DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, DC

AFI91-202_AFGM2

11 July 2012

MEMORANDUM FOR DISTRIBUTION __
MAJCOMs/FOAs/DRUs

FROM: AF/SE

SUBJECT: Air Force Guidance Memorandum to AFI 91-202, *The US Air Force Mishap Prevention Program*

By Order of the Secretary of the Air Force, this is an AF Guidance Memorandum immediately implementing changes to AFI 91-202. This AFGM clarifies the use of the AF Form 55, deletes paragraphs that are no longer relevant to the ESOH Councils and installation safety councils, approves the use of avian radars to detect wildlife, and clarifies the role of the National Guard Bureau in the BASH program. Compliance with this Memorandum is mandatory. To the extent its directions are inconsistent with other Air Force publications, the information herein prevails, in accordance with AFI 33-360, *Publications and Forms Management.*

In advance of a rewrite of AFI 91-202, the Attachment to this Memorandum is updated to provide guidance changes that are effective immediately. An asterisk (*) indicates newly revised material.

The directions of this Memorandum becomes void after 180 days have elapsed from the date of this Memorandum, or upon incorporation of an Interim Change or rewrite of AFI 91-202, whichever is earlier.

GREGORY A. FEEST, Maj Gen, USAF
Chief of Safety

Attachment:
Guidance Changes

Attachment

Guidance Changes

The below changes to AFI 91-202, dated 5 August 2011, through Interim Change 1, dated 20 March 2012, are effective immediately.

(Replace) 1.1. Minimize loss of Air Force resources and protect Air Force people from death, injuries or occupational illnesses by managing risks on- and off-duty. This program applies to all operations except where otherwise prescribed or specified in Status-of-Forces Agreements.

(Replace) 1.5.15.13. Maintains a list of potential Safety Investigation Board (SIB) members who have completed the formal training requirements according to AFI 91-204, AFMAN 91-223 and discipline specific manuals, and provide a copy to MAJCOM/SE. 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. **NOTE:** Individuals with only MINA training will not investigate aviation mishaps where there is intent for flight. The involved Chief of Safety will determine the investigating officer.

(Replace) 1.5.17.6.7. Provide ISB/SIB members for military mishaps IAW AFMAN 91-223.

(Replace) 1.5.21.4. Develop a work center specific Job Safety Training Guide (JSTG) based on **Attachment 5,** *Job Safety Training Outline (JSTO),* on safety, fire protection/prevention and health requirements. The supervisor will document and maintain completed training in work area. The method of documentation is up to the supervisor, if not otherwise prescribed by the applicable MAJCOM or related chain of authority. Options may include, but are not limited to, the AF Form 55, *Employee Safety and Health Record,* electronic mediums such as AFFORMs/CAMs/CAS-B/GO81 or locally developed products. If the AF Form 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 if signatures are required or optional. Regardless of the method chosen, documentation will contain the following minimum data: trainee name (last, first, middle initial), grade, organization, office symbol, occupational series or primary AFSEC, duty title, type of training, interval of training, date of training and trainer's name. **NOTE:** Neither the trainer or trainee signature is required unless specified in writing by the applicable chain of authority.

(Replace) 1.5.21.8. Ensure AF Form 1118, *Notice of Hazard,* issued by safety, fire protection and Bioenvironmental Engineering officials are posted to alert employees to the hazardous conditions, interim control measures, and take appropriate actions 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 5,** Section **A5.4.**

(Replace) 1.5.21.11. At deployed locations provide and document Job Safety Training as specified in paragraph **1.5.21.4.**

(Replace) 1.5.21.14. Attend Air Force Supervisor Safety Training (SST). Supervisors will document SST as specified in paragraph **1.5.21.4.**

(Replace) 1.5.22.12. Hand carry safety training documentation as specified in paragraph **1.5.21.4.** to the new supervisor when deploying or transferring to another Air Force position/location.

(Replace) 2.2.4.4. Assist supervisors who develop JSTOs.

(Replace) 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 or applicable system. Supervisors will document SST IAW paragraph **1.5.21.4.**

(Replace) 2.3.3. Safety, Fire Protection and Health Training. Supervisors will develop a Job Safety Training Outline (JSTO) specifically tailored to address safety concerns of the work environment. The guide will encompass both safety awareness and job specific safety training. See listed mandatory training items in **Attachment 5.**

(Replace) 2.3.3.3. Document safety, fire and health training as specified in paragraph **1.5.21.4.** Documentation will be maintained by the supervisor within the work center.

(Delete) 2.6.2.1.

(Delete) 2.6.2.2.

(Delete) 2.6.2.3.

(Delete) 2.6.2.3.1.

(Delete) 2.6.2.3.2.

(Delete) 2.6.2.3.3.

(Delete) 2.6.2.3.4.

(Delete) 2.6.2.3.5.

(Delete) 2.6.2.3.6.

(Delete) 2.6.2.3.7.

(Delete) 2.6.2.3.8.

(Delete) 2.6.2.3.9.

(Delete) 2.6.2.3.10.

(Delete) 2.6.3.

(Add) 7.3.1.1.7.1. Avian radars are approved for use on Air Force airfields and ranges provided they are fielded in accordance with the UFC 3-260-01, *Airfield and Heliport Planning and Design.*

(Add) 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; BWC determination; and flying window alteration.

(Add) 6.4. Mishap Prevention Program. AFFOR deployed safety offices should 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.

(Replace) 7.3.1.4. National Guard Bureau (NGB) will:

(Replace) 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.

(Replace) 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 reoccurring inspections or staff assistance visits.

(Replace) 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 Memorandums of Agreement (MOAs) or low altitude tactical navigation areas.

(Delete) 7.3.1.4.4.

(Delete) 7.3.1.4.5.

(Delete) 7.3.1.4.6.

(Delete) 7.3.1.4.6.1.

(Delete) 7.3.1.4.6.2.

(Delete) 7.3.1.4.6.3.

(Delete) 7.3.1.4.7.

(Delete) 7.3.1.4.8.

(Delete) 7.3.1.4.9.

(Delete) 7.3.1.4.10.

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

(Add) 7.3.1.5.1. Base Level BASH Program. Host Air Force, AFRC and ANG installations/units with flying operations will establish a BASH 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.). The BASH program will document coordination with the host authority on reducing wildlife hazards.

(Add) 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.

(Add) 7.3.1.5.3. BASH programs at overseas locations depend on host nation support and regulations. MAJCOMs and the NGB will evaluate those plans to ensure the spirit of this instruction is complied with to the maximum extent possible.

(Add) 7.3.1.5.4. Each installation with flying operations must develop a contingency plan that lists responsibilities and procedures 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.

(Add) 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 installation commander or equivalent will chair the meeting. The BHWG will coordinate base improvement projects, e.g., grounds maintenance, wastewater treatment, golf courses, etc., for BASH-related issues.

(Add) 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 ATIS updates or other broadcast medium. BWC codes are defined as:

(Add) 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.

(Add) 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.

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

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.

(Add) 7.3.1.5.7. Designate Phase I and Phase II periods of wildlife activity based on historical wildlife activity information. 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.

(Add) 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. Appropriate measures should be taken to mitigate the risk if required. Maintain a zero tolerance toward large free-roaming animals on or adjacent to the aircraft movement area (free-roaming animals are, but not limited to, deer, canines, geese, etc).

(Add) 7.3.1.5.9. Grass Height. Mow aircraft movement area (AMA) to maintain a grass height between 7 and 14 inches. The AMA, as defined in UFC 3-260-01, *Airfield and Heliport Planning and Design*, 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.

(Add) 7.3.1.5.10. 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-xxxx, 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*.

(Replace) 8.5.4. Assist supervisors in developing JSTO.

(Replace) 8.7.4.1.5. Functional managers must train affected employees and employee representatives on approved variances, exemptions or any special procedures required and document training. Post copies in affected work areas until integrated into the JSTO.

(Add) A3.8.3. Forward HATR summary information to AFSEC/SEFO when requested and/or if HAF level assistance is needed to mitigate hazards.

(Delete) A.2.3.1.

(Delete) A.2.3.2.

(Delete) A.2.3.3.

(Delete) A.2.3.4.

(Delete) A.2.3.1..

(Add) A2.3.1. The nomenclature, manufacturer and status of each equipment item for each Model Design Series.

(Add) 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.

(Add) 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.

(Add) 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).

(Add) A2.3.5. Elaboration of each data element and requests for more detailed information is provided in the descriptions below. For each item, provide a Point of Contact to address further questions or clarifications.

(Delete) A3.10.

(Delete) A3.10.1.

(Delete) 3.10.2.

(Delete) 3.10.3.

(Replace) A5.1. Mandatory items that will be briefed to all personnel. This Job Safety Training Outline will be used to develop a job safety training guide from which all individuals within the work center will be trained. This JSTO lists mandatory items that will be briefed to all personnel. 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 **1.5.21.4.** Deployed and installation commanders may dictate more stringent requirements.

(Replace) A5.3. Documentation of Training. Document training as specified in paragraph **1.5.21.4.**

(Replace) A5.4. 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 product prescribed in paragraph **1.5.21.4.** When an individual deploys/transfers to another Air Force position/location, the training documentation product will be hand carried 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 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 after personnel are separated or retired.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 91-202

5 AUGUST 2011

Incorporating Change 1, 20 March 2012

Safety

THE US AIR FORCE MISHAP PREVENTION PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: HQ AFSC/SEG

Certified by: AF/SE (Maj Gen Gregory A. Feest)

Supersedes: Supersedes: AFI 92-202, 1 August 1998; AFI 91-301, 1 June 1996; AFI 91-302, 18 April 1994

Pages: 149

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, and apply to all US Air Force organizations and personnel, including US Air Force Reserve Command (AFRC) units, all Air National Guard (ANG) personnel on duty status, with the exception of state employees. In overseas areas, follow this instruction as long as it consistent with host country laws and Status-of-Forces Agreements. 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,* and 3750, *Reporting and Investigation of Air Traffic Incidents.* Send major command (MAJCOM) supplements to HQ AFSC/SE Org Box, 9700 G Avenue, Kirtland AFB NM 87117-5670, for coordination and approval before publication. Unless noted otherwise, Air Force Chief of Safety is the waiver authority for provisions in this instruction. 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 change of command. All requests for changes, interpretations or clarifications concerning this publication must be forwarded through MAJCOM/Direct Reporting Unit (DRU)/Field Operating Agency (FOA) safety organization,

who, in turn, as applicable, will forward to HQ AFSC. Ensure that 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 Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS) located at **https://www.my.af.mil/gcss-af61a/afrims/afrims**/. This instruction requires collecting and maintaining information protected by the Privacy Act of 1974 (5 U.S.C. 552A) and AFI 33-332, Privacy Act Program.

No T.O., 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 90-902, Operational Risk Management (ORM) Guidelines and Tools, for guidance on using the RM process. NOTE: The RM process may not be used to violate directives or other regulatory guidance. Normal waiver or variance procedures must be followed in all cases (refer to AFI 91-202).

SUMMARY OF CHANGES

This interim change corrects erroneous references, updates terminology, makes Pre-Departure Briefings and High Risk Activity Programs optional, clarifies the intent and applicability of the requirement for professional continuing education and training, specifies the role of ESOH Councils and removes the reference to Safety Councils, but emphasizes that ESOH Council Safety Sub-Groups can be convened to ensure full review and oversight of safety-related matters, offers significant enhancements to **Chapter 6,** *Deployment and Contingency Safety*, clarifies reporting responsibilities for OSHA visits to Air Force installations, provides revised language on the duty of the DoD Explosives Safety Board, adds an Annual Hazard Abatement Program Survey Report template, updates hazard severity thresholds to coincide with AFI 91-204, *Safety Investigations and Reports*, and adds a process to guide the 1S0X1 retrainee evaluation process.

Chapter 1—PROGRAM OVERVIEW **8**

1.1. Purpose. 8

1.2. Mishap Prevention Program. 8

1.3. Mishap Prevention Program Disciplines (Aviation, Ground, etc. 8

1.4. Applying Standards. 8

1.5. Program Responsibilities. 9

1.6. General Guidance Related to Recording Occupational Injuries and Illnesses. 27

Chapter 2—SAFETY ORGANIZATION **29**

2.1. Safety Staff. 29

2.2. Unit Safety Representative (USR). 32

2.3. Safety Education/Training. 33

2.4. Safety Office Vehicles and Equipment. 34
2.5. Library. 35
2.6. Councils and Committees. 36
2.7. Non-USAF Councils and Committees. 37
2.8. Major Range and Test Facility Base (MRTFB) Safety Programs. 37
2.9. Range Safety Programs. 38

Chapter 3—SAFETY EVALUATIONS, INSPECTIONS, STAFF ASSISTANCE VISITS AND OTHER INSPECTIONS 39

3.1. General. 39
Table 3.1. Safety Evaluations, Assessments and Inspections. 39
3.2. Safety Program Evaluations. 40
3.3. Safety Program Assessments. 40
3.4. Annual Safety Inspections. 40
3.5. Spot Inspections. 42
3.6. High Interest Areas. 43
3.7. Administrative Areas. 43
3.8. Special and Seasonal Inspections. 43
3.9. Staff Assistance Visits (SAV). 43
3.10. Environment, Safety and Occupational Health Compliance Assessment and Management Program (ESOHCAMP). 44
3.11. Department of Labor (DoL) Inspections. 44
3.12. Contract Performance Assessment. 44

Chapter 4—HAZARD IDENTIFICATION AND REPORTING 46

4.1. Hazard Identification. 46
4.2. Reporting Criteria. 46
4.3. Hazard Reporting Procedures. 46
4.4. Additional Reporting Procedures. 47
4.5. Employee Appeal Procedures. 47
4.6. Risk Reduction and Mitigation. 48

Chapter 5—INFORMATION AND DATA ANALYSIS 49

5.1. Information Protection. 49
5.2. Safety Information. 49
5.3. Recurring Publications. 49

5.4. Methods of Information Distribution. 49
5.5. Mishap Analysis Program. 50
5.6. Mishap Prevention Analysis Methods. 50
5.7. Use of Analyzed Data. 51
5.8. Safety Analysis Team (SAT) Process. 51
5.9. Air Force Culture Assessment Safety Tool (AFCAST). 51
5.10. Organizational Safety Assessment (OSA). 52
5.11. Standard Mishap Metrics. 52
5.12. Calculating Federal Employee Compensation Metric (Rate). 54

Chapter 6—DEPLOYMENT AND CONTINGENCY SAFETY 55

6.1. Deployment and Contingency Safety Program. 55
6.2. AFFOR/SE. 56
6.3. AFFOR Deployed Unit Safety Functions and Organizations. 56
6.4. Mishap Prevention Program. 56
6.5. Monthly, Quarterly and Annual Safety Awards. 61
6.6. AFFOR/SE Visits. 61
6.7. AFFOR Hazard Review Board (HRB). 62
6.8. Theater Safety Engagement Program. 62

Chapter 7—AVIATION SAFETY 63

7.1. Program Management. 63
7.2. Plans. 63
7.3. Programs. 63
7.4. Aero Club Operations. 68
7.5. Training Meetings and Briefings. 68
7.6. Inspections/Assessments and Monitoring. 69
7.7. Airfield Maintenance, Construction and Waivers. 70

Chapter 8—GROUND SAFETY 72

8.1. Program Management. 72
8.2. Oversight Requirements. 72
8.3. Host Ground Safety Staff Responsibilities. 72
8.4. Tenant Unit and GSU Responsibilities. 74
8.5. Ground Unit Safety Representative (USR) Responsibilities. 74

8.6. Hazard Identification and Abatement. 75
8.7. Air Force Occupational Safety and Health (AFOSH) Guidance. 75
8.8. Department of Labor (DoL) Inspection. 77
8.9. DoL Occupational Safety and Health Administration (OSHA) Visit Summary. .. 79
8.10. DoL Inspection of Contractor Operations. 79
8.11. Safety and Health Standards Enforcement. 80

Chapter 9—WEAPONS SAFETY 81

9.1. Program Management. 81
9.2. Weapons Safety Personnel Management and Manning Plan. 81
9.3. Explosives Safety Standards. 81
9.4. Weapons Safety Personnel. 82
9.5. Weapons Safety Program Requirements. 83
9.6. Missile Safety. 84
9.7. Nuclear Surety. 84
9.8. Directed Energy Weapons (DEW). 84
9.9. Munitions Rapid Response Team. 84
9.10. Department of Defense Explosives Safety Board (DDESB). 84
9.11. Weapons Safety Training. 85
9.12. Weapons Safety Committees. 86

Chapter 10—SPACE SAFETY 87

10.1. Program Management. 87
10.2. Program Overview. 87
10.3. Space Control Systems. 87
10.4. Design, Development, Integration and Testing. 87
10.5. Launch, Range and Reentry Safety. 87
10.6. Orbital Safety. 87
10.7. Space Safety Council (SSC). 87
10.8. Space Safety Training. 88
10.9. Space Nuclear Safety. 88
10.10. Space Asset Interaction with Directed Energy Systems. 88

Chapter 11—SYSTEM SAFETY 89

11.1. Overview. 89

11.2. Responsibilities. 90
11.3. System Safety Groups (SSG). 97
11.4. Networks, Automated Information Systems, and Non-Developmental Items. 99
11.5. System Safety Engineering Analysis (SSEA). 99

Chapter 12—HAZARD ABATEMENT 101

12.1. Purpose. 101
12.2. Responsibilities. 101
12.3. Planning and Engineering. 101
12.4. Procedural Actions. 101
12.5. Hazard Elimination Hierarchy. 101
12.6. Hazard Abatement Requirements. 102
Figure 12.1. ANNUAL HAZARD ABATEMENT PROGRAM SURVEY REPORT (RCS: HAF-SEC(A) 9363) MAJCOM--FOA--DRU SECTION A—HAZARDS ABATED DURING FY__. 102
12.7. Imminent Danger Situations. 104
12.8. Posting Hazards. 104
12.9. Installation Hazard Abatement Plans. 104
12.10. Funding for Hazard Abatement. 105
12.11. End of Year Annual Hazard Abatement Survey Report. 105
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. 105

Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION 107

Attachment 2—USAF AVIATION SAFETY EQUIPMENT DATABASE REPORTING 118

Attachment 3—HAZARDOUS AIR TRAFFIC REPORT PROGRAM 120

Attachment 4—MISHAP RESPONSE 124

Attachment 5—JOB SAFETY TRAINING OUTLINE (JSTO) 126

Attachment 6—JOB SAFETY ANALYSIS (JSA) 129

Attachment 7—RISK ASSESMENT CODES (RAC) 131

Attachment 8—ABATEMENT PRIORITY NUMBER 133

Attachment 9—INSTRUCTIONS FOR COMPLETING AF FORM 1118, NOTICE OF HAZARD 135

Attachment 10—INSTRUCTIONS FOR COMPLETING AF FORM 3, HAZARD ABATEMENT PLAN 136

Attachment 11—PRE-DEPARTURE SAFETY BRIEFING GUIDE (EXAMPLES ONLY) 139

Attachment 12—AIR FORCE OFF-DUTY HIGH-RISK ACTIVITIES PROGRAM 140

Attachment 13—CONTINUING EDUCATION AND TRAINING COURSES 141

Attachment 14—SAFETY EDUCATION AND TRAINING 142

Attachment 15—PREPARATION OF RISK ASSESSMENTS 144

Attachment 16—1S0X1 RETRAINEE EVALUATION PROCESS 147

Chapter 1

PROGRAM OVERVIEW

1.1. Purpose. Minimize loss of Air Force resources and protect Air Force people from death, injuries or illnesses by managing risks on- and off-duty. This program applies to all operations except where otherwise prescribed or specified in Status-of-Forces Agreements.

