerequisites. Training in System Safety (CLE 009) is available from Defense Acquisition University (**http://www.dau.mil**). Organizations responsible for course management are indicated in parenthesis.

A13.2. Mishap Investigation.

A13.2.1. Safety and Accident Investigation Board President Course (BPC), AFSC810 (HQ AFSEC).

A13.2.2. Aircraft Mishap Investigation Course (AMIC), WCIP05A (HQ AFSEC).

A13.2.3. Mishap Investigation Non-Aviation (MINA) Course, WCIP059 (HQ AFSEC).

A13.2.4. Aircraft Mishap Investigation and Prevention (AMIP) Clinical Psychologist, B3OZY42P3 003, (AFMC).

A13.2.5. Aircraft Mishap Investigation and Prevention (AMIP) Aerospace Physiologist, B3OZY43A 003, (AFMC).

A13.2.6. Aircraft Mishap Investigation and Prevention (AMIP) USAF Medical Investigator (Flight Surgeon), B3OZY48G3 003, (AFMC).

A13.2.7. Aircraft Mishap Investigation and Prevention (AMIP) Non-USAF Medical Investigator (Flight Surgeon or other physician), B3OZY48G3 010 (AFMC).

A13.2.8. Life Sciences Equipment Investigation Course (LSEIC), J3AZR1P071 0L1A, (AETC).

A13.3. Unit Safety Representatives (USR). Developed by AFSEC/SEG or MAJCOM/DRU/FOA, supplemented to include MAJCOM/DRU/FOA/local unique requirements.

A13.4. Aviation:

A13.4.1. Flight Safety NCO (FS NCO), L3AZR1S071-0S5A (AETC).

A13.4.2. Security Assistance Training Program (International) Flight Safety Officer Course (IFSO), WCIP05U (HQ AFSEC).

A13.4.3. Air Combat Command (ACC) Flight Safety Program Management Course, 3J5ACC1XXXX 000.

A13.4.4. DCMA Aviation Safety Officer Course, ASO.

A13.4.5. Air Reserve Component Chief of Safety Course ARCCOS

A13.5. Ground:

A13.5.1. Safety Apprentice, L3ALR1S031 0S2B (AETC).

A13.5.2. Safety Craftsman, L3ACR1S071 0S2B (AETC).

A13.5.3. OSHA Training Institute (OTI) (AFSEC).

A13.5.4. National Safety Council (NSC) Safety Training Institute (AFSEC), Refer to OSHA Training Institute catalog.

A13.5.5. Advanced Occupational Safety (AFSEC), Refer to NSC Safety Training Institute course catalog.

A13.5.6. Radiation Safety Officer Course, B6OZW43EXA-0A1A.

A13.5.7. Air Combat Command Ground Safety Program Management Course, 3J5ACC1SOX1 000

A13.6. Weapons:

A13.6.1. Weapons Safety Management Course , L3AZR2W071 0C2A. (AETC)

A13.6.2. ACC Weapons Safety Program Management Course, 3J5ACC2W0X1 000.

A13.6.3. Lightning Protection for Air Force Facilities (AMMO-47 OS), J5AZB3E051 00AA

A13.7. Space: Space Systems Safety Course (AFSPC/SMC).

A13.8. Management:

A13.8.1. Chief of Safety (COS) Course, WCIP05B. (AFSEC)

A13.8.2. Safety Manager Course (SMC), WCIP05D. (AFSEC)

A13.9. Risk Management (RM):

A13.9.1. AF RM Fundamentals Course (ADLS – under Misc Courses).

A13.9.2. AF RM Application and Integration Course (RM A&I), WCIP 05E (PDS Code WEI; AFSEC-on site).

A13.10. Other:

A13.10.1. Operational Safety, Suitability and Effectiveness (OSS & E) WSYS155 (AFIT).

A13.10.2. Environmental, Safety, and Occupational Health (ESOH) Compliance Assessments, WENV020 (AFIT).

A13.10.3. Course 8, Supervisor Safety Training (SST), ZZ132012, (HQ AFSEC/SEG).

A13.10.4. ACC Aircrew Flight Equipment Program Manager’s Course, 3J5ACC1P0X1 000.

Attachment 14

1S0X1 RETRAINEE EVALUATION PROCESS

A14.1. The local Ground Safety Manager (GSM) or designated representative will act as initial Evaluating Agent for retraining applicants. **(T-3)**

A14.2. The Evaluating Agent will: **(T-3)**

A14.2.1. Ask the applicant's immediate supervisor to appraise his or her work performance, attitude and overall character.