1.2. Mishap Prevention Program. Commanders at all levels are responsible for developing and implementing a mishap prevention program. Safety staffs at all levels assist commanders with the implementation and integration of risk management into all on-duty operations and missions, and off-duty activities.

1.3. Mishap Prevention Program Disciplines (Aviation, Ground, etc.). Each mishap prevention program discipline will have a more detailed description of functional management responsibilities and risk management processes in specific AFIs, standards and manuals. Air Force Host and Tenant safety offices will implement this program in accordance with (IAW) the requirements of this instruction. Any inter-organization and inter-service agreements will be addressed in support agreements. Regardless of any support agreement or executive agency guidelines, requirements for this instruction must be satisfied. Mishap prevention programs will address:

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

1.3.2. Process for tracking and trending incidents, as well as methods for determining program effectiveness.

1.3.3. Funding for safety programs.

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

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

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

1.4. Applying Standards. All Air Force units must comply with applicable safety guidance during all Air Force operations. MAJCOMs, DRUs and FOAs may supplement Air Force Occupational Safety and Health (AFOSH) guidance when additional or more stringent safety, fire prevention and health criteria are required. When there is conflicting guidance, use the guidance that provides the most protection.

1.4.1. The Air Force publishes industrial and general ground safety guidance as Air Force instructions, which implement Occupational Safety and Health Administration (OSHA) standards. 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. 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. **NOTE**: AFOSH guidance must be followed at all times. They implement parts of OSHA 29 Code of Federal Regulations

(CFR), and include additional requirements not addressed by the OSHA standards. In addition, safety, fire prevention and occupational health requirements in equipment technical orders (TO) must be followed at all times.

1.4.2. Commanders, functional managers, supervisors and individuals must support and comply with mishap prevention programs. An effective program depends on individual integration of mishap prevention program responsibilities. Safety committees should be considered at all levels of program integration. Risk management at all functional levels both on- and off-duty must meet minimum safety requirements and should be working towards exceeding them with an ultimate goal of achieving zero mishaps.

1.4.3. Commanders, functional managers and supervisors at all levels will establish specific procedures and measurements to ensure compliance with program standards.

1.5. Program Responsibilities.

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

1.5.1.1. 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 Occupational Health (SAF/IEE).

1.5.1.2. 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 Environment, Safety and Occupational Health (ESOH) programs.

1.5.1.3. SAF/IE is the program lead for the Voluntary Protection Program (VPP). SAF/IE will advocate for corporate resource commitment for VPP implementation/execution. However, MAJCOMs are responsible for resourcing their programs.

1.5.2. Deputy Assistant Secretary for Environment, Safety and Occupational Health (SAF/IEE):

1.5.2.1. As delegated by the SAF/IE, 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 Environment, Safety and Occupational Health (ESOH) programs. Oversees implementation of those programs.

1.5.2.2. Conducts periodic 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.

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

1.5.3.1. Develops policy and gives guidance to ensure that technical and engineering criteria for developing and acquiring Air Force systems and equipment conforms with OSHA, AFOSH, explosives safety standards and other applicable safety criteria to ensure safe systems and equipment are developed by the Air Force. Provides direction and guidance to ensure test facilities and ranges, laboratories and related industrial facilities

conform with OSHA, AFOSH, explosives safety standards and other applicable safety criteria.

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

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

1.5.3.4. Develops Air Force policy and guidance for the implementation of safety and health requirements during acquisition and sustainment life cycle management. Ensures contracts include FAR/DFARS/AFFARS safety clauses.

1.5.4. The Assistant Secretary of the Financial Management and Comptroller (SAF/FM):

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

1.5.4.2. Encourages use of the RAC system on Resource Allocation Programming Decision Systems used during the corporate budgeting process.

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

1.5.5.1. Establishes policy and standards for occupational and environmental health.

1.5.5.2. Ensures Air Force occupational and environmental health programs meet or exceed OSHA and other applicable requirements.

1.5.5.3. Develops policies which support the Air Force mishap prevention program. Develops and publishes AFOSH standards.

1.5.5.4. Develops and encourages 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.

1.5.5.5. Provides subject matter experts (SMEs) in human factors. These personnel include aerospace medicine specialists, flight surgeons, aviation psychologists, and aerospace and operational physiologists.

1.5.6. The Deputy Chief of Staff Logistics, Installations and Mission Support (AF/A4/7):

1.5.6.1. Ensures maintenance and logistics policy addresses and complies with all applicable safety and health standards.

1.5.6.2. Ensures Air Force procedures for transporting, storing, handling and using hazardous materials and waste comply with environmental statutes and occupational regulations to reduce mishaps.

1.5.6.3. 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.

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

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

1.5.7.1. Develops policy on personnel matters relating to safety.

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

1.5.7.3. Provides guidance for dealing with employees and employee representatives on AFOSH matters.

1.5.7.4. Is the OPR for Federal Employees and Compensation Act (FECA) at the Air Staff level.

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

1.5.8.1. Is the office of primary responsibility (OPR) for Air Force safety programs.

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

1.5.8.3. Directs implementation of the Air Force Mishap Prevention Program.

1.5.8.4. Emphasizes safety management strategies to drive safety management system requirements at CONUS locations and to the maximum extent possible at OCONUS locations.

1.5.8.5. Provides direct liaison with MAJCOM Chiefs of Safety on safety management system implementation by providing training, Subject Matter Experts and incorporating safety management system principles into existing training courses.

1.5.9. The Air Force Safety Center (HQ AFSC), under the direction of the AF/SE:

1.5.9.1. Develops, implements and oversees Air Force Mishap Prevention Programs.

1.5.9.2. Develops safety programs and policies, and establishes guidelines.

1.5.9.3. Acts as liaison for safety matters with Department of Defense (DoD) components, Federal Agencies and private sector groups.

1.5.9.4. Prepares and publishes AFOSH standards covering Air Force-unique operations and provides implementation guidance for applicable standards. Develops special guidance for Air Force operations where OSHA and AFOSH guidance is not available or is inadequate. Serves as the approving authority and repository for all safety-related variances within the Air Force.

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

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

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

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

1.5.9.9. Performs safety program evaluations and/or Staff Assistance Visits (SAVs) of MAJCOMs at least every 36 months.

1.5.9.10. Conducts program evaluations of DRUs and FOAs at least every 36 months.

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

1.5.9.12. Conducts Safety Analysis Team (SAT) hazard and mishap trend analysis for organizations or wings, as directed by AF/SE.

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

1.5.9.14. 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.

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

1.5.9.16. Provides discipline-specific subject matter experts (SME) in occupational safety.

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

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

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

1.5.9.20. Serves as safety consultants for safety related investigations.

1.5.9.21. Maintains and upgrades AFSAS network database.

1.5.10. MAJCOM/NAF Commanders:

1.5.10.1. Direct the development of, and provide resources for programs that implement the mishap prevention program.

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

1.5.10.3. Ensure subordinate commanders enforce compliance with safety requirements.

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

1.5.10.5. Develop procedures to identify command mishap trends and direct actions and resources targeted at reversing identified adverse mishap trends.

1.5.10.6. Ensure safety program requirements and mishap prevention are part of the measurement of subordinate commanders, and senior civilian supervisory personnel's performance using guidance provided by AF/A1.

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

1.5.10.8. Coordinate safety directives, instructions and supplements with HQ AFSC. MAJCOM programming plans, safety annexes CONOPs, etc., should be shared with HQ AFSC and MAJCOM safety staffs as benchmark items. When such documents impact other commands, coordination with HQ AFSC is required.

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

1.5.10.10. 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.

1.5.10.11. 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.

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

1.5.10.13. Support and ensure installations execute cooperative efforts to reduce injuries and illness across the Air Force by implementing safety and occupational health management systems at CONUS locations and to the maximum extent possible OCONUS locations.

1.5.11. MAJCOM and/or NAF Safety Staffs:

1.5.11.1. Evaluate management, implementation and effectiveness of the Air Force Mishap Prevention Program within the command and report results directly to MAJCOM/NAF Commander. Ensure the evaluation criteria include a qualitative rating system (e.g. 2-tier, 5-tier, etc.) with written criteria, to measure compliance and effectiveness of the safety program.

1.5.11.2. Track program evaluation deficiencies and monitor corrective actions until closure. For safety offices rated marginal or unsatisfactory, ensure appropriate follow-up actions, to include SAVs if necessary, are taken to correct deficiencies.

1.5.11.3. Review and analyze applicable mishap reports from other organizations for "lessons learned." Distribute mishap prevention data and other safety related communications to subordinate units.

1.5.11.4. Establish a proactive mishap prevention program to assist and advise commanders and supervisors at all levels with their responsibility to ensure plans, procedures, facilities, equipment modifications/acquisitions, hardware, software and operations receive a safety review and incorporate effective risk management, hazard elimination and mishap reduction features.

1.5.11.5. 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, etc.

1.5.11.6. 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 AFSC/SEW IAW AFMAN 91-201, *Explosives Safety Standards*.

1.5.11.7. Track and 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. MAJCOM can delegate tracking of training. Advocate safety training and required funding to assist command 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, etc., as well as organizational funding. Evaluate local training of personnel during program evaluations. Manage and track required training of all safety personnel to include Air Education and Training Command (AETC), HQ AFSC, Air Force Institute of Technology, OSHA and other safety related courses. Each level of the Air Force shares a responsibility for training of safety and health personnel. 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.

1.5.11.8. Develop supplements for Air Force Instructions and AFOSH guidance when command unique operations exist. Submit supplements to HQ AFSC for approval prior to publication.

1.5.11.9. 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.*

1.5.11.10. Review mishap investigation reports for thoroughness and accuracy. Ensure the findings, causes and recommendations of reports comply with the direction in AFI 91-204.

1.5.11.11. Ensure a process is in place to identify and track training of potential safety investigation board members.

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

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

1.5.11.14. MAJCOM supplements should delineate methods for accomplishing safety program management responsibilities to include, at a minimum, guidance on:

1.5.11.14.1. The frequency and requirements of SAVs for subordinate units.

1.5.11.14.2. 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.

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

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

1.5.11.14.5. Coordinating and processing annual and recurring safety awards.

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

1.5.11.14.7. Ensuring deployable safety personnel are properly trained prior to deployment.

1.5.11.14.8. Responsibilities and/or expectations of the NAFs in regards to the management and implementation of the Air Force Mishap Prevention Program. **NOTE**: This does not absolve the MAJCOM of the responsibility for program.

1.5.12. Air Force Materiel Command (AFMC):

1.5.12.1. Acts as the safety staff for the Program Executive Officer (PEO) or equivalent. This is not applicable to space and missile systems, activities and operations under control of Space and Missile System Center (SMC).

1.5.12.2. Develops policy and provides guidance on applying System Safety management and engineering to AFMC-managed systems.

1.5.12.3. 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.

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

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

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

1.5.12.7. Periodically reviews design handbooks, technical orders (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 same, through the use of System Safety Groups, Human Factors review, etc., based on inputs from System Safety and Human Systems Integration (HSI) activities supporting programs.

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

1.5.12.9. Develops and encourages 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.

1.5.13. Air Education and Training Command (AETC):

1.5.13.1. Ensures mishap prevention programs and risk management concepts are embedded in basic and technical training. Incorporates AFOSH program orientation into training programs for accessions.

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

1.5.13.3. Ensures mishap prevention programs and risk management concepts are embedded in technical training and Professional Military Education (PME). Incorporates AFOSH program orientation into training programs for officer and enlisted accessions and new civilian employees.

1.5.14. Installation Commanders:

1.5.14.1. Provide safe and healthful workplaces for all installation employees.

1.5.14.2. Ensure leadership at all levels is held accountable for enforcing safety and occupational health standards.

1.5.14.3. Promote safety and occupational health awareness (e.g. culture) and enforce personal accountability.

1.5.14.4. Encourage and support employee led safety and health program activities.

1.5.14.5. Provide incentives to employees for participation in employee led safety and health program activities. See AFI 65-601 V1, *Budget Guidance and Procedures*, for guidance regarding promotional or incentive gifts and awards (Section 4.29.3.), including exceptions.

1.5.14.6. Develop and implement safety and health programs and risk management processes that integrate hazard reduction and safety policy into all on- and off-duty operations and activities.

1.5.14.7. Chair the Installation Safety Council and/or Environmental, Safety and Occupational Health Council (ESOHC).

1.5.14.8. Review interim control measures and establish funding priorities for hazard abatement projects.

1.5.14.9. 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.

1.5.14.10. Minimize assigning full-time safety personnel additional duties not directly associated with duties described in 91-series directives and their supplements.

1.5.14.11. Establish a management strategy to ensure functional managers and supervisors (rather than the safety staff) take actions to mitigate hazards and reduce risk.

1.5.14.11.1. Integrate safety and occupational health into all operations and missions of the installation's organizations.

1.5.14.11.2. Emphasize risk management and personal accountability.

1.5.14.11.3. Promote safety and occupational health awareness (e.g. culture, environment and atmosphere) throughout the installation.

1.5.14.12. Establish procedures to meet OSHA representative(s) and escort them during their visits.

1.5.14.13. Publish guidance informing command personnel of expectations for safety and occupational health.

1.5.14.14. Ensure operations of major ranges are established under DoDD 3200.11, *Major Range and Test Facility Base (MRTFB),* and AFI 99-103, *Capabilities-Based Test and Evaluation,* and managed IAW governing directives.

1.5.14.15. Ensure commanders and functional managers work with the base contracting office and the installation safety staffs to ensure all contracts require contractors and subcontractors (e.g., contract aircraft maintenance and grounds maintenance) to provide a mishap prevention plan (as applicable) and to promptly report pertinent facts regarding mishaps that occur on Air Force installations IAW AFI 91-204 and to cooperate in any Air Force safety investigation.

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

1.5.15. Installation Safety Office (host):

1.5.15.1. Advises commanders, functional managers, supervisors and workers on safety matters.

1.5.15.2. Provides safety office member as an active participant of the Federal Employees Compensation Act (FECA) working group. Lend support to specific issues and assist with problem solving at other base meetings (e.g., Aerospace Medicine Council, Occupational and Environmental Health Working Group, Sports Councils).

1.5.15.3. Manages proactive on- and off-duty safety programs.

1.5.15.4. Conducts safety program assessments and inspections of subordinate, tenant and geographically separated units (GSU) safety programs IAW Support Agreements. Tracks open findings and discrepancies until closure. **NOTE:** Host will normally not perform program evaluations of tenant organizations—particularly those with full time safety staffs unless otherwise specified in host tenant support agreement.

1.5.15.5. For open safety mishap recommendations that identify installation OPRs or OCRs, ensures the appropriate POC is notified, actively manage the recommendation through closure and provide status updates as outlined in AFI 91-204.

1.5.15.6. Manages installation master hazard abatement program master file. Assigns risk assessment codes (RACs) to hazards and coordinates with health and fire protection officials when required.

1.5.15.7. Processes hazard reports and manages the hazard reporting process. Assigns RACs to hazards and coordinate with health and fire protection officials when required.

1.5.15.8. Conducts safety education programs and provides assistance to supervisors in developing Job Safety Training (JST) Guide outline and Job Safety Analysis (JSA). Completes Part 4 of AF Form 1754, *Job Capability and Safety Analysis*, when submitted by MTF.

1.5.15.9. Reviews airfield waiver packages.

1.5.15.10. Oversees Bird/Wildlife Aircraft Strike Hazard (BASH) programs, where applicable.

1.5.15.11. 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).

1.5.15.12. Ensures all personnel with access to privileged safety information are trained annually on the proper handling procedures and maintain training documentation.

1.5.15.13. Maintains a list of potential Safety Investigation Board (SIB) members who have completed the formal training requirements according to AFIs 91-204 and 91-223 and discipline specific manuals and provide a copy to MAJCOM/SE. 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 Team (AOPT) 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. **NOTE:** Individuals with only MINA training will not investigate aviation mishaps where there is intent for flight. The involved Chief of Safety will determine the investigating officer.

1.5.15.14. 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.

1.5.15.15. Develops a Mishap Response Plan, addressing all disciplines, if required actions are integrated into the overall installation Emergency Management Plan (EMP). Ensures the plan defines roles, responsibilities and notification requirements for

leadership and all involved agencies. Reviews 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 EMP should include elements of and reference existing plans concerning the following (Attachment 4):

1.5.15.15.1. Disaster response required by AFI 10-2501.

1.5.15.15.2. HAZMAT response required by AFI 10-2501.

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

1.5.15.15.4. Response to severe weather watches and warnings.

1.5.15.15.5. Crash recovery plans.

1.5.15.15.6. Notifying and convening investigation boards.

1.5.15.15.7. Procedures for missing aircraft.

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

1.5.15.16. Provides mishap prevention and education material to subordinate and tenant units.

1.5.15.17. Accomplishes explosives siting requirements according to AFMAN 91-201, *Explosives Safety Standards.* Conducts review of base comprehensive map in conjunction with civil engineering.

1.5.15.18. Assists responsible commanders and supervisors to ensure plans, procedures, facility and equipment modifications/acquisitions, hardware, software and operations receive a safety review based on risk management and hazard elimination.

1.5.15.19. Be the base POC for all Department of Labor's (DoL) OSHA visits.

1.5.15.20. In collaboration with Bioenvironmental Engineering, assists the contracting officer as needed to ensure that the contractor safety and health plan includes all required elements identified in the Performance Based Work Statement (PWS). It is the contractor's sole responsibility for compliance with OSHA's Public Law 91-596.

1.5.15.21. Administers the Safety Awards Program.

1.5.16. Installation Contracting Office:

1.5.16.1. Ensures provisions of AFFARS Clause 5352.223-9001, *Health and Safety on Government Installations,* are included in all new contracts which requires performance on a government installation, other than installations under the contractor's sole control.

1.5.16.2. 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).

1.5.17. Medical Wing/Group Commanders:

1.5.17.1. Ensure comprehensive and coordinated occupational and environmental health surveillance and education programs are established and implemented.

1.5.17.2. 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.

1.5.17.3. Ensure timely notification to installation safety office for any injury producing events that occurred to military members (both on- 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: Name of the injured individual, their social security number, their organization, date of injury, date of treatment, ICD-9 diagnosis of injury, a brief description of the nature of the injury, 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. This information will be released to safety personnel for military treated in the MTF for on or off-duty injuries, and for civilians treated in the MTF for on-duty injuries. When the MTF discovers that injured individuals (military on- 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 for a period of six years. The MTF Covered Entities should develop local policy in coordination with their assigned Medical Law Consultant (MLC).

1.5.17.4. Ensure occupational illnesses are thoroughly investigated and reported using the Occupational Illness Module and AFSAS.

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

1.5.17.5.1. Provides oversight for the occupational health program and ensure 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*.

1.5.17.5.2. Provides consultative services on occupational and environmental health and safety issues.

1.5.17.5.3. 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.

1.5.17.5.4. 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 FSO.

1.5.17.5.5. Attends the Federal Employees' Compensation Act (FECA) Working Group. Medical participation in FECA program will be IAW DoD 1400.25-M, *DoD Civilian Personnel Manual,* Subchapter 810, *Injury Compensation.* Participates in military and civilian lost work/duty time initiatives.

1.5.17.5.6. Accomplishes additional occupational health and safety responsibilities as delineated in AFI 48-101.

1.5.17.6. Flight Surgeons/Aerospace and Operational Physiologists (AOP)/Aerospace and Operational Physiology Training Teams (AOPT).

1.5.17.6.1. Provide weapon system specific human performance sustainment training in operational flying wings.

1.5.17.6.2. Provide human performance and human factors analysis on identified hazards and evaluate controls to reduce or mitigate risks.

1.5.17.6.3. Support the wing's aircrew flight equipment and flying safety programs.

1.5.17.6.4. 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.

1.5.17.6.5. Support wing risk management, crew resource management, and maintenance resource management programs to optimize war fighter performance and safety in the operational environment.

1.5.17.6.6. Act as Human Systems Integration consultants for aircraft, space weapons and Warfare Centers at the wing level.

1.5.17.6.7. Provide ISB/SIB members for military mishaps IAW AFI 91-223.

1.5.17.7. Bioenvironmental Engineering:

1.5.17.7.1. Manages the occupational and environmental health surveillance programs according to AFI 48-101, AFI 48-145, AFMAN 48-153 *Health Risk Assessment,* AFMAN 48-154 *Occupational and Environmental Health Site Assessment,* and AFMAN 48-155 *Occupational and Environmental Health Exposure Controls*.

1.5.17.7.2. Conducts occupational and environmental health evaluations and health risk assessments of workplaces. Maintain survey reports, as required, IAW DoDI 6055.5. Bioenvironmental Engineering will provide access to all documents at request by the worker, supervisor or union representative.

1.5.17.7.3. Performs health risk assessments and notifies safety office of assigned RACs.

1.5.17.7.4. Maintains access to pertinent health related OSHA standards/guidelines, AFOSH standards and guidance, and other OSHA guidelines pertaining to occupational health.

1.5.17.7.5. Evaluates and processes variances to AFOSH standards. Evaluates, processes and coordinates variances to occupational and environmental health standards and provides copies to the host installation ground safety manager (GSM).

1.5.17.7.6. Attends all DoL OSHA inspector in-briefs and out-briefs, and accompanies inspectors during all health-related inspections.

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

1.5.17.7.8. Maintains the ability to provide material safety data sheets (MSDS) upon request for all hazardous materials used in the industrial workplaces on the installation.

1.5.17.7.9. Has access to Hazardous Material Information Resources System (HMIRS). Also, maintains the ability to provide copies of other MSDSs upon request for items not listed in the HMIRS or those locally purchased through base supply, medical supply, civil engineer or other channels. Minimizes biological, chemical and nuclear health hazard risks in hazardous materials management through recognitions based on RM IAW AFI 90-821, *Hazard Communication.* Provides radiological protection program consultation.

1.5.17.7.10. As needed, provides a representative to the Federal Employees Compensation Act (FECA) working group to offer Bioenvironmental Engineering-related expertise.

1.5.17.8. Public Health (PH):

1.5.17.8.1. Communicates occupational health education requirements and available resources to supervisors. Responsible as the initial point of contact for occupational medical monitoring. PH will report cases of occupational illness to the installation ground safety office through Air Force Safety Automated System (AFSAS). PH will also investigate and report occupational illness IAW AFI 91-204.

1.5.17.8.2. 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 per AFIs 48-145 and 48-101.

1.5.17.9. 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.

1.5.18. Installation Civil Engineers:

1.5.18.1. 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.

1.5.18.2. 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.

1.5.18.3. Coordinate new construction, facility modification projects or work request documents with installation safety, fire protection, environmental management and Bioenvironmental Engineering officials. Also, ensure they are included in associated project approval, design review meetings and acceptance inspections.

1.5.18.4. Notify safety, environmental management, Bioenvironmental Engineering and fire protection of major base maintenance projects (e.g., digging permits, road markings, welding projects outside the civil engineering shops).

1.5.18.5. Ensure RACs are incorporated into project prioritization for corrective actions.

1.5.18.6. Coordinate airfield waiver packages with airfield manager, installation safety office and installation commander.

1.5.18.7. Perform fire investigations IAW AFI 91-204. For Class C incidents, the installation Fire Chief determines the most probable cause. For Class A and B incidents, 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.

1.5.18.8. Provide traffic engineering expertise.

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

1.5.18.10. Provide a foundation informational map (common installation picture [CIP]) for users to apply and publish their unique map(s). Coordination must be documented and maintained by Weapons Safety.

1.5.19. Security Forces (SFS):

1.5.19.1. 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 SFS. Provides completed investigation reports when requested by COS or GSM. Blotter entries may be retrieved electronically or through Security Forces Reports and Analysis after they have been processed.

1.5.19.2. Notify command post on all safety related issues as determined in a locally devised installation notification matrix. **NOTE:** Notifications must adhere to 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.

1.5.19.3. Upon request from COS or ground safety, liaison with local or state law enforcement to obtain off-base traffic accident reports and/or data.

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

1.5.19.3.2. 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.

1.5.20. Commanders below installation level:

1.5.20.1. 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 **8.5** Notify the host safety office, in writing, of the appointment of USRs in order to schedule USRs for training.

1.5.20.2. 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.

1.5.20.3. Actively implement and uses risk management principles at all levels within the unit.

1.5.20.4. 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.

1.5.20.5. Ensure all appropriate hazard abatement actions needed to control identified hazards are implemented and follow-up actions are complete. Keep safety staff updated on all abatement actions with monthly updates until hazard is abated.

1.5.20.6. 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.

1.5.20.7. Periodically attend, as deemed appropriate, squadron athletic events involving assigned personnel to monitor potentially hazardous conditions and unsafe behavior.

1.5.20.8. Ensure all personnel are trained on the objectives and principles of risk management IAW AFI 90-901, *Operational Risk Management*. Use risk management to identify, reduce or eliminate risk in activities on- and off-duty.

1.5.20.9. Establish a management strategy to ensure functional managers and supervisors take actions to mitigate hazards and reduce risk.

1.5.20.9.1. Integrate safety and health into all operations and missions of their organization.

1.5.20.9.2. Emphasize risk management and personal accountability.

1.5.20.9.3. Promote safety and health awareness (e.g. culture, environment, and atmosphere) throughout the organization.

1.5.20.10. Ensure all personnel are briefed on the findings and recommendations contained in Bioenvironmental Engineering industrial hygiene surveys and reports. A copy of the survey report will be posted on the work place bulletin board 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.

1.5.20.11. Provide the opportunity for employees to participate in safety and health program activities and/or committees.

1.5.20.12. Communicate safety and health expectations to personnel in their command.

1.5.20.13. Ensure safety and health program requirements are part of measurement of non-supervisory personnel's performance appraisals using guidance provided by AF/A1.

1.5.21. Supervisors.

1.5.21.1. Understand and enforce the safety and health standards that apply to their areas, operations and operations involving their subordinates.

1.5.21.2. Use risk management techniques to analyze work environment and job tasks for hazards. The Job Safety Analysis (JSA) will be used as part of this process.

1.5.21.3. Review work processes annually, when new tasks or equipment are added, or when existing tasks change. Provide and document work area specific safety, fire protection and health on-the-job training to all Air Force military and civilian employees.

1.5.21.4. Develop a work center specific Job Safety Training Guide (JST) guide based on **Attachment 5**, Job Safety Training Outline (JSTO) on safety, fire protection/prevention and health requirements. The supervisor will document and maintain completed training in work area on the AF Form 55, *Employee Safety and Health Record,* or equivalent product.

1.5.21.5. 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.

1.5.21.6. Exercise control over job tasks to ensure personnel follow all precautions and safety measures, including the proper use of PPE.

1.5.21.7. Report all mishaps that occur in work areas, off-duty mishaps involving assigned personnel, and related subsequent employee absences to the supporting safety

office IAW AFI 91-204. Inform the Civilian Personnel Office if a mishap involves a civilian employee.

1.5.21.8. Ensure AF Form 1118, *Notice of Hazard*, issued by safety, fire protection and Bioenvironmental Engineering officials are posted to alert employees to the hazardous conditions, interim control measures, and take appropriate actions to promptly eliminate hazards and correct deficiencies. Ensure any hazards identified by an AF Form 1118 are added to the JST Guide and employees are trained on the interim control measures and documented IAW **Attachment 5**, Section **A5.4**

1.5.21.9. Supervisors 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. Common high risk activities are defined in **Attachment 1**. **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 12** 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.

1.5.21.10. 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.

1.5.21.11. At deployed locations provide and document Job Safety Training on AF Form 55 or equivalent product.

1.5.21.12. Supervisors 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. 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 11** for recommended guidance.

1.5.21.13. Periodically attend, as deemed appropriate, squadron athletic events involving assigned personnel to monitor potentially hazardous conditions and unsafe behavior.

1.5.21.14. Attend Air Force Supervisor Safety Training (SST) IAW paragraph **2.3.2** Supervisors will document SST on AF Form 55 or equivalent product to include electronic databases.

1.5.21.15. Conduct and document monthly spot inspections of their work areas IAW paragraph **3.5** of this instruction.

1.5.21.16. Upon notification that a worker (both military and civilian) is pregnant, ensure that worker reports to Public Health immediately in order to ensure they receive appropriate education and a workplace evaluation.

1.5.21.17. Encourage and support employee participation in safety and health program activities and/or committees.

1.5.21.18. Ensure personnel requiring occupational health medical examinations attend scheduled medical appointments.

1.5.21.19. Ensure safety program requirements are part of measurement of non-supervisory personnel's performance appraisals using guidance provided by AF/A1.

1.5.22. Individuals:

1.5.22.1. Comply with all safety instructions, technical orders, job guides and operating procedures.

1.5.22.2. Consider personal safety and the safety of coworkers while doing assigned tasks as well as off-duty activities. Identify and report hazardous conditions that place Air Force personnel or property at risk. Use the AF Form 457, *USAF Hazard Report*, when necessary.

1.5.22.3. Report personal injury, property damage and any suspected exposure to biological, chemical or nuclear hazardous materials to your supervisor as soon as practical, but not to exceed 24 hours.

1.5.22.4. Immediately report to their supervisor if they believe that they have a physical or mental condition that they feel may impact safe job performance.

1.5.22.5. Use and maintain recommended and appropriate PPE for job tasks. Inspect and maintain PPE IAW TO, manufacturer's instructions or Bioenvironmental Engineering guidance.

1.5.22.6. Apply risk management principles in both on- and off-duty activities to enhance the safety and well being of themselves and other personnel.

1.5.22.7. 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.

1.5.22.8. Immediately notify supervisors 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. Any worker with questions regarding how their worksite exposures can affect immediate family members (e.g. spouse, children) should contact Public Health.

1.5.22.9. Report on time to complete scheduled occupational health medical examination medical appointments.

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

1.5.22.11. Use official on-duty time to take part in safety activities.

1.5.22.12. Hand carry the AF Form 55 or equivalent product to the new supervisor when deploying or transferring to another Air Force position/location.

1.6. General Guidance Related to Recording Occupational Injuries and Illnesses.

1.6.1. Executive Order 12196, *Occupational Safety and Health Program for Federal Employees*, requires federal agencies to report occupational mishaps to the Secretary of Labor. 29 CFR 1960, *Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters*, and 29 CFR 1904, *Recording and Reporting*

Occupational Injuries and Illness, set requirements and provide standard forms for documenting occupational illnesses and injuries.

1.6.2. The host ground safety staff is the official Air Force office of record for maintaining occupational illness and injury data and maintains consolidated records of injuries and illness meeting mishap Class A, B, C and D criteria. AFSAS will be used to record mishaps involving injury and illnesses to on- and off-duty Air Force military and on-duty civilian personnel to generate separate OSHA Form 300s, *Log of Work-Related Injuries and Illnesses*.

1.6.3. Safety will record Class A - D occupational injuries and Public Health will record occupational illnesses within seven calendar days of notification using AFSAS. Illnesses require an investigation and final determination by a provider before they are confirmed occupational illnesses. Once confirmed (in AFSAS), the case should be closed and recorded within seven (7) days. The MTF clinical elements will provide injury data to safety on a routine basis as information is discovered. (See paragraph **1.5.17.3-4.**)

1.6.4. Installation Ground Safety will maintain consolidated occupational illness and injury logs to satisfy the OSHA requirement for single-point access to occupational illness and injury cases. Tenant units will provide the host safety office a summary of civilian and military occupational injuries/illnesses data by the third workday each month (if not otherwise accessible, e.g., AFSAS).

Chapter 2

SAFETY ORGANIZATION

2.1. Safety Staff. All safety disciplines will be consolidated under a single Chief of Safety (COS). 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) 106A 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 106A.

2.1.1. Chief of Safety. The COS reports directly to the commander (or Director in a civilian-led unit) and manages the mishap prevention program for the commander (e.g. installation, center, NAF/MAJCOM 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 Chiefs of Safety should 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.

2.1.1.1. Active duty military COS will be either on a current or previous Squadron Commander list or an individual the Wing Commander intends to support for the Squadron Commander list, or a former Squadron Commander. MAJCOM/CV or above has waiver authority for this requirement.

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 (ARCCOS) (WCIP05K) 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 AFSC/SEF.

2.1.1.3. Assigned individuals must be available to serve as COS for a minimum of one year after completion of training.

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, 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, Clas*sifying Military Personnel (Officer and Enlisted)*, and described in the Air Force Enlisted Classification Directory (AFECD). The civilian safety career program is described in AFI 36-601, *Air Force Civilian Career Program Management.*

2.1.2.1. Professional Continuing Education and Training. Fulltime safety professionals in ground safety positions, in addition to having met the OPM 017/018/019/803 or AFI 36-2101 qualification standards, must complete at least three safety-related continuing education units (CEU) per year, with one CEU equaling ten contact hours of course participation. Other fulltime safety professionals in weapons, space and flight disciplines should use this requirement to remain up to date in their specialty as well.

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, may be used to satisfy this requirement, if approved by the Ground Safety Manager. 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.

2.1.2.2. **Attachment 13** contains a partial list of recommended safety courses that safety professionals should consider when meeting CEU requirements. Safety managers will plan, program and budget for safety resources (e.g., to include sufficient safety training to meet CEU requirements).

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.

2.1.3. Ground Safety Manager (GSM). The GSM manages the ground safety program for the Chief of Safety and the commander (e.g., installation, center, NAF/MAJCOM 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 (AFSC Course WCIP05D) prior to assuming duties as a GSM. Individuals who cannot attend prior to assuming duties will complete the course within one year.

2.1.4. Flight Safety Officer (FSO). Full-time FSOs (military and civilian Flight Safety Managers (FSMs) [GS-0018]) are assigned to positions authorized by the Manpower Standard (AFMS). FSOs at squadron and installation level must be current in a unit mission aircraft (N/A for FSMs). FSOs in higher headquarters positions will be rated officers or prior rated officers with experience in headquarters managed mission aircraft (N/A for FSMs). Once trained, individuals should fill the position for a minimum of 18 months unless waived by the MAJCOM/SE. FSMs will not be assigned to fill FSO billets on bases where there are primary active flying missions and only one FSO billet.

2.1.4.1. Full-time FSOs (wing level and above) must complete Aircraft Mishap Investigation Course (AMIC, WCIP05A) and Aviation Safety Program Management course (ASPM, WCIP09B). FSMs may complete AMIC but not required to complete

ASPM. 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 (ARCCOS, WCIP05K).

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.

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

2.1.4.4. Where applicable, flight USRs will be trained IAW paragraph **2.2**

2.1.5. Flight Safety Non-Commission 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 2A373, 2A571 or 2A572 (Crew Chief) career fields or Flight Engineer. Selecting from the propulsion AFSC 2A671 is acceptable with a minimum of two years flight line experience in the unit assigned aircraft. Refer to AFRC and ANG supplements to this AFI for ARC FSNCO and FSM manning descriptions.

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 flight line maintenance or Flight Engineer experience, they are current in a unit mission aircraft, and receive MAJCOM/SE approval.

2.1.5.2. Individuals will complete the FSNCO course (L3AZR1S071-0S5A) and attend either the Jet Engine Mishap Investigation Course (JEMIC) (J3AZR2A671A0M1A) or AMIC (WCIP05A) within 120 days of appointment.

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. Designated individuals must meet criteria of IAW AFI 36-2101.

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 2WXX, 2MXX, or OPM 018/017 or 803 standards and should have experience in the maintenance or operation of nuclear weapons, missiles or non-nuclear munitions. Persons selected as WSMs will be at least a 7-level in their Air Force Specialty Code.

2.1.6.2. Full-time WSMs must schedule the Weapons Safety Course (L3AZR2W071-0N1A) within 90 days of appointment and course must be completed within six months of appointment. Senior safety personnel should attend Senior Safety Professional Course (WCIP05D) after assignment as a WSM.

2.1.7. System Safety Officers, Managers and Engineers. According to their particular job requirements, individuals in System Safety positions will complete an approved System

Safety Course within 90 days of assignment (or first available course thereafter). Safety offices must document reasons for assigned individuals who have not completed training within 120 days of assignment.

2.1.8. Space Safety Officer (SSO). These positions include System Safety Manager, Ground Based Space Safety Officer, Launch Safety Officer (LSO) and Orbital Safety Officer. These individuals will be trained in System Safety, and 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.

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.

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.

2.2. Unit Safety Representative (USR). Each unit will have a primary and alternate USR. Individuals assigned safety responsibilities at the unit level receive training from the installation safety staff or through a course approved by their MAJCOM Safety office. Primary and Alternate USRs for active duty units will complete initial training within 30 working days after appointment. Air Reserve Component Primary and Alternate USRs will complete initial training within two unit training assemblies of appointment. The unit is responsible for maintaining USR training records.

2.2.1. USRs will complete any Air Force level ORM course. Training can be obtained at **https://rmis.kirtland.af.mil/index.asp**. Training certificate will be maintained by the USR.

2.2.2. Each safety discipline will train their respective USRs. This training is available electronically through the host safety office.

2.2.3. Organizations may augment the Primary and Alternate safety representatives using a "team concept" by adding representatives at the flight level. 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 must be trained.

2.2.4. For specific USR responsibilities, see the discipline-specific chapters. USRs will, as a minimum:

2.2.4.1. Advise the commander on safety matters.

2.2.4.2. Conduct and document spot inspections in conjunction with facility managers when possible and IAW paragraph **3.5** of this instruction.