A14.2.2. Provide applicant a briefing on Safety programs and responsibilities. Discuss the safety career field and answer any questions. Determine if applicant has problems which would preclude working nights, holidays, standby, TDY, overseas assignments or deployments. Also, problems with prolonged standing or walking or other medical problems which would affect work performance.

A14.2.3. Establish and document an observation period for all applicants under consideration for retraining. The applicant must complete up to a 10 duty-day assessment period with the local Safety office before the Evaluating Agent can make a recommendation. **(T-3)**

A14.2.4. Provide meaningful, structured activities which assist in assessing the applicant's suitability for the Safety career field. The activities will consist of:

A14.2.4.1. Assessment of applicant's communication skills: Abilities to write and speak clearly and distinctly.

A14.2.4.1.1. Applicant will write a memorandum stating their reasons for wanting to retrain into the career field. Memorandum will include strengths, areas for improvement and what the applicant can contribute to improve the safety program. **(T-3)**

A14.2.4.1.2. Applicant will instruct/lead some portion of a safety class, i.e., Course II, Course IIIB, SST, FTAC. **(T-3)**

A14.2.4.2. Introduction to inspection/spot inspection process.

A14.2.4.2.1. Applicant will review annual reports, conduct follow up for the open write-ups AND conduct spot inspections. **(T-3)**

A14.2.4.3. Familiarization to Flight line/maintenance/industrial areas.

A14.2.4.3.1. Applicant will visit flight line/maintenance/industrial areas as deemed appropriate by the Evaluating agent. **Note:** This may be incorporated into paragraph **A14.2.4.2.1. (T-3)**

A14.2.4.4. Introduction to mishap investigation.

A14.2.4.4.1. Applicant will partake in the investigation and processing of a mishap. Preferably a real mishap, but a training scenario may be used. This includes an AFSAS familiarization session, reviewing mishap findings to establish causal factors and a mishap summary/out-brief to the Chief of Safety. **Note:** This activity will include briefing applicant on what to expect at a mishap scene. **(T-3)**

A14.2.4.5. Introduction to Hazard Abatement Program.

A14.2.4.5.1. Applicant will assign a Risk Assessment Code to a hazard (actual or simulated) based on an assessment of the mishap potential and its severity. Applicant will also process AF Forms 457, *USAF Hazard Report*, and 1118, *Notice of Hazard.* **(T-3)**

A14.2.5. Provide the servicing FSS with a memorandum summarizing the following areas based on research and structured activities:

A14.2.5.1. Approval/Disapproval of applicant's request for retraining.

A14.2.5.2. Assessment of applicant's structured activities.

A14.2.5.3. Assessment of applicant's communication skills, both written and verbal.

A14.2.5.4. Overall assessment of the appearance, moral standards, military conduct and bearing.

A14.2.6. Complete the Safety 101 CBT.

Figure A14.1. 1S0 Safety Retraining Memorandum (Example).

MEMORANDUM FOR

FROM:

SUBJECT: 1S0 Safety Retraining Memorandum

1. I approve/disapprove _____ (applicant's Rank and name) request for retraining.
2. Applicant:
a. (Did/did not) complete the 10 duty-day assessment period.
b. (Has/does not have) ability to communicate: write, and speak clearly and distinctly.
c. (Has/does not have) ability to meet the needs of the Safety career field.
d. (Has/does not have) appearance, moral standards, military conduct and bearing to meet the needs of the Safety career field.
Explain:
_____
3. I interviewed applicant's immediate supervisor and foresee no problems OR have reason for concern.
Explain:
_____
4. Applicant received a briefing on Safety programs and responsibilities and has/has no problems which would preclude working nights, holidays, standby, TDY, overseas assignments or deployments.
Explain:
_____
5. If you have questions please contact me at DSN: xxx-xxxx.

SIGNATURE BLOCK

Attachment 15

PREPARATION OF RISK ASSESSMENTS

A15.1. Risk Assessment. A risk assessment succinctly documents the results of several steps in the risk management process and supports follow-on decision-making processes (reference AFI 90-802, *Risk Management*, AFPAM 90-803, *Risk Management Guidelines and Tools*, and AF Form 4437, *Deliberate Risk Assessment Worksheet*). Decision options typically involve determining whether one or more particular courses of action should be pursued (e.g., implementing equipment improvements, safety or warning device improvements, operational improvements, technical improvements, policy improvements), or whether a risk should be accepted. A risk assessment supports decision-making processes by objectively identifying a hazard, assessing its risk, thoroughly analyzing potential options for risk mitigation and making a recommendation. **Note:** The term "losses," also include fatalities, not just system losses. A suggested risk assessment is show in Figure **A15.1** below.

Figure A15.1. Sample Risk Assessment Layout.