2.2.4.3. Ensure unit personnel are aware of mishap reporting requirements. Assist unit commander and supervisors in mishap investigation when required.

2.2.4.4. Assist supervisors who develop JST Guides.

2.2.4.5. Conduct safety briefings and provide unit personnel with educational safety materials. MAJCOM/Wing Safety websites should be accessed to get briefing topics/material (e.g., Critical Days of Summer).

2.2.4.6. Assist the unit commander and supervisors with the hazard abatement process.

2.2.4.7. Facilitate the inspection process for their unit.

2.3. Safety Education/Training. Education and training prepares Air Force personnel to meet their safety and health responsibilities. Each installation shall develop, implement and integrate safety guidelines and standards into existing training programs at the local level. Commanders at all levels will promote safety awareness at all appropriate venues such as commander calls, holiday safety briefings and other events or functions.

2.3.1. Commander Orientation. The COS will provide face-to-face training to new commanders within 60 days of their arrival or appointment on the safety and health of the organization. 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:

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, high risk activities, hazardous air traffic, 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 Culture Assessment Safety Tool (AFCAST).

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 eliminates hazards. MAJCOMS and installations with unique requirements will supplement this training with those requirements.

2.3.2.1. Personnel required to attend:

2.3.2.1.1. Noncommissioned officers and Senior Airmen when first assigned a supervisory position.

2.3.2.1.2. Commissioned officers when first assigned as a supervisor.

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

2.3.2.1.4. Any supervisor needing refresher training or who demonstrates a lack of safety knowledge.

2.3.2.2. Administration. Unit commanders identify eligible personnel and arrange course scheduling with the installation ground safety office.

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 or applicable system. Supervisors will document SST IAW **Attachment 5,** Section **A5.4**

2.3.3. Safety, Fire Protection and Health Training. Supervisors will develop a Job Safety Training (JST) guide specifically tailored to address safety concerns of the work environment. The guide will encompass both safety awareness and job specific safety training. See listed mandatory training items in **Attachment 5.**

2.3.3.1. Specific Training Requirements. Supervisors will provide job 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 or safety, fire and health requirements. Supervisors will conduct and document refresher training, as required.

2.3.3.2. Supervisors will review and update the JST guide annually and/or when there is a change in equipment, processes or safety, fire and health requirements and document the review. Annual review of JST guide will be completed by the shop supervisor and documented with the date of review and the person conducting review. Safety personnel will provide technical assistance to supervisors in developing a training guide to meet AFOSH requirements. JST guides will be reviewed by safety inspectors during the annual safety inspection.

2.3.3.3. AF Form 55 or an equivalent product (e.g. AFFORMs, CAMs, CAS-B, GO81) will be used to document safety, fire and health training unless other documentation is specified elsewhere. Documentation will be maintained by the supervisor within the work center.

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.

2.3.5. General Safety Education and Training Courses are listed in **Attachment 14**.

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

2.4.1. Vehicles and Communication. All disciplines of the safety staff must be mobile to accomplish their job. 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 test range and units with host base responsibilities who support these

activities or as designated by the installation commander, the safety staff must have the 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.

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**.

2.4.2.1. AS 006, Organizational and Administrative Equipment.

2.4.2.2. AS 009, Small Computer Systems. As a minimum, each full-time safety staff office will have desktop computers, a notebook computer, software compatible with current Air Force standards, and a CAC reader. These computers require a CD-ROM and access to the Internet.

2.4.2.3. AS 019, Vehicles.

2.4.2.4. AS 014, Training Devices.

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

2.4.2.6. AS 453, Safety Offices.

2.4.2.7. AS 629, Visual Information (VI) Support (Originator/Utilization Equipment).

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

2.4.3. Mishap Investigation Kits. Each MAJCOM determines the minimum contents of investigation kits. Safety staffs with host base responsibilities will maintain a mishap response and investigation kit sufficient to meet initial response and ISB requirements for flight, ground and weapons mishaps.

2.4.3.1. Wing safety offices will have available all the items that are required to conduct a safety investigation IAW AFI 91-204. They will coordinate the contents of the kit for the medical member with the medical treatment facility. Mishap investigation kits are optional for AFRC units.

2.4.3.2. Several resources are available for developing investigation kits to meet unique requirements including AFMAN 91-series and AFPAM 91-211, *USAF Guide to Aviation Safety Investigation*.

2.5. Library. Air Force safety offices will establish a library with publications that specifically apply to the safety program.

2.5.1. Documents may be hard copy or in electronic format. The library will include as a minimum:

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

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

2.5.1.3. 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.).

2.5.1.4. Appropriate safety magazines, e.g., *Wingman* (electronic copies of these publications may be found on the public site at **http://www.afsc.af.mil**/ and using the AF Portal link (which requires a common access card) at: **https://www.my.af.mil/gcss-af/USAF/ep/browse.do?programId=t5FDEA9F0236E62160123AA0DB6240765&channelPageId=s6925EC13537F0FB5E044080020E329A9**

2.5.1.5. MAJCOMs will provide a safety newsletter, magazine, website or means to disseminate command-specific safety information to subordinate units.

2.6. Councils and Committees. In accordance with AFI 90-801, the Air Force utilizes the Environment, Safety, and Occupational Health Councils (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.

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.

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.

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.

2.6.2. Attachment 2 of AFI 90-801 describes the agenda topics to be addressed during the ESOH Council. Hazard report analysis will include AF Form 457, as well as Hazardous Air Traffic Reports (HATRs). Units that own a flight line but have no assigned aircraft may address flight safety BASH, HATR and MACA issues through the Airfield Operations Board meetings.

2.6.2.1. The safety council may be combined with the semi-annual ; however, safety councils are conducted quarterly. When safety and ESOH councils are combined, all items from AFIs 90-801 and 90-803, and AFI 91-202 will be briefed.

2.6.2.2. When the installation safety council meets separate from the ESOHC, the safety staff will make all safety council arrangements, develop the agenda, distribute the agenda in advance and record and publish council meeting minutes. The council chairperson approves the minutes and all council members will receive copies. OPRs will be identified for items requiring action.

2.6.2.3. The following agenda items will be covered, as a minimum, for the safety discipline at ESOHCs and when a standalone installation safety council meeting is held in lieu of an ESOHC:

2.6.2.3.1. Review safety risk-based performance goals, measures, objectives and targets.

2.6.2.3.2. Review changes in safety program guidelines for implementation and improvement.

2.6.2.3.3. Review the installation master hazard abatement program (RAC 1, 2, 3 hazards), including unabated safety hazards and the plan of action to correct the hazards (must be conducted at least once annually).

2.6.2.3.4. Review mishap and incident trends, safety initiatives, and applicable private sector and other governmental agency best practices.

2.6.2.3.5. Analysis of mishaps experienced and progress of targeted mishap prevention initiatives.

2.6.2.3.6. Review summaries of the FECA Working Group report and Non-Appropriated Funds employee compensation program.

2.6.2.3.7. Analysis of Hazardous Air Traffic Reporting (HATR) and hazard reports. Units that own a flight line but have no assigned aircraft may address flight safety BASH, HATR and MACA issues through the Airfield Operations Board meetings.

2.6.2.3.8. Summary of Department of Defense Measures of Merit (DoDI 6055.1-E3.11. *Goals, Objectives, Measures of Merit, and Self Evaluation*).

2.6.2.3.9. Summary of inspection and assessment/evaluation results which should include findings and corrective actions taken or planned as applicable. Monitor status of compliance schedules and indicate the progress.

2.6.2.3.10. Review appropriate training and manpower requirements.

2.6.3. Commanders can form safety councils and committees at any level to focus group attention on safety or health problems.

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. The installation commander of the unit operating the MRTFB is considered the activity commander. Under the direction of the MAJCOM concerned, the activity commander will:

2.8.1. Institute a risk management program that quantifies risk and sets requirements for risk acceptance.

2.8.2. Determine safety requirements and ensure all range users are in compliance.

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

2.9. Range Safety Programs. Units operating any range facility shall conduct a range safety program to ensure public safety and protection of government resources and personnel. The Range Operating Agency (ROA) must identify, mitigate and present residual risks for acceptance to an appropriate authority prior to any range activity.

2.9.1. Installation safety offices shall coordinate with the ROA to implement and document the risk management process. High residual risk test or range events are typically accepted by the installation/activity commander. Inform MAJCOM/A3 and SE of high risk activities prior to execution. Approval authorities in coordination with the installation safety office may issue local Operating Instructions (OI) IAW AFMAN 91-201 for select or repetitious activities.

2.9.2. ROAs will 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, *Range Planning and Operations.*

2.9.3. When it becomes necessary to destroy assets or terminate a test to protect public safety or high value government assets, the installation safety office shall document the occurrence and provide an info copy to the MAJCOM/SE.

Chapter 3

SAFETY EVALUATIONS, INSPECTIONS, STAFF ASSISTANCE VISITS AND OTHER INSPECTIONS

3.1. General. Safety program evaluations, assessments and inspections measure program 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.

Level	Frequency	Type	Report	Note
MAJCOM/DRU/FOA	36 Months	Program Evaluation/SAV	Formal	**NOTE** 1, 4, 12
NAF	36 Months	Program Evaluation/SAV	Formal	**NOTE** 2, 4,12
Installation	36 Months	Program Evaluation	Formal	**NOTE** 3, 4
Wing, Group, Squadron	Annually	Program Assessment & Safety Inspection	Formal	**NOTE** 4, 5, 7, 11, 13
Wing and below	Monthly	Spot	Informal	**NOTE** 6, 9, 10
Wing and below	Monthly	High Interest	Informal	**NOTE** 7, 10
Wing and below	Varies	Special	Formal	**NOTE** 7, 8

NOTE 1: HQ AFSC/SEG will conduct a program evaluation of all MAJCOMs/DRUs/FOA Ground Safety Programs. DRU and FOA program evaluations may be done in conjunction with AFIA Compliance Inspections.
NOTE 2: Conducted by qualified IG safety inspector or MAJCOM safety staff.
NOTE 3: Conducted by MAJCOM unless delegated to NAF.
NOTE 4: For safety offices rated marginal or unsatisfactory, ensure appropriate follow-up actions, to include SAVs if necessary are taken to correct deficiencies.
NOTE 5: Annual safety program assessments and inspections may be combined.
NOTE 6: Spot inspections will be used to identify hazards and check compliance with applicable safety standards so as to avoid reliance on annual inspections.
NOTE 7: Accomplished by full-time professional safety staff.
NOTE 8: Special inspections include seasonal activities and special events.
NOTE 9: USRs and shop level supervisors ensure spot inspections are conducted and documented at least monthly.
NOTE 10: Accomplish and document high interest inspections IAW paragraph **3.5.**
NOTE 11: Program assessments are required for all organizations below installation level, but not lower than squadron level.
NOTE 12: Aviation, Weapons and Space disciplines are not required to perform program evaluations, but will at least accomplish a SAV every 36 months. The AFSC will accomplish a SAV every 36 months on these MAJCOM disciplines.
NOTE 13: Risk based inspections/assessments will be approved by the MAJCOM with criteria to support decision.

3.2. Safety Program Evaluations. At least once every 36 months, qualified safety personnel must evaluate the safety program management of each organization at installation level and higher. Address waiver to any evaluation requirement directly through SAF/IE to DUSD (ATL), with courtesy copy to AFSC. These evaluations will cover all safety disciplines. Higher headquarters (e.g. MAJCOM, NAF, etc.) will develop and revise checklists and a rating system to assess program compliance and performance for their subordinate units. Whenever possible, these assessments should be conducted as part of the Environment, Safety and Occupational Health Compliance Assessment and Management Program (ESOHCAMP) required by AFI 90-803. Conduct evaluations with prior notice.

3.2.1. Safety program evaluations address the areas of command and functional manager support, compliance with program directives and the effectiveness of mishap prevention programs (performance).

3.2.2. Prepare a written report for each evaluation. Send a copy of the report to the commander and safety staff of the organization evaluated.

3.3. Safety Program Assessments. Qualified safety personnel assess the safety program management of each organization below installation level annually. **EXCEPTION:** Organizations with subordinate GSUs, Detachments or Operating Locations (OL) will perform a safety program assessment of each activity at intervals not to exceed 36 months. These assessments should cover all safety disciplines.

3.3.1. Safety assessments, like program evaluations, 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.

3.3.2. Prepare a written report for each assessment. Send a copy of the report to the commander of the organization. The evaluation report may be combined with the annual inspection report.

3.3.3. Installations will develop checklists and a qualitative rating system (complies, complies with comments, does not comply) to rate program compliance and performance. Conduct assessments with prior notice.

3.4. Annual Safety Inspections. Safety inspections help identify hazards and measure compliance with applicable safety guidance and standards. Annual inspections may be combined with the annual program assessment. Full-time safety staffs may accomplish risk based inspections/assessments on units using tools such as the unit assessment tool and evaluation (URATE) used by some AETC units. Risk based inspections/assessments will be approved by the command with criteria to support decision to use risk based inspections.

3.4.1. Scope. At least annually, qualified personnel shall inspect every installation workplace/facility. 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 event that increases 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 hazard abatement program). Conduct inspections of all workplaces and operations where Air Force personnel 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 Air Force personnel are employed shall be at the discretion of the Chief of Safety, based on existing conditions and potential risks. Assist the multi-functional team, upon request, to resolve any issues related to the safety of the contractor's facilities.

3.4.1.1. 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.

3.4.1.2. All hazards/deficiencies identified during the inspections will be assigned a RAC (if applicable) and the safety staff conducting the inspection will assist the responsible supervisor in developing hazard abatement actions.

3.4.1.3. 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.

3.4.1.4. The host safety staff inspects units that do not have an authorized full-time safety position in a particular discipline. The host performs the required annual inspection except when support agreement directs otherwise.

3.4.1.5. Geographically Separated Units (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.

3.4.1.6. Tenant/Associate units with a full-time safety staff (by discipline) will conduct annual inspections.

3.4.1.7. 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.

3.4.2. Procedures. Safety staffs will conduct multi-discipline (e.g. Aviation, Ground, etc.) inspections when feasible. The safety staff will develop and publish an annual inspection schedule and distribute to units no later than 15 December for the upcoming calendar year or 15 September for the upcoming fiscal year. A copy shall also be provided to union(s), as applicable.

3.4.2.1. 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.

3.4.2.2. 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. COS may waive the time criteria for the formal report as necessary. 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:

3.4.2.2.1. The unit, activity or work area inspected.

3.4.2.2.2. The date of the inspection.

3.4.2.2.3. Management and supervisory support for safety.

3.4.2.2.4. Mishap experience and trends.

3.4.2.2.5. Compliance with safety program directives.

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

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

3.4.2.2.8. Recommendations for improvement/compliance.

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

3.4.2.3. Follow-up procedures and actions. The inspected unit will submit to the safety staff corrective actions taken. 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.

3.5. 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. See discipline specific chapters for additional operations and areas that need to be inspected or monitored.

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

3.5.2. All Air Force personnel should identify and take action, as appropriate, to eliminate hazards in the workplace. USRs and supervisors will ensure documented spot inspections are conducted at least monthly to ensure 100% of the workplaces are covered annually.

3.5.3. Documentation of spot inspection will include the following:

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

3.5.3.2. The date and time of the inspection.

3.5.3.3. The inspector’s name and their organization or office symbol.

3.5.3.4. 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.

3.5.3.5. Causes of deficiencies and hazards, as noted.

3.5.3.6. Recommendations for corrective action.

3.5.3.7. Name and phone number of responsible person.

3.5.3.8. Ensure appropriate follow-up actions (every 30 days) are conducted and documented until findings are closed.

3.6. High Interest Areas. High interest areas are those areas that have the greatest risk to life or property damage, have experienced repeated mishaps or in the judgment of the safety office require added monitoring. 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.

3.7. Administrative Areas. Collateral-duty safety personnel who are task-qualified may conduct inspections of these areas when the safety staff determines the mishap potential is minimal. The base safety staff develops specific provisions for meeting inspection requirements (subject to approval by the safety directorate) and conducts over the shoulder assessments of the collateral-duty personnel to ensure that their safety inspections are sound.

3.8. Special and Seasonal Inspections. Inspections are conducted to ensure work and recreational environments are safe and healthy for base personnel.

3.8.1. 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. Services will coordinate with the safety staff to inspect at least 10 percent of all approved home-day-care providers annually.

3.8.2. Seasonal inspections will be conducted of recreational areas (e.g., sports fields, swimming pools, camp grounds, and recreational vehicle parks and other recreational areas). Services will coordinate with the safety staff to jointly conduct pre- and post-season inspections of seasonal areas. Preseason inspections ensure post-season inspection hazards have been corrected and that there are no new hazards. The safety staff will conduct post season inspections to identify any additional hazards, which should be corrected before operation.

3.9. Staff Assistance Visits (SAV). The purpose of the SAV program is to help develop solutions, not to inspect or evaluate and to make recommendations for improvement. Safety staffs at all command levels visit subordinate units when requested or when problems, personnel turnover or special issues require on-scene assistance. 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.

3.9.1. Staff Assistance Visits may be conducted at any level at any time.

3.9.2. HQ AFSC will conduct SAVs of all MAJCOMs on a continuous rotating basis or as requested.

3.9.3. MAJCOMs may delegate installation staff assistance visits to the NAF.

3.9.4. SAVs should be conducted to assist units that receive a rating of marginal or unsatisfactory during program evaluations, Operational Readiness Inspections (ORI) or Unit Compliance Inspections (UCI). The goal of SAVs is to train personnel and develop a road-map for program management improvement.

3.10. Environment, Safety and Occupational Health Compliance Assessment and Management Program (ESOHCAMP).

3.10.1. Tier 2 and 3 ESOHCAMPs. Safety staffs may use the Tier 2 and 3 ESOHCAMPs as an opportunity to conduct a program evaluation of installation safety functions. Similarly, MAJCOM safety staffs may partner with the Inspector General to meet program evaluation responsibilities. MAJCOM safety staffs will coordinate the scope and content of Tier 2 and 3 ESOHCAMPs with MAJCOM Safety and Health professionals.

3.10.2. Tier 1 ESOHCAMP. Installation units (wing, base, center, etc.,) will coordinate the scope and content of Tier 1 ESOHCAMPs with installation Occupational, Safety and Health professionals (such as Bioenvironmental Engineering, PH and SGP). Tier 1 ESOHCAMPs should be used as an opportunity to conduct a self-inspection of installation level programs.

3.11. 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). See **Chapter 8** for specific requirements.

3.12. Contract Performance Assessment. Installation safety offices will assist the multi-functional team (MFT) in validating that contractors are meeting the safety requirements of the contract. The contracting officer is responsible for notifying contractors performing work on the installation that the installation is pursuing VPP certification.

3.12.1. 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 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.

3.12.2. Air Force personnel 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 imminent danger, Air Force personnel should avoid reporting safety violations directly to the contractor, but should immediately report observed violations to the contracting officer or the installation safety office.