Risk Assessment Title

Background: Broadly describe the situation being evaluated. Provide sufficient detail so the remainder of the risk assessment may be easily understood.

Hazard Identification: Hazards are defined as any real or potential condition that can cause mission degradation, illness or injury to personnel or damage to or loss of equipment or property. Accurately and succinctly describe the hazard (e.g., deficiency with engineering design, material, quality, software, operations, maintenance) being analyzed.

Initial Risk: The first assessment of the potential risk associated with an identified hazard. Risk is the probability and severity of loss from exposure to the hazard. Risk assessment is the application of qualitative and quantitative measures to determine the level of risk associated with the identified hazard. Identify the probability and severity of a mishap that could result from the hazard, based upon the exposure of personnel or assets to the identified hazard. Use the baseline or "as designed" state as the basis for determining the initial risk. Fully explain the methodology used, data considered (e.g., reported mishaps/events, deficiency reports, test results, etc) and rationale for determining the baseline for measuring risk.

Interim Risk: Many times initial mitigation steps have already been taken prior to the completion of a written risk assessment. These steps may include permanent risk mitigation measures or temporary stop-gap risk mitigation measures. Describe these measures and explain how the baseline risk is being mitigated, their effectiveness and the resulting interim risk until final risk mitigating options can be implemented.

Risk Mitigation Options: It is likely several options still exist to mitigate the risk of the identified hazard. Effective control measures reduce or eliminate one of the three components (i.e., probability, severity or exposure) of risk. Investigate specific strategies and tools that reduce, mitigate or eliminate risk. Address each risk mitigation option separately. One option to always consider is "taking no further action" which is the equivalent of accepting the baseline risk and acknowledging and accepting expected future losses. For each option, including accepting the baseline risk, address:

Description: Describe the option being evaluated.

Impact: Describe the impact of this option. What are its benefits; limitations? Address its effectiveness and explain how it will eliminate or control future losses. Does it address other hazards/problems or introduce new ones?

Cost: Estimate the costs (i.e., financial, operational, maintenance) to implement this option.

Schedule: Estimate schedule implement this option.

Target Risk: Describe the risk level the PM intends to achieve by implementing mitigation measures.

Residual Risk: This is the risk that remains after all mitigations have been implemented. Residual risk may be above, below, or the same as the target risk. Great risk mitigation options eliminate hazards and their risk entirely; others only reduce the risk. Assuming this risk mitigation option is implemented; identify the probability and severity of a mishap that could result from the hazard based upon the exposure of personnel or assets to the identified hazard. Fully explain the methodology used (including analytical assumptions and limitations), data considered, and rationale for determining the residual risk.

Expected Future Losses: Estimate the expected losses with implementation of this option. Express losses over a period of time, a number of events or for a given population. Fully explain the methodology used, data considered and rationale for determining these expected losses.

Summary of Options: If the number of risk mitigation options is lengthy, a tabular summary may be appropriate. Include, as necessary.

Recommendation: State the recommended courses of action, including rationale.

Attachment 16

SAFETY RELEASE

A16.1. Requirement.

A16.1.1. The PM shall provide a safety release for the system prior to each developmental and operational test involving personnel. the safety release must identify the hazards involved in the test and their formal risk acceptance. A Safety Release provides the Test and Evaluation community the known system-related Environment, Safety and Occupational Health (ESOH) hazards prior to exposing people, equipment or the environment. The safety release must transmit system ESOH hazard data to the operators, maintainers, trainers and testers. Test organizations use the safety release and other relevant data, documents and expertise to assess, further mitigate and accept test risks as appropriate. Refer to the Defense Acquisition Guidebook, DoDI 5000.02, MIL-STD-882E, and AFMAN 63-119 for additional information. As a minimum, the safety release will contain: **(T-0)**

A16.1.1.1. Known hazards and mitigation actions/measures identified and tracked by the program office (e.g., master hazard list, Safety Assessment Report, SSG tracked hazards, previous test identified hazards, airworthiness analysis/certificates).

A16.1.1.2. A cover letter or equivalent by the PM stating the item/system is safe to test given known hazards and mitigating measures, signed by the appropriate acquisition risk acceptance authority (A16.1.2).

A16.1.2. The PM shall document that the associated risks have been accepted by the appropriate acquisition acceptance authorities as specified in DoDI 5000.02. The user representative shall be part of this process throughout the life cycle and shall provide formal concurrence prior to all serious- and high-risk acceptance decisions. **(T-2)**

A16.2. Format.

A16.2.1. The AFSEC recommended format for a safety release is provided in **Figure A16.1.**

Figure A16.1. Safety Release Letter (Example).

MEMORANDUM FOR [Test Organization(s)] [Date]

FROM: [Organization/Office Symbol]

[Organizational Address]

SUBJECT: [Program Name] [Specific Activity, (e.g., RDT&E, FDE, OA, OT&E)] Safety Release

Ref: DoDI 5000.02, Operations of Defense Acquisition Systems [include any systems safety and programmatic documentation (e.g., SSHA, SAR, PESHE) used to prepare this document]

1. Purpose. [State the purpose of the program, services involved, which service has lead, which office has been designated at the system's Acquisition Program Office lead. State what time frame/operations/testing this safety release will cover.]

2. System Description. [Give a brief system description with the name, type, model number/designation, software version and the system mission (as applicable). Indicate how the system/materiel works and/or how it will be used/worn/operated.]

3. Discussion. [Discuss sources of data and summarize the open, mitigated and unmitigated ESOH hazards affecting this safety release. Provide the resultant risk level of those hazards. Provide which user representative(s) are/were a part of this process and have/will provide formal concurrence prior to all serious- and high-risk acceptance decisions.]

4. Conclusions/Recommendations. [Indicate whether the system is safe for testing and whether or not there are any exceptions that need to be detailed. Highlight any known safety problems requiring additional investigation during test. List any technical or operational limitations or precautions needed to prevent injury or equipment/property/environmental damage.] [Org/office] must be immediately notified of any safety related anomalies regarding the use of the system under test.

5. Point of Contact (POC). The POC is [Program Manager (and Systems Safety Manager, as required), office symbol(s), DSN and Commercial phone numbers, e-mail address(es).]

[Signature]
[Signature block of appropriate risk acceptance authority (see paragraph **A16.1.2** above)]

[Number of attachments] Attachments
1. [List of the appropriate attachments/documents used to support this safety release]

Distro:
[List the organizations/office symbols of the user representatives and testing organizations which will require/coordinate this safety release]

AFSEC/[XX] AFOTEC/SE [or MAJCOM/SE, if an FDE] AFMC/SES [LDTO] [User]

Attachment 17

ANNUAL AFSMS MANAGEMENT REVIEW PLAN

A17.1. Annually reviewing safety programs and analyzing results is essential to identify areas for continual improvement, correction of identified weakness, prioritization of factors related to implementation and ultimately the successful execution of the mishap prevention program under the SMS construct. This analysis and resulting adjustments to the safety program should improve the wing's processes and procedures, and consequently, decrease the frequency and/or severity of mishaps.

A17.1.1. The annual AFSMS Management Review provides senior leaders with a clear picture of the effectiveness of their safety function as well as its impact on the mission of the organization. The review will contain a statement declaring the mishap prevention program conformance and performance under the systemic processes of the AFSMS was either, met and effective, met but needs minor improvement(s), met but needs significant improvement(s), or was not effective. **(T-1)**

A17.1.2. The objective of the annual AFSMS Management Review Plan is to shift the focus of the safety program by leadership, to long-term solutions rather than reactionary one-time fixes. It is understood that the preparation and presentation of AFSMS Management Review is a new process with this version of the AFI 91-202. While statistical products related to mishap trend analysis, hazard reporting and abatement, are already a staple of the Air Force Mishap Prevention Program, other elements of this guide may be new. As the OPR, AFSEC/SEG asks that each unit make their best effort at the construction and presentation of this product during the first annual cycle in 2015. We will revise and improve this section using best-practices and suggestions from the field based on real lessons-learned for publication in subsequent changes to this AFI. The long-term strategy is to provide a near completely automated analysis capability within an IT system, like the Air Force Safety Automated System (AFSAS,) as resources permit. Nevertheless, a key and required feature of the Safety Management System is both internal and external programmatic assessments with a scorecard, to ensure continuous improvement. The interim, internal self-assessment, scorecard tool for the AFSMS will be the Annual AFSMS Management Review as described in this attachment.

A17.1.3. The annual SMS management review plan delineated below will address all areas in the "Plan – Do – Check – Act" format, unless stated otherwise. Refer to **Figure A17.1** for additional information. **(T-1)**

A17.2. Required Elements of the Annual AFSMS Management Review: (T-1)

A17.2.1. Safety goals, objectives, and priorities for the next fiscal year. **(T-1)**

A17.2.2. Analysis of the prior fiscal year's safety goals, objectives, and priorities being met. **(T-1)**

A17.2.2.1. Review of safety-related findings, trends, and corrective actions from CCIP and UEI reports conducted IAW AFI 90-201. **(T-1)**

A17.2.3. Risk reduction progress. **(T-1)**

A17.2.3.1. The progress in reduction of risk will include as a minimum (as applicable) the following categories, and using at least five years of previous data to compare/contrast to: **(T-1)**

A17.2.3.1.1. Civilian On-Duty Ground Mishaps.