3.12.3. Inspection of Contractor Work Areas and Government Owned Contractor Operated (GOCO) Work Areas. When Air Force personnel conduct safety inspections in contractor work areas their primary concern is the potential risks to Air Force personnel 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.

3.12.3.1. 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.

3.12.3.2. The requirements documents will require compliance with appropriate provisions of DoDD 6055.9-STD, *DoD Ammunition and Explosives Safety Standards*, AFMAN 91-201 and this instruction.

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 discriminate against an employee 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:

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. T.O. 00-5-1, *Air Force Technical Order System*.

4.2.5. T.O. 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 available to all personnel. 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.

4.3.1. If the hazard presents 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.

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.

4.3.3. The Chief of Safety 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 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.

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.

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.

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.

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.

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 generate an AF Form 3, *Installation Hazard Abatement Plan*, may be closed and corrective action monitored through the hazard abatement process.

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 base safety offices.

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.

4.4.2. Tenant personnel send hazard reports involving activities for which the host is responsible to the host base safety office for processing.

4.4.3. Hazard reports requiring urgent action should be transmitted by the most expeditionary communication means available (overnight mail, official government email, telephone). A written report must be submitted when time permits.

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, etc., of their intention to submit a hazard report. Aircrews should consider using a Hazardous Air Traffic Report.

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 AFSC/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, AFSC will maintain tracking and subsequent closing action of the report and will report results to both the sending and affected unit.

4.5. Employee Appeal Procedures. If an employee is dissatisfied with actions taken on a hazard report, he or she should resubmit the report to the appropriate installation safety, fire protection or Bioenvironmental Engineering office, and request the alleged hazard be reinvestigated. Reports can be submitted anonymously. The safety, fire and/or health representative must respond within 10 workdays.

4.5.1. If the employee is still dissatisfied, they may appeal to a higher level of safety, fire protection or health office in the following sequence:

4.5.1.1. Intermediate headquarters.

4.5.1.2. MAJCOM headquarters.

4.5.1.3. AFSC/SEG (safety hazards), AFCESA/CEXF (fire hazards), or AFMSA/SG3 (health hazards).

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

4.5.1.5. 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.

4.5.2. Higher level of 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.

4.5.3. 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.

4.5.4. 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 risk management into daily activities, on- and off-duty, IAW AFI 90-901. These principles are:

4.6.1. Accept no unnecessary risk.

4.6.2. Make risk decisions at the appropriate level.

4.6.3. Accept risk when benefits outweigh the cost.

4.6.4. Integrate risk management into operations and planning at all levels.

Chapter 5

INFORMATION AND DATA ANALYSIS

5.1. Information Protection. Safety mishap reports have information in them that must be protected under for official use only (FOUO), Privacy Act or Export Control Act. For FOUO handling procedures, see AFI 91-204, *Safety Investigation and Reports*, and DoD Regulation 5200.1R, *Information Security Program.* Any release of safety mishap reports outside Air Force safety channels must be coordinated with AFSC/JA prior to release. Refer to AFI 91-204 for further information, possible exceptions and handling restrictions.

5.2. Safety Information.

5.2.1. Forward reports of Air Force mishaps as directed by AFI 91-204. Some of these reports may have recommendations requiring urgent action by some addressees. Consider mishap reports to be action documents.

5.2.2. Urgent action notices will be forwarded to HQ AFSC through the Air Force Service Watch Center (AFSWC) at DSN 227-6103 or **AFWatch@Pentagon.af.mil.** HQ AFSC 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 in operating and maintaining aircraft and associated equipment and workplaces, storing and handling explosives and weapons, conducting industrial operations, operating government and privately owned vehicles, and participating in off-duty sports and recreation. These publications also provide educational information on implementing applicable standards and in establishing and maintaining nuclear surety and environmental safety programs. The OPR for each publication will determine the content and frequency. HQ AFSC/SEF posts monthly Blue Four News on the Air Force Safety Automated System (AFSAS) website, summarizing the previous month's Class A flight mishaps. This summary contains privileged information and will be protected IAW AFI 91-204, Chapter 3.

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

5.3.2. MAJCOM Publications. MAJCOMs will publish a safety magazine, newsletter or other media to disseminate command-specific safety information to subordinate units. MAJCOMs without published media may use an electronic website or Community of Practice to satisfy this requirement.

5.3.3. Periodic Summaries. HQ/AFSC sends periodic mishap summaries to the MAJCOM 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/SE will determine the appropriate distribution methods for their subordinate organizations. Suggested methods of distributing advisory information are:

5.4.1. Safety meetings.

5.4.2. Supervisor safety briefings.

5.4.3. Base newspapers and bulletins.

5.4.4. Safety publications.

5.4.5. HQ/AFSC or MAJCOM publications.

5.4.6. Electronically 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 type 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 statistical data. This historical look-back approach should not preclude a proactive, forward looking mishap prevention plan based on pre-identified hazards that haven't yet caused a mishap.

5.5.1. MAJCOMs and Wings will:

5.5.1.1. Conduct a annual analysis and develop specific actions to reverse adverse trends. Analysis should target specific problem areas with recommendations for commander approval and appropriate actions.

5.5.1.2. Analysis programs must identify successes or problem areas and trends, measure safety program effectiveness and guide prevention actions.

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

5.6. Mishap Prevention Analysis Methods. There are several ways to approach analysis of mishap data 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. Monitor Approach. 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:

5.6.2.1. Hazardous Air Traffic Reports.

5.6.2.2. High Accident Potential Reports.

5.6.2.3. Deficiency Reports.

5.6.2.4. Inspection/Evaluation Reports.

5.6.2.5. Foreign Object Damage (FOD) Reports.

5.6.2.6. First-Aid Cases.

5.6.2.7. Maintenance Logs or Reports.

5.6.2.8. Hazard Reports.

5.6.3. Study Approach. This is a detailed examination of a problem. 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.

5.7. Use of Analyzed Data. The purpose of analysis is to help prevent mishaps. Present conclusions drawn in a useful format to the people who can use them directly in their prevention programs. The data should also be available to other organizations with like equipment or problems. After taking corrective actions, follow-up analysis may be done to measure the effectiveness of these actions.

5.8. Safety Analysis Team (SAT) Process. The SAT process is a 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 Subject Matter Expert (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 AFSC Analysis and Integration Division (AFSC/SEA). All requests are approved by AF/SE. HQ AFSC/SEA will conduct the study and provide a final report and out-brief to the requesting commander. For additional information contact HQ AFSC/SEA; DSN: 246-1562, Commercial: (505) 846-1562.

5.9. Air Force Culture Assessment Safety Tool (AFCAST). AFCAST provides squadron commanders and above with web-based tools to survey aircrew, maintenance and support personnel regarding safety issues. AFCAST also offers ground safety versions for Drinking and Driving, Private Motor Vehicle, Motorcycle, and Off-duty and Outdoor Recreational Activity.

5.9.1. AFCAST 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 AFCAST surveys by visiting **www.afcast.org. Other** inquiries must be addressed to the HQ AFSC Human Factors Division (HQ AFSC/SEH).

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

5.10.1. 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.

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

5.11. 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. 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 AFSC uses standardized rates for metrics below:

5.11.1. Aviation Mishaps.

5.11.1.1. 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.

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

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

5.11.1.4. 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.

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

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

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

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

5.11.4. Ground Mishaps.

5.11.4.1. 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:** When calculating rates for periods of time less than one year, the reduced exposure time must be accounted for as provided in the monthly and daily examples below. **NOTE:** AFSC calculates daily and yearly statistics based upon AFPC strength numbers.

5.11.4.2. 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 (see examples in paragraph **5.11.4.1** above except exclude civilian strength). **NOTE:** When calculating rates for periods of time less than one year, the reduced exposure time must be accounted for as provided as in the examples in paragraph **5.11.4.1** above. **NOTE:** AFSC calculates daily and yearly statistics based upon AFPC strength numbers.

5.11.4.3. Private Motor Vehicle (PMV) Off-duty Fatality Metric (Rate). This metric applies only to military personnel and is used to identify the number of off-duty PMV mishaps, fatalities or injuries experienced by off-duty military personnel per 100,000 personnel (see examples in paragraph **5.11.4.1** above except exclude civilian strength). **NOTE:** When calculating rates for periods of time less than one year, the reduced exposure time must be accounted for as provided as in the examples in paragraph **5.11.4.1** above.

5.11.4.4. 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. 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:** When calculating rates for periods of time less than one year, the reduced exposure time must be accounted for as provided in the examples in paragraph **5.11.4.1** excluding military strength. **NOTE:** Actual hours to include overtime should be used for computing civilian hours worked.

5.11.4.5. 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. 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:** When calculating rates for periods of time

less than one year, the reduced exposure time must be accounted for as provided in the examples in para 5.11.4.1.excluding military strength **NOTE:** Actual hours to include overtime should be used for computing civilian hours worked.

5.11.4.6. 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.

5.12. 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. Rationale: The 2,000 hours equates to 40 hours per week x 50 weeks per year. **NOTE:** When calculating rates for periods of time less than one year, the reduced exposure time must be accounted for as provided in the examples in paragraph **5.11.4.1** excluding military strength.

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*. **NOTE:** The Safety Supplement of the War Mobilization Plan is a tool available to further assist the safety community and commanders with helping to determine which programs that could be reduced or suspended at home station or as forces are deployed and reduced manpower affects the ability of forces to execute home station responsibilities.

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. Identify unit hazards to Air Force Forces Command (AFFOR). This includes only command Master Hazard Abatement items (RACs 1 -3), not RAC 4 and 5 hazards.

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 deployed Air Force Safety office and assigned personnel 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 time-critical Risk Management. 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, risk management and health programs that integrate hazard reduction and safety policy into all on-duty and off-duty operations and activities.

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.

6.1.4. DELETE.

6.2. AFFOR/SE.

6.2.1. AFFOR/SE elements will forward deploy as needed to 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, other Component Commands, 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. Actively administer the AFFOR Theater Safety Engagement Program.

6.2.2.6. Author AOR OPLAN annexes, as required.

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

6.2.2.8. On a periodic basis, AFFOR/SE will host an AOR Safety conference. The conference will review current issues and policies in the AOR.

6.2.3. DELETE.

6.2.4. DELETE.

6.2.4.1. DELETE.

6.2.4.2. DELETE.

6.2.4.3. DELETE.

6.2.4.4. DELETE.

6.2.4.5. DELETE.

6.2.4.6. DELETE.

6.2.4.7. DELETE.

6.2.4.8. DELETE.

6.3. AFFOR Deployed Unit Safety Functions and Organizations.

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.

6.3.2.1.1. DELETE.

6.3.2.1.2. DELETE.

6.3.2.1.3. DELETE.

6.3.2.1.4. DELETE.

6.3.2.1.5. DELETE.

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.

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.

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 Additional Duty Weapons Safety Manager (ADWSM) to the AEW/AEG safety office prior to departure of the current ADWSM or within two weeks of 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.

6.3.3. Operating Location and Deployed Safety Office Responsibilities.

6.3.3.1. U.S. homeland based Operating Locations (OL) and detachments supporting AFFOR AOR missions continue to employ safety program elements IAW their respective MAJCOM 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.

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.

6.3.3.3. 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.

6.3.3.4. Maintain a Mishap Response Plan (separately or as part of the Comprehensive Emergency Management Program) reflecting working relationships with local and host agencies.

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.

6.3.3.6. Establish procedures to review 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 in as much as possible depending on the location.

6.3.3.7. Safety Activity Reports. Safety offices will supply a report addressing safety activities and noteworthy events to the AFFOR/SE. The frequency and format of these reports will be determined by the COMAFFOR and/or the AFFOR/SE.

6.3.3.8. 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 as a minimum: End of Tour reports, Rotational Safety Councils, Confined Space team meetings, Flight Safety meetings, Airfield Operations Board meetings and USR meetings.

6.3.3.9. 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 forwarded or made available to other organizations (e.g. AFSC, MAJCOMs, NAFs and wings), as appropriate.

6.3.3.10. Weapons Safety.

6.3.3.10.1. 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.

6.3.3.10.2. 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.

6.3.3.10.3. Units that handle less than 1,000 rounds of small arms ammunition, and are not licensed, are not required to assign a SEW USR. Supervisors are responsible to monitor activities of these units.

6.3.3.10.4. Radiation Hazard Zones. Ensure Radiation Hazard Zones are established with the focus on personnel (AFOSH Standard 48-9, *Radio Frequency Radiation (RFR) Safety Program*, and AFOSH Standard 48-139, *Laser Radiation Protection Program*), electro-explosive devices (EED) and petroleum, oil and lubricants (POL). Ensure interoperability with other systems deployed to the same location.

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

6.3.3.11.1. Providing safety briefings for the PERSCO office's RIGHT START and RIGHT FINISH programs. The RIGHT START safety briefing should address safety conditions/issues specific to that particular base/environment.

6.3.3.11.2. Providing training to newly appointed USRs within seven days of appointment notification.

6.3.3.11.3. 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.

6.3.3.11.4. Reviewing project designs and plans for projects and construction. Coordinate with SEW on projects.

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

6.3.3.12.1. 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 DE 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*).

6.3.3.12.2. Frequency Management. Deploying units contact MAJCOM and AFFOR frequency managers prior to their arrival at the operating location to de-conflict potential interference issues. Upon arrival, 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).

6.3.3.13. DELETE.

6.3.3.14. DELETE.

6.3.3.15. DELETE.

6.3.3.16. DELETE.

6.3.3.17. DELETE.

6.3.4. DELETE.

6.3.4.1. DELETE.

6.3.4.2. DELETE.

6.3.4.3. DELETE.

6.3.5. DELETE.

6.3.5.1. DELETE.

6.3.5.2. DELETE.

6.3.5.3. DELETE.

6.3.5.4. DELETE.

6.3.5.5. DELETE.

6.3.5.6. DELETE.

6.3.5.7. DELETE.

6.3.5.8. DELETE.

6.3.5.9. DELETE.

6.3.5.10. DELETE.

6.3.6. DELETE.

6.3.6.1. DELETE.

6.3.6.2. DELETE.

6.3.7. DELETE.

6.4. Mishap Prevention Program. AFFOR deployed safety offices should 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.

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 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 supports 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, HATR, Controlled Movement Area Violations (CMAV) and some High Accident Potential (HAP) (when cause is dependent on the deployed environment and not the object) incidents. When objects are owned by the AFFOR (some small remotely piloted aircraft, etc.), COMAFFOR will maintain convening authority. These caveats are not applicable to U.S. based AFFOR assigned/gained units supporting AFFOR AOR mission requirements:

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 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 convening authorities and/or the Air Force Safety Center.

6.4.2.1. DELETE.

6.4.2.2. DELETE.

6.4.2.3. DELETE.

6.4.2.4. DELETE.

6.4.2.5. DELETE.

6.4.2.6. DELETE.

6.4.2.7. DELETE.

6.4.3. DELETE.

6.4.3.1. DELETE.

6.4.3.2. DELETE.

6.4.3.3. DELETE.

6.5. Monthly, Quarterly and Annual Safety Awards. Deployed individuals and units are eligible for MAJCOM and 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 AEWG commanders. Due to the cyclical nature of deployed personnel, these visits are an important tool to reinforce safety presence with the subordinate units.

6.6.1. A Risk Assessment Visit (RAV) consists of a base-wide evaluation of hazards and the associated risks Airmen are exposed to on a daily basis. The team will be augmented with appropriate members from other directorates to examine all areas and facets of the Operating Locations/AEW/AEG base and mission. In order to reduce duplication and team footprint, coordination with other directorates prior to the visit will determine the personnel required. Reports from visits conducted by other directorates within the previous six months will be used to identify hazards at the base. Only RAC 1 and 2 hazards will be included in the report (all hazards will be entered into the AEW/AEG hazard abatement log). Where the Operation Location is located at a U.S. homeland base, AFFOR/SE will coordinate the RAV with the host/home unit installation safety office, as appropriate.

6.6.1.1. DELETE.

6.6.1.2. DELETE.

6.6.2. A Program Evaluation (PE) consists of a thorough evaluation of the Operating Location/AEW/AEG safety programs and is conducted by AFFOR/SE where not already

accomplished by the respective MAJCOM/NAF safety office. The evaluation will be conducted primarily using the AFFOR/SE-safety self-inspection checklists. The PE may be combined with the RAV.

6.6.3. 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.

6.6.4. DELETE.

6.7. AFFOR Hazard Review Board (HRB).

6.7.1. The semi-annual HRB serves as a means for all AOR unit commanders to ensure unity of effort and provides COMAFFOR a formal forum to establish and receive feedback on action items. AOR commanders will identify physical or procedural hazards at their locations that require AFFOR staff assistance for abatement. The AOR commanders will ensure their safety staff assign RACs (if appropriate), prioritize and provide recommendations for abatement.

6.7.2. The HRB is chaired by the AFFOR/CC, CV or CD, with senior representation from each AFFOR directorate, as well as Wing and/or Group Commander senior representation from each applicable AOR location.

6.7.3. AFFOR/SE is responsible for all preparations to host the HRB and completion of the minutes following the meeting. AFFOR/SE is responsible for monitoring all action items assigned during the HRB.

6.7.4. DELETE.

6.8. Theater Safety Engagement Program. The AFFOR Theater Safety Engagement Program is a COMAFFOR directed initiative. It is a long-term plan to familiarize and integrate allied theater Air Forces with USAF mishap prevention programs and processes. The safety program consists of three parts: visits, conferences and a safety website.

6.8.1. Visits. AFFOR/SE provides introductory briefings, regular interoperability visits and initiates cross-flow of safety related information between the cooperating nations, while also coordinating with USAF HHQ agencies for additional training, support and expertise.

6.8.2. Conferences. AFFOR/SE will host or co-host Coalition Safety Councils for interested safety professionals in the AOR. The goal is to facilitate regional safety dialogue, provide a forum to share best practices and provide the basis for mutual assistance and common understanding of mishap prevention efforts and investigation methods/resources.

6.8.3. DELETE.

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.

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 a FSO authorization, the largest tenant with an authorization manages the base flight safety program. If neither the host nor the tenant has a FSO authorization, 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:

7.2.1. Aircraft Comprehensive Emergency Management Plan (CEMP). The COS is responsible for ensuring that units develop an aviation specific portion of the CEMP. The COS ensures the plan defines roles, responsibilities and notification requirements for leadership and all involved agencies. The CEMP 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*.

7.2.2. Bird/Wildlife Aircraft Strike Hazard (BASH) Plan. The host flight 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.

7.3. Programs. The COS will ensure the following programs are established, maintained and reviewed at least annually.

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

7.3.1.1. HQ AFSC/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 AFSC/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 AFSC/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.

7.3.1.1.8. 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 agencies.

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. Ensure each installation conducting or supporting flight operations has an annually reviewed written BASH plan. 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 AFSC/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 Memorandums of Agreement (MOA) or low altitude tactical navigation areas.

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

7.3.1.4.1. Base Level BASH Program. Host Air Force, AFRC or ANG installations with flying operations will establish a BASH 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 host authority (civilian airport, Naval Air Station, Federal airfield, etc.). The BASH program will document coordination with the host authority on reducing wildlife hazards.