A17.2.3.1.2. Military On-Duty Ground Mishaps.

A17.2.3.1.3. PMV-4 Off-Duty Ground Mishaps.

A17.2.3.1.4. PMV-2 Off-Duty Ground Mishaps.

A17.2.3.1.5. Space pre-launch mishaps.

A17.2.3.1.6. Space launch mishaps.

A17.2.3.1.7. Space orbit mishaps and events.

A17.2.3.1.8. Ground based space systems mishaps and events.

A17.2.3.1.9. Human Factors Assessment Codes for causal and contributory factors for all class A and B mishaps and on-duty Class C mishaps.

A17.2.3.1.10. Classified mishaps.

A17.2.3.1.11. AFCMRS and OSA results.

A17.2.3.1.12. Flight Class A, B, C, D mishaps and Class E events, and Proactive Safety trends to include ASAP, MFOQA and LOSA data.

A17.2.3.1.13. Weapons Class A, B, C, D mishaps, Class E events, Dull Swords results from weapon system safety rules violations and proactive safety trends. **Note:** The Business Intelligence Tool of AFSAS will format/provide these slides at the MAJCOM, NAF, Wing, and Squadron levels.

A17.2.4. Effectiveness of safety processes to identify, assess, and prioritize risk and system deficiencies that support the organization's ability to execute its mission. Address both successes and failures of the safety processes in order to identify areas for improvement, where applicable. **(T-1)**

A17.2.5. Effectiveness in addressing underlying causes of risk and system deficiencies that includes an analysis of human factors in mishap reports and causal factors on annual inspections. If adverse trends are noted, specific actions planned to address them must be annotated in this section. Action plans already referenced from inspections conducted IAW AFI 90-201 may be referenced here. **(T-1)**

A17.2.6. Input from management, leadership, employees and employee representatives. **(T-1)**

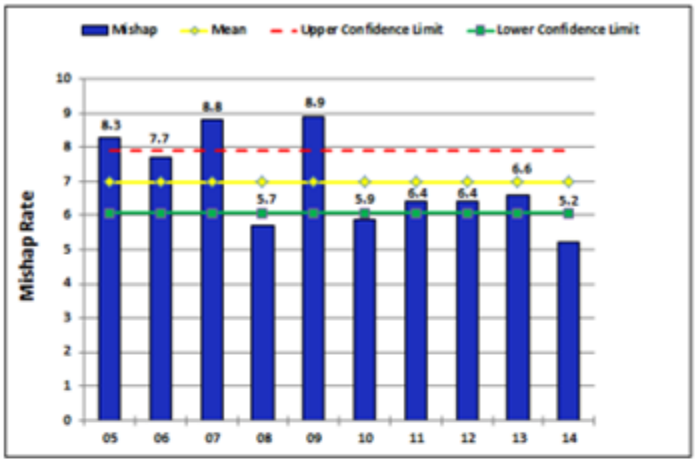
A17.2.6.1. Hazard reporting, employee suggestions/complaints, etc., will be addressed in this section. **(T-1)**

A17.2.7. Status of corrective and preventative actions and changing circumstances (Hazard Abatement). A review of open risk assessment codes, open management deficiencies, and similar issues will be addressed in this section. **(T-1)**

A17.2.8. Follow up actions from safety inspections/assessments and previous annual management reviews. **(T-1)**

A17.2.9. Signature of Commander (Installation/NAF/MAJCOM as appropriate). May be delegated no lower than vice or deputy commander, or executive director. **(T-1)**

Figure A17.1. Example of slide with control limits and Plan–Do–Check Act Analysis. PMV Mishap Rates by FY Sample Slide only.



Plan (FY15): Obtain a reduction of the previous three-year average.

Do: As traffic safety continues to be one of the largest risks, our safety offices provided numerous traffic safety courses, provided unit safety representatives a large volume of traffic safety information for dissemination, and prior to long weekends/holiday periods emphasized traffic safety risks. Additionally, supervisors are highly encouraged to take advantage of the AF Form 4392, *Pre-Departure Safety Briefing,* for those 26 and under.

Check: 10% decrease from our three year-average. This is an outstanding reduction we should be proud of. Although some of the credit must be given to the increase in vehicle safety over the last decade (e.g., stability control systems, anti-lock brakes, tire-pressuring monitoring systems, multiple air bags, etc.), with the decline we saw in 2014, our Airmen are driving safer and applying sound RM while driving.

Act (FY15): Although we are proud of our success, our focus in FY15 should be:

- Distracted driving. Technology continues to improve the safety of motor vehicles; however, if vehicle operators let distractions get in the way of the task at hand, the odds of a mishap increase dramatically.
- Continue emphasis on Driving Under the Influence/While Intoxicated (DUI/DWI) and proper use of restraints
- Send drivers with identified at-risk behavior(s) through Course V, Driver's Improvement Course

Attachment 18 (Added-PACAF)

PACAF-SUGGESTED MISHAP RESPONSE KITS

A18.1. (PACAF) General Information. Safety offices should pre-assemble these kits (or similar kits) and keep them ready for immediate use. Some of the items below may be obtained through other base agencies (Civil Engineering, Crash Recovery, etc.). The safety office is responsible for providing and safekeeping of these kits. Because of the value and attractiveness of many of the items, a member of the investigation team must responsible for the kit when it is in use. Vary kit items to suit local circumstances; however, the items listed in the following paragraphs reflect typical needs based on past investigation experience. Safety offices are encouraged to leverage technology to meet the below requirements as advances in technology often outpace changes to Air Force Instructions. Safety offices should ensure the capabilities of the items listed below are in their mishap response kits or are immediately available for ISB/SIB use.

A18.2. (PACAF) Community Kit. This contains items that may be needed by investigators, but are not required to be immediately accessible, and are too bulky or heavy to be conveniently carried. The "community" kit should be centrally located at the mishap site and contain the following items:

A18.2.1. **(PACAF)** Survey Equipment:

A18.2.1.1. **(PACAF)** One thousand feet of light rope or heavy cord, marked at 50-foot intervals.

A18.2.1.2. **(PACAF)** Twelve inch steel ruler.

A18.2.1.3. **(PACAF)** Fifty lightweight stakes.

A18.2.1.4. **(PACAF)** Laser range finder.

A18.2.2. **(PACAF)** Tools:

A18.2.2.1. **(PACAF)** Hammer

A18.2.2.2. **(PACAF)** Chisel

A18.2.2.3. **(PACAF)** Hacksaw with spare blades

A18.2.2.4. **(PACAF)** Small wood saw

A18.2.2.5. **(PACAF)** Small shovel

A18.2.2.6. **(PACAF)** Spray lube

A18.2.2.7. **(PACAF)** Hatchet

A18.2.3. **(PACAF)** Miscellaneous Items:

A18.2.3.1. **(PACAF)** Stand-alone laptop or tablet, loaded with appropriate forms, instructions, etc., preferably with CD/DVD burner and SD card reader to transfer pictures.

A18.2.3.2. **(PACAF)** Installation telephone directory and list of local civilian authority addresses and telephone numbers.

A18.2.3.3. **(PACAF)** Spare flashlights, batteries, zip lock bags, tags and labels, etc.

A18.2.3.4. **(PACAF)** Scale models, posters or photos of unit aircraft.

A18.2.3.5. **(PACAF)** Water jug(s) or case(s) of drinking water.

A18.3. (PACAF) Contingency Equipment. The following will be needed only under certain conditions. Arrange to have the following items available for issue to investigators when required, and arrange to have the equipment transported to the crash scene:

A18.3.1. **(PACAF)** Tents, bedding, rations, cooking gear, toilet paper, hand wash set up, etc.

A18.3.2. **(PACAF)** Emergency and portable lighting, portable latrines.

A18.3.3. **(PACAF)** Coveralls, boots, parkas, rain suits, and other protective clothing.

A18.3.4. **(PACAF)** Emergency funds, foreign currency, if applicable.

A18.3.5. **(PACAF)** Axes, machetes, power chain saws, floodlights, and other heavy equipment.

A18.3.6. **(PACAF)** Assorted sieves (up to 3-foot square) for sifting evidence from mud, etc.

A18.3.7. **(PACAF)** Portable, lightweight means of on-site communications, e.g., Land Mobile Radios and/or cellular telephones.

A18.3.8. **(PACAF)** Protective packing materials, containers, plastic bags, sheets, tape, and string for shipping evidence from the site.

A18.3.9. **(PACAF)** Weather-specific and terrain-specific protective equipment.

A18.4. (PACAF) Witness Interview Equipment. Three or four interview kits are recommended as a minimum, each containing the following:

A18.4.1. **(PACAF)** Digital voice recorder or equivalent.

A18.4.2. **(PACAF)** Digital video recorder and tripod or equivalent.

A18.4.3. **(PACAF)** AC adapter / charger / spare batteries, as required.

A18.4.4. **(PACAF)** Statement forms.

A18.4.5. **(PACAF)** Model aircraft, posters or photos of aircraft.