7.3.1.4.2. 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.

7.3.1.4.3. BASH programs at overseas locations depend on host nation support and regulations. MAJCOMs will evaluate those plans to ensure the spirit of this instruction is complied with to the maximum extent possible.

7.3.1.4.4. Each installation with flying operations must develop a contingency plan that lists responsibilities and procedures 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.

7.3.1.4.5. Establish a Bird Hazard Working Group (BHWG) consisting of organizations involved in airfield wildlife control, habitat management, operations and safety. The BHWG must meet at least semi-annually with minutes maintained. The vice installation commander or equivalent will chair the meeting. The BHWG will coordinate base improvement projects, e.g., base beautification, wastewater treatment, golf courses, etc., for BASH-related issues.

7.3.1.4.6. 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 ATIS updates or other broadcast medium). BWC codes are defined as:

7.3.1.4.6.1. 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.

7.3.1.4.6.2. 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.

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

NOTE: BWC codes are based on observations of local airfield wildlife activity and are independent of 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.

7.3.1.4.7. Designate Phase I and Phase II periods of wildlife activity based on historical wildlife activity information. 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.

7.3.1.4.8. 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. Appropriate measures should be taken to mitigate the risk if required. Maintain a zero tolerance toward large free-roaming animals on or adjacent to the aircraft movement area (free-roaming animals are, but not limited to, deer, canines, geese, etc).

7.3.1.4.9. Grass Height. Mow aircraft movement area (AMA) to maintain a grass height between 7 and 14 inches. The AMA, as defined in UFC 3-260-01, *Airfield and Heliport Planning and Design*, 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 AFSC/SEFW for approval. Installation safety offices may request a grass height restriction waiver from HQ AFSC/SEFW after MAJCOM coordination.

7.3.1.4.10. Technical Assistance. Technical assistance is available through the USAF BASH Team, HQ AFSC/SEFW, 9700 G Avenue, Suite 266, Kirtland AFB, NM 87117-5670. DSN: 246-5674/5679/5673/1440 or Commercial: (505) 846-xxxx, 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. The FSO/FSM investigates HATRs and HAPs according to AFI 91-204 and ensures HATR and HAP reporting procedures and requirements are briefed at least annually to aircrew and ATC personnel (see Attachment 3 of this AFI and AFMAN 91-223 for reporting requirements).

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 MAJCOM-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:

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.

7.3.3.2. Establish procedures to control VFR aircraft and minimize the air-traffic hazards.

7.3.3.3. Deconflict MTRs as much as possible and acquaint the flying public with the location, configuration, speeds, and altitudes of the base MTR and military operating areas through military and FAA personnel.

7.3.3.4. Ensure that arrival and departure routes (including stereo routes and profile descents) minimize conflicts with runway traffic, nearby airfields, and local flying areas.

7.3.3.5. Evaluate the midair collision potential with civil airlines and work with operators of nearby airfields to reduce risk and minimize the hazards.

7.3.3.6. Develop a MACA 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.

7.3.3.7. 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.

7.3.3.8. Units and MAJCOMs are encouraged to participate in the DoD-endorsed and funded **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*.

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.

7.3.5.1. The squadron commander will ensure that the following actions are accomplished by the SAFSOs:

7.3.5.1.1. Upon appointment, contact the wing safety office for required training.

7.3.5.1.2. Administer the unit safety program using this instruction as a guide and management tool.

7.3.5.1.3. Disseminate flight safety information to unit crewmembers.

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.

7.3.5.1.5. Assist in conducting wing safety inspections as requested and conduct unit self-inspections.

7.3.5.1.6. Ensure a current file of applicable safety directives, to include this instruction, AFI 91-204, AFP 91-212 and AFI 36-2833 are maintained by the unit.

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*. Procedures will be implemented to ensure all aircrews review Volume V.

7.3.5.1.8. Maintain unit safety bulletin boards.

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:

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, etc.

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.

7.5.5. 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.

7.6. Inspections/Assessments and Monitoring.

7.6.1. The COS will conduct annual assessment/inspections of all assigned (host) flying units' flight safety programs for compliance with USAF and wing requirements. Assessments/inspections of tenant unit flying safety programs will only be accomplished as stated in Base Support agreements.

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 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:

7.6.4.1. Airfield.

7.6.4.1.1. High-interest areas.

7.6.4.1.2. Airfield Daily Inspections.

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 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. Distribution of safety publications.

7.6.4.2.21. Life-support workplaces and training programs.

7.6.4.2.22. Egress training.

7.7. Airfield Maintenance, Construction and Waivers. COS monitor 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 reviews the initial plan and follow-on plans for compliance with AFI 32-1023, *Designing and Constructing Military Construction Projects*, Unified Facilities Criteria (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.

7.7.1. COS will participate in annual Chief of Airfield Management review of airfield waivers per AFI 13-213, *Airfield Management*.

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- 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- and 91-series and other applicable regulatory guidance.

8.1.2. Wing subordinate units and tenant organizations implement a program that supports the installation program.

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. Support Agreements will identify and delineate responsibilities. IAW DoDI 4000.19, *Interservice and Intragovernmental Support*, and AFI 25-201, *Support Agreements Procedures*, non-USAF tenant units may be provided safety services based on support agreements (host may require reimbursement for services provided).

8.2. Oversight Requirements. Ground safety personnel will conduct inspections of all assigned units. (See **Chapter 3**)

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.

8.3.1. Manage the US Air Force installation ground safety program, including operational, occupational, off-duty and traffic safety.

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.

8.3.1.2. Work cooperatively with other installation functions to include (but not limited to) Security Forces, Personnel, Civil Engineering, Contracting, Transportation, Services, Bioenvironmental Engineering, Environmental, Public Health and AOP/AOPT personnel to provide an effective ground safety program.

8.3.1.3. Monitor on-base and Air Force-sponsored off-base sports facilities and activities.

8.3.2. Implement an effective traffic safety program IAW AFI 91-207, *US Air Force Traffic Safety Program*.

8.3.3. Review and recommend for approval the use of new hazardous materials. Coordinate the update of the installation's hazardous materials Authorized User List with Environmental Engineering.

8.3.4. Review Civil Engineering work requests, project design and specification for safety criteria. Review all purchase requirement documents to ensure safety requirements are included.

8.3.5. Provide technical safety consultation services to all base activities and promote on- and off-duty safety awareness.

8.3.6. Budget for training and safety promotional campaigns; budget, acquire and distribute safety education materials.

8.3.7. Assess organization's process for reviewing local purchase requests for safety requirements and provide technical consultation when requested.

8.3.8. Assist tenant units without full-time safety personnel with ground mishap reporting procedures.

8.3.9. Coordinate mishap investigation information with the Injury Compensation Program Administration (ICPA) and provide a representative to actively participate in the FECA Working Group.

8.3.10. Maintain records of reportable mishaps IAW AFI 91-204 and monitor/track non-reportable mishaps for trend purposes.

8.3.11. Maintain a master file of approved safety, fire protection, and health standards variances. Evaluate and process new AFOSH standard variances IAW paragraph **8.7.4**

8.3.12. Function as primary point of contact for all federal and state OSHA visits to the installation.

8.3.13. Assist in the development and review of emergency response plans and procedures for handling problems involving ground and aircraft emergencies. Emergencies, such as toxic spills, ventilation malfunctions, cleanup operations, emergency egress or damage control activities are involved. These areas of review include:

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).

8.3.14. Provide fully qualified ground safety personnel in support of AEF deployment taskings.

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.

8.3.14.2. Individuals that 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.

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 base.

8.3.16. Add MAJCOM and installation unique requirements to Air Force SST and conduct supervisor safety training. 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 program specifics unless otherwise specified in support agreements.

8.3.17. Unless otherwise specified in support agreements, will assist COS in new commander safety orientations in units without full-time safety staff.

8.3.18. Administer the ground safety awards program.

8.4. Tenant Unit and GSU Responsibilities. The tenant's higher headquarters will assess the tenant's internal program.

8.4.1. Tenant and GSUs without full-time safety personnel will appoint a ground USR IAW paragraph **2.2** and comply with the responsibilities outlined in paragraphs **2.2** and **8.5**

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 support agreement.

8.5. Ground Unit Safety Representative (USR) Responsibilities. The commander is responsible for the unit safety program as referenced in paragraph **1.5.20** The Ground 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. Commanders should select motivated individuals as their Ground USR. Ground USRs, in addition to the responsibilities listed in paragraph **2.2,** will:

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.

8.5.2. Assist supervisors and unit personnel in the hazard abatement process.

8.5.3. Assist installation safety, unit commander and supervisors with mishap investigations. Ensure mishap notification procedures are established in the unit.

8.5.4. Assist supervisors in developing Job Safety Training (JST) guides.

8.5.5. Disseminate safety educational materials and verify unit safety briefings are being conducted.

8.5.6. Verify that monthly spot inspections of work areas are being performed and documented IAW paragraph **3.5** of this instruction.

8.5.7. Evaluate the unit motorcycle safety program to ensure compliance with AFI 91-207.

8.5.8. Support the installation safety program and attend USR meetings as determined by MAJCOM/Host safety office.

8.5.9. Post AFVA 91-307, *Air Force Occupational Safety and Health Program,* in a conspicuous location readily accessible to all employees and applicants for employment.

8.6. Hazard Identification and Abatement. The host ground safety manager will:

8.6.1. Evaluate and process safety related hazard reports and maintain a master hazard report log.

8.6.2. Assign RACs to occupational safety hazards/deficiencies and coordinate with health and fire protection officials when required.

8.6.3. Assist in establishing funding priorities by using the abatement priority number (APN) system for hazard abatement projects during the budgetary cycle.

8.6.4. Maintain the installation master hazard abatement file, including AF Form 3, *Hazard Abatement Plan,* covering safety, fire and health hazards and deficiencies.

8.6.5. **Attachments 7** through **10** provide additional instructions for assigning RACs, determining abatement priority numbers and completing the AF Form 1118, *Notice of Hazard,* and AF Form 3.

8.6.6. Fire Hazards versus Fire Deficiencies. There is a difference between fire hazards and fire deficiencies. 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.

8.6.7. Fire hazards are included in the master hazard abatement plan and fire deficiencies are excluded from the master hazard abatement plan.

8.7. Air Force Occupational Safety and Health (AFOSH) Guidance. AFOSH guidance is the minimum guidance necessary to provide a safe and healthful work environment for all Air Force personnel and other DoD/government employees working on Air Force installations. AFOSH requirements shall provide equal or greater protection than federal requirements. The Air Force may develop supplementary or alternative guidance where inadequate or no guidance exists. **NOTE:** Conflicts between OSHA and AFOSH guidelines shall be referred to HQ AFSC through the appropriate MAJCOM for resolution.

8.7.1. Occupational safety and health guidance sources include:

8.7.1.1. Regulatory Federal Standards. The Air Force complies with the intent of DoL OSHA Standards, Nuclear Regulatory Commission and Department of Transportation Standards by referencing applicable standards or incorporates the requirements into AFOSH guidance, technical orders or directives.

8.7.1.2. AFOSH Standards and Guidance. Air Force published guidance located at **http://www.e-publishing.af.mil.**

8.7.1.3. T.O.s and manufacturers' guidance (e.g., Material Safety Data Sheets [MSDS]) for specific processes, aircraft and equipment.

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

8.7.2. 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, such as AFOSH Standards.

8.7.3. Military-Unique Situations. OSHA standards do not apply to military-unique workplaces, operations, equipment and systems. However, Air Force policy is that OSHA standards shall apply as much as possible, practicable and consistent with military requirements, unless HQ AFSC approves an exemption or variance.

8.7.4. 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 guidance 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 can be approved when the applicant can substantiate that their proposed methods, equipment or facilities protect the worker as well or better than the AFOSH or OSHA Standards. AFSC may grant exemptions or variances to AFOSH Standards and guidance that are more stringent than OSHA requirements. AFSC does not have the authority to grant a waiver or exemption to an OSHA Standard. Only OSHA can grant waivers or exemptions to Title 29 (OSHA) requirements (even if included in AFOSH Standards). However, for safety related issues, AFSC will serve as the liaison between OSHA and the Air Force requestor. **NOTE:** A unit's inability to fund corrective actions does not constitute sufficient justification to request a variance. Request extensions for variances through MAJCOMs to HQ AFSC/SEG.

8.7.4.1. Variance/Exemption Process.

8.7.4.1.1. Affected work center personnel shall implement interim control measures and notify the installation ground safety, 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, fire and health officials.

8.7.4.1.2. The installation safety office will assemble a detailed staff package that identifies the request, rational why the standard cannot be followed, interim control measures, drawing, maps, etc. (see paragraph **8.7.4.2**), and forwards the request to MAJCOM headquarters through appropriate command safety, fire or health channels.

8.7.4.1.3. The MAJCOM safety staff reviews and, if recommended for approval, forwards requests to AFSC/SEG (safety-related issues), AFCESA/CC (fire prevention-related issues) or AFMOA/SGO (health-related issues), as appropriate, for final approval. **NOTE:** Requests received without MAJCOM coordination will be returned to requestor without action.

8.7.4.1.4. The MAJCOM/installation ground safety manager maintains a master file of approved variances or exemptions that apply to the installation/MAJCOM/AF 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.

8.7.4.1.5. Functional managers must train affected employees and employee representatives on approved variances, exemptions or any special procedures required and document training. Post copies in affected work areas until integrated into the JST guide.

8.7.4.2. Written variance or exemption requests must contain:

8.7.4.2.1. A description of the situation identifying the OSHA or AFOSH standard and specific reason(s) compliance is not possible or practical.

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

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

8.7.5. 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 HQ AFSC/SEG.

8.7.6. Changes to Directives. Submit requests for changes to 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 AFSC/SEG, AFCESA/CEXF, and/or AFMSA/SG3P, as applicable.

8.8. Department of Labor (DoL) Inspection. DoL Inspections may be in response to a mishap or a complaint from an Air Force employee, may be part of OSHA's annual evaluation of Air Force programs, or may be solely at the Secretary of Labor's discretion.

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 inspectors may question or privately interview any employee, supervisory employee, or official in charge of an operation or workplace. Federal or state OSHA officials 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 must:

8.8.1.1. Notify SE, Bioenvironmental Engineering, medical and fire prevention sections immediately to attend the OSHA in-brief. Appropriate staff agencies should accompany the OSHA inspector based on area to be inspected.

8.8.1.2. Establish procedures to meet OSHA and escort them during their visit.

8.8.1.3. Allow DoL OSHA representatives to conduct inspections. If entry into a restricted area is necessary, they must have an appropriate security clearance. Safety, fire protection or Bioenvironmental Engineering personnel will accompany DoL OSHA representatives while on Air Force installations.

8.8.1.4. Have an initial in-brief with DoL OSHA representatives.

8.8.1.5. Upon request, provide available safety, fire protection and health information on workplaces. Do not release reports marked "For Official Use Only."

8.8.1.5.1. OSHA officials may review "For Official Use Only" mishap reports. However, release of copies of the reports must be obtained by DoL from AF/SE (see AFI 91-204).

8.8.1.5.2. OSHA officials with appropriate need to know may review employees' exposure records and specific parts of employees' medical records pertaining to the OSHA complaint. The OSHA official must safeguard the individual's medical information according to Health Insurance Portability and Accountability Act (HIPAA) laws.

8.8.1.6. 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.

8.8.1.7. Arrange a closing conference with the OSHA official if requested and invite employee 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 code to each hazard identified by OSHA inspectors.

8.8.3. Ensure that Air Force personnel 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.

8.8.4. Ensure that DoL personnel conducting the inspection receive response to DoL inspection reports from the local level. Provide copies, through command channels, of the inspection report, replies to DoL, and related correspondence to the addressees listed below.

8.8.5. Installation safety offices shall notify the agencies listed below in paragraphs 8.8.5.1. – 8.8.5.8. within two 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 shall coordinate responses to DoL OSHA visits and citations with the safety staff. If cited, the safety staff will transmit a report on investigations or inspection visits within two workdays after receiving the DoL OSHA citation(s). This 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: **afsc.seg@kirtland.af.mil.**

8.8.5.1. **safiee.workflow@pentagon.af.mil** (SAF/IEE).

8.8.5.2. **afa47.workflow@pentagon.af.mil** (AF/A4/7).

8.8.5.3. **afse.workflow@pentagon.af.mil** (HQ USAF/SE).

8.8.5.4. **afsc.seg@kirtland.af.mil** (HQ AFSC/SEG).

8.8.5.5. **afsg.workflow@pentagon.af.mil** (AF/SG Workflow).

8.8.5.6. **afcesa.cexf@tyndall.af.mil** (HQ AFCESA/CEXF).

8.8.5.7. Applicable MAJCOM/FOA/DRU/SEG/SGP/SGPB/CE.

8.8.5.8. Applicable Intermediate Command/SEG/SGP/CE.

8.8.6. Include the following information:

8.8.6.1. Date of investigation/inspection.

8.8.6.2. Agency of inspector.

8.8.6.3. Workplace visited.

8.8.6.4. Reason for visit.

8.8.6.5. Results of investigation or inspection and violation reference or any notices of unsafe and unhealthful working conditions with the RAC assigned.

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. The MAJCOM will notify AFSC/SEG.

8.8.6.8. POC Name and DSN.

8.9. DoL Occupational Safety and Health Administration (OSHA) Visit Summary. Establish procedures for obtaining and recording all OSHA visits to the installation or GSU sites where OSHA issues a notice of unsafe or unhealthy working condition. By 1 December each year, submit a summary report of these visit results to AFSC/SEG (OSHA Visit Summary). The summary contents required are:

8.9.1. Installation, unit, and command.

8.9.2. Date of inspection.

8.9.3. Area and organization inspected.

8.9.4. Copy of citation.

8.9.5. Violation reference.

8.9.6. Assigned RAC of each violation.

8.9.7. Corrective action response forwarded to OSHA.

8.10. DoL Inspection of Contractor Operations. Authority 29 CFR 1960, reference Attachment 1. 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. Check with base legal office/JA to determine which areas of the installation fall under federal jurisdiction. 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.

8.10.1. Federal OSHA officials may perform OSH inspections of Air Force contractor workplaces in areas where the US holds exclusive federal jurisdiction.

8.10.2. The DoL does not have authority over working conditions for which another federal agency or certain state agencies exercises 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 IH officials have no authority in Air Force contractor workplaces located in areas where the US holds exclusive federal jurisdiction.

8.11. Safety and Health Standards Enforcement. Safety and health standards are enforceable by federal or state officials as follows:

8.11.1. Federal OSHA officials will enforce only federal OSHA standards in contractors' workplaces.

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.

8.11.3. Federal and state OSHA officials may access workplaces on Air Force installations immediately at reasonable times during regular working hours. Concerned officials may agree upon other times.

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 three disciplines: explosives safety, missile safety and nuclear surety.

9.1.1. Units at and above squadron level with an explosives, missile or nuclear mission must have a weapons safety program.

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 Memorandum of Agreement or Memorandum of Understanding, any additional program functions with the host to avoid duplication and clearly delineate responsibility.

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, 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.

9.2.1. MAJCOM Chief of Weapons Safety must have munitions or missile 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*.

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. The COS will ensure personnel records are updated. Both actions will be completed IAW this instruction and AFI 36-2101, *Classifying Military Personnel (Officer and Enlisted)*.

9.2.4. The COS will initiate a two-year assignment deferment through the Military Personnel Flight for Weapons Safety personnel upon completion of the Weapons Safety training course. 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).

9.2.5. Based on mission needs, Weapons Safety personnel are highly encouraged to attend the following courses: Mishap Investigation Non-Aviation (MINA), AMMO-47 Lightning Protection for Air Force Facilities and the Assessment of System Hazard Surveys (ASHS).

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 standards. (See **Chapter 2**)

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.

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.

9.4.4. Ensure that units identify and document compensatory measures to minimize mishaps, eliminate violations and reduce risk.

9.4.5. Coordinate on all local written procedures affecting weapons operations and perform annual review.

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 or explosives. Reviewed documentation must be maintained by safety office.

9.4.7. Advise each new wing or 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.

9.4.8. Participate in mishap prevention and risk management determination in the following areas:

9.4.8.1. Maintenance, storage, alert, research and developmental test, and operating locations.

9.4.8.2. Flightline explosives operations.

9.4.8.3. Review flightline explosives operations, operational procedures for aircraft carrying hazardous materials.

9.4.8.4. Disposal yards and demolition activities.

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 and SAFE CONVOY). (See AFI 10-2501).

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 for Explosives-Loaded Commercial Vehicles.

9.4.9. Annually review installation explosives location map and provide changes and corrections to CES. Review must be documented and maintained by the safety office. CES 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.

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).

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.

9.4.10. With the assistance of Ground Safety, assign RACs to weapons safety hazards.

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.

9.5.2. License facilities that store small quantities of explosives according to AFMAN 91-201.

9.5.3. Review and help develop plans and procedures for handling emergencies to include, but not limited to, SAFE HAVEN, SAFE CONVOY, 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, etc.), or accidental release risk management programs for explosives.

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 Major Range Test Facility Base (MRTFB) range and will comply with DoDD 3200.11, *Major Range and Test Facility Base (MRTFB)*, 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.

9.8.1. Reasonable and prudent operational procedures shall be established so that hazards from DEW system operations present minimal risk to personnel, property, interoperability, the environment and end of life disposal issues IAW AFPD 91-4, *Directed Energy Weapons (DEW) Safety*, and AFI 91-401, *Directed Energy Weapons Safety*.

9.8.2. Additionally, DEW systems will be safety certified prior to operational use IAW AFPD 91-4 and AFI 91-401. Since DEW systems are made up of multiple components and often integrated onto another platform, System Safety must be incorporated into the design and operation of DEW, refer to **Chapter 11,** *System Safety*, of this instruction.

9.8.3. All directed energy systems that could be aimed above the horizon which could pose a potential threat to satellites or people in space will follow the procedures in DoDI 3100.11.

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 4** 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 Safety Training. The MAJCOM weapons safety office must provide MAJCOM-unique Weapons Safety Manager (WSM) training to their installation, Center and NAF weapons safety personnel. MAJCOMs must ensure all weapons safety personnel in their command are properly trained.

9.11.1. The installation weapons safety manager provides weapons safety training to all appointed Additional Duty Weapons Safety Representatives (ADWSR) on their responsibilities and program management. ADWSMs are required to be trained within 30 days of appointment, with recurring training as determined by the MAJCOM. Installation weapons safety managers will also evaluate and monitor unit weapons safety training, approve lesson plans and review annually.

9.11.2. The base or unit weapons safety manager or designated representative conducts this training, which augments the job training provided by the supervisor. The weapons safety staff evaluates and monitors unit weapons safety, 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 weapons safety training before performing any of these tasks. Recurring training must be provided not later than the end of the 15th month following initial training. **EXCEPTION:** People who store and/or handle only the following are exempt from initial and refresher training:

9.11.2.1. Small arms ammunition, including cartridge-actuated tools in quantity-distance hazard class/division 1.4.

9.11.2.2. Document destroyers.

9.11.2.3. Small tear gas items (such as grenades).

9.11.2.4. Aircraft and facility fire extinguisher cartridges.

9.11.2.5. 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.

9.11.3. DELETE.

9.11.3.1. DELETE.

9.11.3.2. DELETE.

9.11.3.3. DELETE.

9.11.3.4. DELETE.

9.11.3.5. DELETE.

9.12. Weapons Safety Committees. These committees include the Explosives Safety Committee, the Non-Nuclear Munitions Safety Board and the Nuclear Weapons Systems Safety Group are chaired by AFSC/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. Additionally, they must hold periodic meetings and generally follow other meetings in which most representatives are already present.

Chapter 10

SPACE SAFETY

10.1. Program Management. All units 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.

10.2. Program Overview. All DoD activities with the potential to inadvertently and/or adversely affect spacecraft or humans in space shall be conducted in a safe and reasonable manner that protects space systems, their mission effectiveness, and humans in space, consistent with national security requirements IAW DoDD 3100.10, *Space Policy*.

10.3. Space Control Systems. Space Control Systems, which include systems such as the Space Surveillance Network, Command and Control Warning, and Offensive and Defensive Counter Space Systems, have unique missions that don't directly support other space systems. All organizations that test or operate space control systems will have a space safety program.

10.4. Design, Development, Integration and Testing. Space systems will be designed, tested and operated in such a manner to:

10.4.1. In order to prevent design and operational problems, it is critical that space safety personnel (e.g. system safety managers) are included throughout all phases of a system's lifetime.

10.4.2. Local System Safety Managers must be included at all milestone decision points to effectively manage the risks in each program.

10.5. Launch, Range and Reentry Safety. The launch safety program covers activities associated with the ground handling, launching and pre-orbital operations of space systems. It also includes activities connected with the deployment, operation, reentry and recovery (if required) of test vehicles or payloads that do not attain orbit (either planned or unplanned). **NOTE:** Weapon safety programs cover intercontinental ballistic missile test launches.

10.6. Orbital 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 end-of-life 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 spacecraft design, orbital operations, reentry, recovery and disposal elements.

10.7. Space Safety Council (SSC). The SSC will assist the AF/SE in fulfilling oversight responsibilities through effective governance and management. This council, chaired by HQ AFSC/SES, is composed of the MAJCOM/SEs or their representatives. Other military/civil space agencies are invited to participate in the cross-flow of information. The council will hold at least one annual meeting. The SSC shall:

10.7.1. Recommend DoD/federal and commercial space safety policy, prepare and monitor DoD/federal and commercial space safety directives or instructions concerning safety issues.

10.7.2. Promote space safety initiatives for both DoD/federal and commercial space flight.

10.7.3. Maximize collaboration with organizational Safety Offices.

10.7.4. Discuss space safety related System Safety issues.

10.7.5. Provide for an independent assessment of overall program safety.

10.8. Space Safety Training. Assigned space safety personnel should be trained in all applicable aspects of space safety according to the unit's operations. This includes risk analysis and management, System Safety, space environment hazards, testing, and conjunction assessment. Space safety personnel should be trained in mission specific safety tasks: 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 directed energy systems/operations).

10.9. Space Nuclear Safety. Space nuclear safety falls under the Inter-agency Nuclear Safety Review Panel, of which HQ AFSC/SES is the DoD representative. This program ensures that radioactive sources and nuclear power systems used in space are designed, developed, built, maintained, stored, handled, launched and used (including final disposition) with the maximum safety and security consistent with operational requirements. Consult AFI 91-110, *Nuclear Safety Review and Launch Approval for Space or Missile Use of Radioactive Material and Nuclear Systems*, for nuclear safety review and launch approval requirements and procedures for the use of nuclear powered system and radioactive sources in space.

10.10. Space Asset Interaction with Directed Energy Systems. There are many DoD programs and/or experiments using the electromagnetic spectrum to produce high-energy lasers, jammers and other ground-based or space-based devices. All DoD programs shall take appropriate action or institute operational procedures to minimize hazards and/or interference with spacecraft, the general public, property on the Earth's surface, the Earth's atmosphere and the space environment.

10.10.1. In addition to the requirements of paragraph **9.8,** all laser systems that could be aimed above the horizon which could pose a potential threat to satellites or people in space will follow the procedures in DoDI O-3100.11, *Illumination of Objects in Space by Lasers.*

10.10.2. Reference DoDI O-3100.11 and AFI 91-401 for further directed energy safety guidance.

Chapter 11

SYSTEM SAFETY

11.1. Overview. This Chapter establishes the roles, responsibilities and policy requirements for Safety personnel in support of System Safety. It 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 Program Managers are subject to the mandatory policy and guidance described in paragraph **11.1.3** System safety principles are used to manage safety risks in multiple functional areas across the AF and form the basis for operational safety risk management and management of risks within nuclear surety activities.

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 and its use and function.

11.1.2. System Safety efforts consist of eight essential elements:

11.1.2.1. Documenting the system safety approach.

11.1.2.2. Hazard identification and analysis over the system life cycle.

11.1.2.3. Assessment of mishap risk, expressed as severity and probability of consequences.

11.1.2.4. Identification and assessment of potential risk mitigation measures.

11.1.2.5. Implementation of measures to reduce risks to acceptable levels.

11.1.2.6. Verification of risk reduction.

11.1.2.7. Acceptance of residual risks by appropriate authorities.

11.1.2.8. Tracking of hazards and residual risks throughout the system life cycle.

11.1.3. These elements must be documented and periodically reviewed by program managers.

11.1.3.1. Hazard tracking logs 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 should contain:

11.1.3.1.1. A hazard description.

11.1.3.1.2. Unique identification information.

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.

11.1.3.1.4. Information concerning the mitigation action(s).

11.1.3.1.5. Current status of the risk reduction effort.

11.1.3.1.6. A record of user concurrence and risk acceptance by appropriate authorities.

11.1.3.2. To mitigate risks, the following order of precedence is used to satisfy System Safety requirements and resolve identified hazards according to MIL-STD-882D, *DoD Standard Practice for System Safety*:

11.1.3.2.1. Design for minimum risk.

11.1.3.2.2. Incorporate safety devices.

11.1.3.2.3. Provide warning devices.

11.1.3.2.4. Develop procedures and training.

11.1.3.3. Every hazard that cannot be eliminated must be accepted by the appropriate level of leadership as specified in AFI 63-101, *Acquisition and Sustainment Life Cycle Management*.

11.1.4. The acquisition and sustainment communities implement the System Safety process as an integral part of a system program office's Systems Engineering activity as defined in AFI 63-101 and AFI 63-1201, *Life Cycle Systems Engineering*.

11.1.5. Program Managers are solely responsible for organizing their offices to execute the System Safety requirements elaborated in the DoD and Air Force policy and instructions listed in paragraph **11.1.3** In particular, Acquisition and Sustainment Program Managers must integrate system safety risk management 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.

11.1.6. For risks requiring CAE or PEO acceptance, program managers prepare a written safety risk assessment 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 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. Program managers are required to reassess CAE- or PEO-accepted mishap risks at least every four years and for milestone reviews or key decisions following risk acceptance, with consideration given to actual incident and loss experiences for the period and advances in mitigation technologies and methods. Re-validated risk assessments are then coordinated and submitted for acceptance by the appropriate authority for the new predicted risk levels. **Attachment 15** guidance is mandatory for the risk assessments that accompany High risk acceptance packages and recommended for all other risk assessments. Formats for risk assessment packages and tools to help identify baseline risk, actions already taken, interim risk, potential options and residual risk associated with each potential option may be found on the AFSC web-site.

11.2. Responsibilities.

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

11.2.1.1. 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.

11.2.1.2. Performs periodic reviews of Acquisition and Sustainment programs. These include required reviews of the results of each program's System Safety and ESOH risk management efforts. This ensures that System Safety is overseen within the context of other cost, schedule and performance issues.

11.2.1.3. Represents the Air Force in Acquisition and Sustainment Program System Safety matters with other DoD components and both Governmental and non-Governmental agencies.

11.2.1.4. 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. Program Executive Officers (PEO), Designated Acquisition Officials (DAO), and Air Logistics Center Commanders (ALC/CC) are responsible for the execution of System Safety across all programs within their portfolios. They perform periodic program and technical reviews of programs within their portfolios. These reviews include required reviews of the results of each program's System Safety and safety risk management efforts. This ensures that System Safety is overseen alongside other cost, schedule, and performance issues. Finally, PEOs, DAOs, or ALC/CCs serve as acceptance authorities for program safety risks classified "Serious" as defined by DoDI 5000.02.

11.2.3. Acquisition and Sustainment Program Managers:

11.2.3.1. Program offices must clearly define, document and adopt safety risk management matrices and/or tables, using MIL-STD-882D guidance, that detail quantified probability and event consequence severity levels, and specify approval authorities that will be used to manage major system/function risk within their specific programs. (For example, MIL-HDBK-516 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).

11.2.3.2. Program offices must document and report their safety risk management policies, along with current status of all high and serious risks as part of their Risk Management Planning. This information is required to be documented in the Programmatic Environment, Safety and Occupational Health Evaluation (PESHE), and current High- and Serious-level safety risks must be presented at each Program and Technical Review.

11.2.3.3. For risks requiring CAE or PEO acceptance, program managers must prepare a written risk assessment 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 risk acceptance packages and recommended for all other risk assessments.

11.2.3.3.1. High-level safety risk acceptance packages must be coordinated with the lead commands and AF/SE before assessments are submitted for acceptance.

11.2.3.3.2. Program managers must reassess CAE- or PEO-accepted risks at least every four years and for milestone reviews or key decisions following approval, with consideration given to actual incident and loss experiences for the period and advances in mitigation technologies and methods. Re-validated risk assessments must be coordinated and submitted for acceptance by the appropriate authority for the new predicted risk levels.

11.2.3.4. 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.

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

11.2.4.1. Develops System Safety policy and guidance.

11.2.4.2. Evaluates safety risk assessment portions of risk acceptance packages submitted for High risks to validate the processes and methodologies and to ensure risk information is adequately conveyed to risk-acceptance authorities. Reviews and coordinates on the risk acceptance packages for risks classified as High.

11.2.4.3. 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.

11.2.4.4. 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.

11.2.4.5. Represents the Air Force in System Safety matters with other DoD components and both Governmental and non-Governmental agencies.

11.2.4.6. Collects and consolidates System Safety Group (SSG) recommendations and inputs for the Air Force Operational Safety Council (AFOSC).

11.2.4.7. 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.

11.2.4.8. Develops and implements System Safety training programs and handbooks.

11.2.4.9. Provides advisors and consultants to System Safety Groups.

11.2.4.10. Reviews Air Force technical and management documents (capabilities management documents, program management directives, SSG charters) for inclusion of appropriate safety requirements.

11.2.4.11. Reviews and comments on mishap reports for technical content and lessons learned. Forwards lessons learned to the Center for Systems Engineering (CSE) Lessons Learned data bank and to appropriate OPRs for standards, specifications, and handbooks.

11.2.4.12. Provides members, advisors and consultants to the Non-nuclear Munitions Safety Boards (NNMSB), 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). (See AFI 91-205, *Nonnuclear Munitions Safety Board*, AFI 91-109, *Air Force Nuclear Reactor Program*, and AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules*.)

11.2.4.13. Evaluates the System Safety of Directed Energy Weapons (DEW) needed for Air Force operations via the DEW Certification Board (DEWCB). This safety consideration is a System Safety effort which considers the DEW hazard posed to Air Force personnel 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.

11.2.4.14. 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 System Safety ESOH risk management efforts.

11.2.5. Air Force Materiel Command (AFMC): Establishes and maintains the Air Force's capability to support System Safety efforts of non-Space Program Managers.

11.2.5.1. Ensures product centers, logistics centers and laboratories document safety criteria and hazards identified during their efforts. Provides support as required to ensure the responsible organizations include Safety hazard analysis with any development or modification to be evaluated, assessed or tested within AFMC and the using command.

11.2.5.2. Ensures program offices and the lead and using commands coordinate when modifications or changes in system use affect safety.

11.2.5.3. Evaluates mishaps and mishap trends to identify deficiencies that engineers and managers may have overlooked or incorrectly analyzed during system development. Correct oversights and update “lessons learned” information.

11.2.5.4. Keeps HQ AFSC informed of the programmatic changes of the on-going and future acquisition and sustainment programs. Specifically, changes in program managers, System Safety managers and program status (i.e., acquisition or sustainment and responsible organization).

11.2.5.5. Facilitates information exchange between program managers and chief engineers and HQ AFSC and the user to help maintain operational safety of AFMC managed weapon systems and end items.

11.2.5.6. Ensures level of support, training and experience of System Safety staff is appropriate for each Program.

11.2.5.7. Ensures HQ AFMC/SES forwards to HQ AFSC/SEFE not later than 30 calendar days after the end of each fiscal year, an update to the USAF Aviation Safety Equipment Database in the format described in **Attachment 2.**

11.2.5.8. Ensures all Center system safety managers annually report risk management policies conforming to paragraph **11.3.1,** along with a current list of all CAE- or PEO-accepted residual risks for their programs. Provides a consolidated annual report for all programs to AF/SE and SAF/AQ.

11.2.5.9. Works with the Center for Systems Engineering (CSE) to maintain an "acquisition and design system safety lessons learned" database and makes it available to users to ensure that they apply appropriate lessons learned to new programs.

11.2.5.10. Chairs System Safety Engineering Analysis (SSEA) efforts as required by each system.

11.2.6. Air Force Space Command (AFSPC):

11.2.6.1. Establishes and maintains the Air Force's capability to conduct system safety programs for space facility, launch and on-orbit activities. The Space and Missile Center (SMC) is the focal point for these system safety and acquisition functions.

11.2.6.2. Maintains close coordination with SMC to ensure that launch and on-orbit hazards are identified.

11.2.6.3. Appoints a trained System Safety manager to act as the point of contact to facilitate system safety matters.

11.2.6.4. For Space Systems, all mission assurance personnel shall be trained in System Safety and support System Safety efforts, consistent with their particular job responsibilities.

11.2.7. System Safety Officers, Managers 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) has an embedded sub-program (e.g., an aircraft engine) 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 risk management and mitigation efforts for High or Serious safety risks.

11.2.7.1. When assigned to Program Offices, System Safety Officers, Managers and engineers:

11.2.7.1.1. According to their particular job requirements, individuals in System Safety positions will complete an approved System Safety Course within 90 days of assignment (or first available course thereafter). Safety offices must document reasons for assigned individuals who have not completed training within 120 days of assignment.

11.2.7.1.2. Must have introductory space safety course training when assigned to a program involved in the acquisition of a space system.

11.2.7.1.3. Works within the Program Manager's Integrated Product Team (IPT) structure to establish and maintain a System Safety program according to the principles of MIL-STD 882D.

11.2.7.1.4. Participates in the development and maintenance of the Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE) document.