A18.5. (PACAF) Photographic Equipment. Most investigations will be fully supported by Combat Camera, Wing Public Affairs or other specialist photographers. However, the table of allowance for wing/base safety offices authorizes procurement of photographic equipment. This equipment should be included in the safety office's quick reaction kit to ensure at least minimal initial documentation of a mishap scene:

A18.5.1. **(PACAF)** Digital Camera with flash

A18.5.2. **(PACAF)** Macro lens or 50 mm lens with extension tubes or close-up diopters.

A18.5.3. **(PACAF)** Small tripod.

A18.5.4. **(PACAF)** Photographic log.

A18.5.5. **(PACAF)** Spare memory card.

A18.5.6. **(PACAF)** AC adapter / charger / spare batteries, as required.

A18.6. (PACAF) Individual Board Member Kits -- Standard Contents. Mishap sites vary considerably. They may be in mountainous terrain, isolated areas, etc. Wreckage may be confined to a small area or scattered over several ridgelines. Whatever situation, each investigator must have the equipment he or she needs to work with and be able to operate autonomously. Each investigative specialty (investigative officer, pilot member, life support member, etc.) should have a separate kit. It is imperative that each primary member of the SIB have unlimited access to a computer. Technological advances allow many of these capabilities to be combined into one device. All kits should include the following basic equipment and/or capabilities:

A18.6.1. **(PACAF)** Documentation, Measurement, and Calculation:

A18.6.1.1. **(PACAF)** Calculator with trigonometric functions.

A18.6.1.2. **(PACAF)** Quad-ruled paper.

A18.6.1.3. **(PACAF)** Tape measure (one hundred foot recommended).

A18.6.1.4. **(PACAF)** Notebook (a 1/2 steno notebook is very useful--it fits into the hip pocket).

A18.6.1.5. **(PACAF)** Plotter (serves as a ruler, protractor, and inclinometer).

A18.6.1.6. **(PACAF)** Dividers (useful for transferring measurements).

A18.6.1.7. **(PACAF)** Pencils, pens, grease pencils, felt-tip pens (indelible type for anything that may be exposed to moisture).

A18.6.1.8. **(PACAF)** Lensatic compass (the more accurate, the better).

A18.6.1.9. **(PACAF)** E6-B (CPU-26A/P, or equivalent) computer for wind problems.

A18.6.1.10. **(PACAF)** String and plumb bob (turns plotter into an inclinometer).

A18.6.2. **(PACAF)** Evidence Gathering and Evaluating Equipment:

A18.6.2.1. **(PACAF)** Clean containers for fluid samples and evidence.

A18.6.2.2. **(PACAF)** Magnifying glasses (5X and 10X).

A18.6.2.3. **(PACAF)** Flashlight and batteries.

A18.6.2.4. **(PACAF)** Mirrors (dentist's and regular).

A18.6.2.5. **(PACAF)** Tags with ties for tagging parts and evidence.

A18.6.2.6. **(PACAF)** Labels and 3- by 5-inch index cards.

A18.6.2.7. **(PACAF)** Sealable plastic bags (assorted).

A18.6.2.8. **(PACAF)** Wrenches (including adjustable).

A18.6.2.9. **(PACAF)** Pliers, wire cutters, and vice grips.

A18.6.2.10. **(PACAF)** Screwdrivers (several, including both common and Phillips).

A18.6.2.11. **(PACAF)** Knife.

A18.6.2.12. **(PACAF)** Small stiff and soft bristled brushes.

A18.6.2.13. **(PACAF)** Masking tape.

A18.6.3. **(PACAF)** Miscellaneous Items:

A18.6.3.1. **(PACAF)** List of kit contents.

A18.6.3.2. **(PACAF)** Small first-aid kit.

A18.6.3.3. **(PACAF)** Clipboard.

A18.6.3.4. **(PACAF)** Syringes (for gathering fluid samples).

A18.6.3.5. **(PACAF)** Large tweezers.

A18.6.3.6. **(PACAF)** Wood or metal stakes with tags and marking pens.

A18.6.3.7. **(PACAF)** Leather and latex gloves.

A18.6.3.8. **(PACAF)** Sunscreen.

A18.6.3.9. **(PACAF)** Dust Masks.

A18.7. (PACAF) Board Member-Specific Kits. The following should be provided to the appropriate ISB members and replenished as necessary upon the arrival of the SIB:

A18.7.1. **(PACAF)** Board President's Kit:

A18.7.1.1. **(PACAF)** AFI 91-223 and AFI 91-204 with appropriate supplements.

A18.7.1.2. **(PACAF)** Telephone list with key numbers.

A18.7.1.3. **(PACAF)** Nearest installation telephone directory.

A18.7.1.4. **(PACAF)** Technical assistance resource list.

A18.7.2. **(PACAF)** Investigator/Recorder Kit:

A18.7.2.1. **(PACAF)** Two sets of file folders (for draft and final versions of formal report tabs A through Z.

A18.7.2.2. **(PACAF)** Masters or clear copies as masters of safety report cover, index tabs A through Z, releasable blank sheets, and non-releasable blank sheets.

A18.7.2.3. **(PACAF)** File folders for inbound and outbound messages (blank message forms and blank duplication forms).

A18.7.2.4. **(PACAF)** Telephone log.

A18.7.2.5. **(PACAF)** SIB progress chart.

A18.7.2.6. **(PACAF)** Maps (grid, country, aviation, road).

A18.7.2.7. **(PACAF)** General administration supplies.

A18.7.3. **(PACAF)** Pilot Member Kit:

A18.7.3.1. **(PACAF)** Aircrew standardization and training regulations.

A18.7.3.2. **(PACAF)** Operational regulations.

A18.7.3.3. **(PACAF)** Appropriate flight and weapons manuals.

A18.7.3.4. **(PACAF)** Local area charts and instrument publications.

A18.7.4. **(PACAF)** Maintenance Officer Kit:

A18.7.4.1. **(PACAF)** Tools, as required.

A18.7.4.2. **(PACAF)** Publications. Ensure the base technical order library has copies of all the applicable technical orders for aircraft at your particular installation available for checkout and use.

A18.7.4.3. **(PACAF)** Refer to T.O. 00-5 series for acquiring and handling T.O.s.

A18.7.5. **(PACAF)** Medical Officer Kit:

A18.7.5.1. **(PACAF)** Evidence equipment such as body bags, ziplock bags (polyethylene), colored tape, scissors/for ceps, and examination gloves.

A18.7.5.2. **(PACAF)** Administrative materials such as investigation and reporting instructions (i.e. AFI 91-223, AFI 91-204, etc.); assigned aircraft "dash-1" technical orders; current AFMES Form 18, Toxicological Request Form; SF Form 523, Medical Record - Authorization for Autopsy; and relevant forms from the SIB Support Package on the AFSAS website such as the 72-hour and 7-day History witness statements, and the most current DoD HFACS manual.

A18.8. (PACAF) Personal Kits. These kits should contain two types of materials: those related to travel for extended periods, and those tailored to prolonged work/living under worst-case field conditions. The best rule of thumb for both of these is to not bring anything you aren't prepared to carry. Aircraft mishaps do not always happen in convenient places, so put a light-weight backpack at the top of your shopping list, and then work from there.

A18.8.1. **(PACAF)** Administrative Materials:

A18.8.1.1. **(PACAF)** Expense record (for eventually building your travel voucher).

A18.8.1.2. **(PACAF)** Orders or authorization to investigate (should be available through recorder; included in formal report Tab Q).

A18.8.1.3. **(PACAF)** Immunization record (PHS-731). Make sure Hepatitis-B is up to date for any mishap where human remains will be present.

A18.8.1.4. **(PACAF)** Checkbook and/or ATM/debit card.

A18.8.1.5. **(PACAF)** Credit cards (government and personal).

A18.8.1.6. **(PACAF)** Identification card (**DD Form 2**) and dog tags.

A18.8.1.7. **(PACAF)** International or government driver's license (if possessed).

A18.8.1.8. **(PACAF)** Passport (best to maintain both official and personal).

A18.8.2. **(PACAF)** Fieldwork Materials:

A18.8.2.1. **(PACAF)** Sturdy, broken-in boots.

A18.8.2.2. **(PACAF)** Gloves: Leather; Rubber (kitchen style or equivalent); Latex (surgical)

A18.8.2.3. **(PACAF)** Hat -- keeps you cooler in summer (broad-brimmed, floppy hats or pith helmets) and warmer in winter.

A18.8.2.4. **(PACAF)** Insect repellent.

A18.8.2.5. **(PACAF)** First-aid kit for minor cuts.

A18.8.2.6. **(PACAF)** Moist towelettes.

A18.8.2.7. **(PACAF)** Water container(s).

A18.8.2.8. **(PACAF)** Ear plugs (for investigations near airfields).

A18.8.2.9. **(PACAF)** Collapsible cup.

A18.8.2.10. **(PACAF)** Knife, screwdriver, and can opener.

A18.8.2.11. **(PACAF)** Basic tools (multipurpose pocket tools are excellent for this purpose).

A18.8.2.12. **(PACAF)** Magnifying glass.

A18.8.2.13. **(PACAF)** Food bars.

A18.8.2.14. **(PACAF)** Work clothes and equipment needed for severe weather conditions, i.e., parka, thermal underwear, rain gear, etc.