11.2.7.1.5. Integrates System Safety efforts with systems engineering and other functional areas within the program.

11.2.7.1.6. Identifies and assesses 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 reports safety risk management 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**

11.2.7.1.7. Incorporates safety requirements and design criteria into appropriate program documents.

11.2.7.1.8. Works with System Engineering staff to provide System Safety risk assessments for program and technical reviews.

11.2.7.1.9. Develops, recommends and oversees special tests to verify effectiveness of mitigation measures.

11.2.7.1.10. Develops and implements tracking procedures for all identified hazards and mitigation measures. Documents management decisions for acceptance of mishap risks.

11.2.7.1.11. When appropriate, develops 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.

11.2.7.1.12. Conducts SSGs/System Safety Working Groups (SSWGs), when required, for their program.

11.2.7.1.13. Prepares formal risk assessment packages.

11.2.7.1.14. Ensures System Safety requirements are clearly defined within the Systems Engineering process for their program.

11.2.7.1.15. For AFMC managed systems and end-items, works with the assigned chief engineer in the assurance of system and or end-item's Operational Safety, Suitability, and Effectiveness (OSS&E) baseline.

11.2.7.1.16. As part of the preparations for fielding new or modified systems, ensures using commands are provided with a listing of all identified hazards, their mitigation measures, mishap risk assessments, residual hazards and risk acceptance documentation.

11.2.7.1.17. Identify budget requirements that support mishap investigations and corrections of deficiencies in support of their program.

11.2.7.1.18. Provides updates to the USAF Safety Equipment Database 30 calendar days prior to the close of each fiscal year to HQ AFMC/SES for forwarding to HQ AFSC/SEFE. **Attachment 2** contains the required information and format.

11.2.7.2. When assigned as a Center System Safety Manager (CSSM):

11.2.7.2.1. HQ AFRL and each product and logistics center will have a trained full-time CSSM in the center safety office, unless waived by HQ AFMC/SES.

11.2.7.2.2. 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.

11.2.7.2.3. CSSMs should be members of the center Acquisition Strategy Panel and the Senior Engineering Council.

11.2.7.2.4. CSSMs or their designated staff members will be members or advisors of SSGs and MSTGs and CCBs. (Full-time SSMs may represent system safety in lieu of the CSSM on program-unique CCBs, MSTGs, and SSGs.)

11.2.7.2.5. CSSMs will conduct annual meetings with all center system safety personnel to cover refresher training, cross-tell items, and new developments in system safety.

11.2.7.2.6. The CSSM will coordinate on the safety portion of PESHEs for programs managed at the Center.

11.2.7.2.7. CSSMs must provide annual overviews to the MAJCOM/SE and AF/SE on the safety risk management policies and status of all risks requiring PEO or CAE action for all programs managed at their Center.

11.2.7.3. When assigned to Lead/Using Command, System Safety Officers, Managers, and engineers:

11.2.7.3.1. Must be familiar with System Safety policy and guidance.

11.2.7.3.2. Support the Initial Capabilities Document (ICD), Capability Development Document (CDD) and Capability Production Document (CPD) development effort by IAW AFPD 90-8, *Environment, Safety, and Occupational Health.* Safety personnel must work with the Environmental and Bioenvironmental Engineering 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.

11.2.7.3.3. Assist in coordinating user concurrence for safety risk acceptance decisions.

11.2.7.3.4. Interpret hazard data provided by the program manager for the system users.

11.2.8. Major Commands. Each MAJCOM with acquisition responsibilities must appoint a trained System Safety manager to act as the point of contact to facilitate System Safety matters. Major Command Safety Offices and System safety personnel:

11.2.8.1. 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.

11.2.8.2. Participate as SSG members and SSWG members, as appropriate. Ensure acquisition, sustainment, testing, training development, and modification plans include adequate operational safety criteria. Ensure material mishap recommendations are included in the Lead MAJCOM cycle and efforts/results are addressed by program offices.

11.2.8.3. Designate a trained focal point responsible for System Safety advocacy for the Command. Provide AFSC/SES, AFMC/SES and AFSPC/SES (space programs only) with the name of the focal point. **NOTE:** Trained focal point is someone who has completed a formal System Safety course.

11.2.8.4. 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.

11.2.8.5. Use the principles of risk management to discover previously unidentified hazards and/or changes in the level of risks in fielded systems. Ensure that changes in CONOPS will be evaluated for changes in risk. Provide relevant information to the program manager for risk mitigation efforts.

11.2.8.6. Lead Commands will consolidate Using Command's requirements and represent these needs to program offices.

11.2.8.7. Ensure assigned system safety personnel are properly trained.

11.2.9. Units. Ensure the unit risk management effort uses Program Manager's System Safety hazard information in its risk assessments.

11.2.9.1. Participate, as appropriate, in SSGs and SSWGs to identify risks and hazards.

11.2.9.2. Coordinate issues affecting System Safety with the MAJCOM Weapon System Representative, the Program Office, the System Safety Group and HQ AFSC, as appropriate.

11.2.10. 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 Air Force Operational Test Evaluation Center (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, system safety activities, acquisition and sustainment program offices should utilize SSGs to collect and cross feed user inputs and insights into the program's System Safety efforts. SSG members include the program manager or deputy, Center System Safety Manager, program System Safety Manager and representatives from the Using Commands, HQ AFSC, AFMC/SES, AFOTEC, AFSPC/SES, SAF/AQR, and other appropriate DoD and industry organizations.

11.3.1. All aircraft and space programs, regardless of acquisition category, 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 also not 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 Acquisition Category I (ACAT 1) and lower acquisition category programs. HQ AFSC 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.

11.3.2.2. Fleet safety assessment.

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.

11.3.2.4. Status of planned, pending, active and disapproved safety modifications. Appendix 15 has guidelines and considerations for modification planning and risk assessment.

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.

11.3.2.6. User/operator issues.

11.3.2.7. Safety risk mitigation options

11.3.2.8. Unmitigated hazards.

11.3.2.9. System Safety program scope, including contractual requirements and deliverable System Safety data.

11.3.2.10. Overall safety assessments, especially before milestone reviews.

11.3.2.11. Major modifications or engineering change proposals.

11.3.2.12. The need to establish SSWGs as necessary to work detailed System Safety issues.

11.3.2.13. Making safety recommendations during design, development, test, operations, sustainment and disposal.

11.3.2.14. Assigning mishap risk indices to each SSG discussion and action item.

11.3.2.15. Aircraft Information Program status to emphasize the collection and analysis of safety data.

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 Chairman (Program Manager, Deputy or Chief Engineer), Program System Safety Manager/Engineer, Center System Safety Manager, AFSC, AFMC/SE (for non-space systems), AFSPC/SE (for space systems), the Lead MAJCOM safety office, and the Lead MAJCOM user representative. Optional, advisory members include SAF/AQRE, the contractor system safety manager, the ALC Materiel Safety Officer (MSO), program engineering staff (as needed based on issues at hand), AFOTEC, AFFTC, Space Launch Ranges, and others as may determined by mandatory members.

11.3.4. SSG minutes shall be sent to SAF/AQR, AFMC/EN or SMC/EA (as applicable), HQ AFSC/SEA/SEF/SEG/SES/SEW, AFSPC/SES or AFMC/SES (as applicable), and the owning command.

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 and approves new operations that are prohibited due to the perceived risks (e.g. hot pit refueling, integrated combat turnaround (ICT)/hot ICT, aircraft-to-aircraft servicing operations, wet wing/rapid defueling and concurrent servicing).

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 AFSC and the developing, supporting and operational commands.

11.5.2. A using command requests a SSEA in writing to AFMC/SES and informs HQ AFSC. 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. To provide senior leaders, functional managers and supervisors with a risk-based process or equivalent that mitigates hazardous conditions in all workplaces and operations. The purpose of the hazard abatement program is to eliminate, control or limit exposure of personnel to hazardous conditions.

12.2. Responsibilities.

12.2.1. Each installation establishes a program to abate hazards based on a priority system.

12.2.2. Commanders, supervisors and employees at all levels are responsible for abating hazardous conditions

12.2.3. Commanders protect national resources, both human and material, and have the responsibility to take action in implementing safety measures.

12.2.4. Functional managers correct hazards in their areas of responsibility.

12.2.5. The safety office helps commanders determine needed abatement actions and provide the commander with follow-up support until the hazard is eliminated.

12.2.6. Send projects beyond the capability of local commanders to the parent MAJCOM.

12.3. Planning and Engineering. Use risk management processes during the planning, design and execution phases to 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.

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.

12.5. Hazard Elimination Hierarchy. 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 and control methods:

12.5.1.1. 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.

12.5.1.1.1. Substitution of a less hazardous material.

12.5.1.1.2. Change process to minimize exposure to a hazard.

12.5.1.1.3. Isolation or enclosure of a process.

12.5.1.1.4. Ventilation of a work area.

12.5.1.1.5. Use of local exhaust i.e. fume hoods.

12.5.1.2. Administrative. Administrative control methods, such as adjusting work schedules, good housekeeping or encouraging best work practice can reduce hazard exposures.

12.5.1.3. Personal Protective Equipment (PPE). PPE to be used 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.

12.5.2. 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 understood and followed by all affected parties.

12.5.3. **Attachment 7** through **10** provide additional instructions for assigning RACs, determining an abatement priority numbers and completing AF Forms 3 and 1118.

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 Material Deficiency Report and Investigation System*) and Flight Manual Changes [AFI 11-215, *Flight Manual Procedures*]).

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.

12.6.2.2. Identify abatement actions for RACs 4 and 5 hazards as soon as possible.

12.6.3. Select an abatement method and, if possible, interim control measures based on the hierarchy outlined in paragraph **12.5**

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.

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		

12.7. Imminent Danger Situations. Anyone identifying an 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.

12.8. Posting Hazards. The fire, safety or health officials complete the AF Form 1118 identifying RAC 1, 2 and 3 hazards according to **Attachment 9** and forwards to the supervisor for posting. If the hazard is not abated within 30 days, a copy of the AF Form 1118 will be sent to the Wing safety office by the office assigning the RAC for addition to the master hazard abatement program. Supervisors must alert employees to the hazardous condition, any interim control measures and permanent corrective actions underway or programmed. Supervisors post the AF Form 1118 in the workplace no later than the end of the next duty day after identification of the hazard. AF Form 979, *Danger Tag*, may be used for this purpose on equipment. See AFOSH Standard 91-501 or current AFOSH guidance.

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.

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 and validated by the issuing authority.

12.9. Installation Hazard Abatement Plans. Managers will ensure RACs 1, 2 and 3 hazards not corrected within 30 days are included into a formal installation hazard abatement plan and ensure any affected contractors or DoD civilian employees are notified. Safety staff will track RAC 4 and 5s until closed. AF Form 3 or AF Form 1118 is optional for RACs 4 and 5. MAJCOM may delineate additional tracking requirements.

12.9.1. RAC 1, 2, or 3 hazards, not abated within 30 days, identified for correction are entered into the formal hazard abatement plan using AF Form 3. (See **Attachment 10**). Close out applicable hazard reports and inspection reports when action is transferred to AF Form 3.

12.9.2. Safety, fire or health officials assist functional managers in preparation of the AF Form 3. After functional manager approves and signs the AF Form 3, it will be entered into formal hazard abatement plan. **NOTE:** Enter only one hazard on each copy of the AF Form 3.

12.9.3. The host installation safety staff maintains a complete set of AF Form 3s, which is the installation master hazard abatement plan.

12.9.4. Squadron commanders or functional managers will conduct a semiannual review of AF Form 3s pertaining to their areas of responsibilities.

12.9.4.1. The functional managers notify the safety personnel of any changes in hazard abatement status and annotate on the review AF Form 3.

12.9.4.2. 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 that the hazard has been fully abated. Functional manager will request agency support.

12.9.5. The Safety Council will review the installation hazard abatement plan at least once a year. They will address project delays and other problems on a quarterly basis.

12.9.6. The COS will send a written copy of the installation hazard abatement plan to the installation commander once a year for review and approval of priorities for projects.

12.9.7. The ground safety representative will make the installation hazard abatement plan available for review locally by representatives of recognized employee organizations if such organizations exist.

12.9.8. MAJCOM ground safety personnel will send copies of AF Form 3s received from subordinate installations or units to HQ AFSC/SEG and AFMOA/ SG3P or AFCESA/DF, if appropriate, when MAJCOM funding authority for abatement action is exceeded.

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 construction and modernization projects. For projects that exceed local funding authority, follow requirements in AFI 32-1021, *Planning and Programming Military Construction (MILCON) Projects*, and send projects to the parent MAJCOM for centralized programming. Identify the portion of project cost attributable to hazard abatement.

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.

12.11. End of Year Annual Hazard Abatement Survey Report. Each installation safety representative obtains information from installation civil engineering and functional managers in order to submit an End-of-FY Annual Hazard Abatement Survey report to their MAJCOM safety representative by 15 October each year. MAJCOM safety representatives, in turn, submit a consolidated Annual Hazard Abatement Survey report to HQ AFSC/SEG no later than 1 November each year. FOAs and DRUs are not to submit the annual survey report if the host installation reports their hazard abatement actions through a MAJCOM.

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.

	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	

GREGORY A. FEEST
Major General, USAF
Chief of Safety

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFH 63-1402, *Aircraft Information Program,* 19 March 2001

AFI 10-2501, *Air Force Emergency Management (EM) Program Planning and Operations,* 24 January 2007

AFI 11-202 Vol 2, *Aircrew Standardization/Evaluation Program,* 13 September 2010

AFI 11-215, *USAF Flight Manuals Program (FMP),* 22 December 2008

AFI 13-212, *Range Planning and Operations,* 16 November 2007

AFI 13-213, *Airfield Driving,* 1 June 2011

AFI 32-1021, *Planning & Programming Military Construction (MILCON) Projects,* 14 June 2010

AFI 32-1023, *Designing and Constructing Military Construction Projects,* 21 April 2010

AFI 32-7086, *Hazardous Materials Management,* 1 November 2004

AFI 33-332, *Air Force Privacy Program,* 16 May 2011

AFI 34-217, *Air Force Aero Club Program,* 1 February 1997

AFI 36-401, *Employee Training & Development,* 28 June 2002

AFI 36-601, *Air Force Civilian Career Program Management,* 25 July 1994

AFI 36-2101, *Classifying Military Personnel (Officer and Enlisted),* 14 June 2010

AFI 36-2201, *Air Force Training Program,* 15 September 2010

AFI 36-2833, *Safety Awards,* 8 February 2011

AFI 44-102, *Medical Care Management,* 1 May 2006

AFI 44-119, *Medical Quality Operations,* 16 August 2011

AFI 48-101, *Aerospace Medicine Enterprise,* 19 October 2011

AFI 48-145, *Occupational and Environmental Health Program,* 15 September 2011

AFI 51-503, *Aerospace Accident Investigations,* 26 May 2010

AFI 51-507, *Ground Accident Investigations,* 28 May 2010

AFI 51-1101, *Air Force Procurement Fraud Remedies Program,* 21 October 2003

AFI 63-101, *Acquisition and Sustainment Life Cycle Management,* 8 April 2009

AFI 63-1201, *Life Cycle Systems Engineering,* 23 July 2007

AFI 64-117, *Air Force Government-Wide Purchase Card (GPC) Program,* 20 September 2011

AFI 65-601 Vol 1, *Budget Guidance and Procedures,* 3 March 2005

AFI 90-801, *Environment, Safety, and Occupational Health Councils,* 25 March 2005

AFI 90-821, *Hazard Communication,* 30 March 2005

AFI 90-901, *Operational Risk Management,* 1 April 2000

AFI 91-101, *Air Force Nuclear Weapons Surety Program,* 13 October 2010

AFI 91-102, *Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules,* 24 June 2010

AFI 91-110, *Nuclear Safety Review and Launch Approval for Space or Missile Use of Radioactive Material and Nuclear Systems,* 28 June 2002

AFI 91-204, *Safety Investigations and Reports,* 24 September 2008

AFI 91-205, *Nonnuclear Munitions Safety Board,* 1 July 1998

AFI 91-207, *The US Air Force Traffic Safety Program,* 27 October 2011

AFI 91-217, *Space Safety and Mishap Prevention Program,* 18 February 2010

AFI 91-401, *Directed Energy Weapons Safety,* 29 September 2008

AFI 99-103, *Capabilities-Based Test and Evaluation,* 26 February 2008

AFH 63-1402, *Aircraft Information Program,* 19 March 2001

AFMAN 23-110, *USAF Supply Manual,* 1 April 2009

AFMAN 33-363, *Management of Records,* 1 March 2008

AFMAN 48-153, *Health Risk Assessment,* 28 March 2007

AFMAN 48-154, *Occupational and Environmental Health Site Assessment,* 28 March 2007

AFMAN 48-155, *Occupational and Environmental Health Exposure Controls,* 1 October 2008

AFMAN 91-201, *Explosives Safety Standards,* 12 January 2011

AFMAN 91-221, *Weapons Safety Investigations and Reports,* 8 November 2010

AFMAN 91-222, *Space Safety Investigations and Reports,* 9 August 2005

AFMAN 91-223, *Aviation Safety Investigations and Reports,* 6 July 2004

AFMAN 91-224, *Ground Safety Investigation and Reports,* 1 August 2004

AFOSH 48-Series Medical Standards, 6 May 2004 thru 30 June 2006

AFPAM 90-902, *Operational Risk Management (ORM) Guidelines and Tools,* 14 December 2000

AFPAM 91-210, *Contract Safety,* 14 February 1994

AFPAM 91-211, *USAF Guide to Aviation Safety Investigation,* 23 July 2001

AFPAM 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques,* 1 February 2004

AFPAM 91-216, *USAF Safety Deployment and Contingency Pamphlet,* 9 August 2001

AFPD 90-8, *Environment, Safety, and Occupational Health,* 1 September 2004

AFPD 90-9, *Operational Risk Management,* 1 April 2000

AFPD 91-1, *Nuclear Weapons and System Surety,* 13 December 2010

AFPD 91-2, *Safety Programs,* 28 September 1993

AFPD 91-3, *Occupational Safety and Health,* 27 Sep 93

AFPD 91-4, *Directed Energy Weapons (DEW),* 21 October 2011

DoD 1400.25-M, *DoD Civilian Personnel Manual (CPM) System, Subchapter 810, Injury Compensation,* 1 December 2006

DoD 5200.1-R, *Information Security Program,* 14 January 1997

DoD 5400-7-R, *DoD Freedom of Information Act Program,* 04 September 1998

DoD 6025.13-R, *Military Health System (MHS) Clinical Quality Assurance (CQA) Program Regulation,* 11 June 2004

DoD 6025.18-R, *DoD Health Information Privacy Regulation,* 24 January 2003

DoD 6055.05-M, *Occupational Medical Examinations and Surveillance Manual,* 2 May 2007

DoD 6055.09-STD, *DoD Ammunition and Explosives Safety Standards,* 29 February 2008

DoDD 3100.10, *Space Policy,* 9 July 1999

DoDD 3200.11, *Major Range and Test Facility Base (MRTFB),* 27 December 2007

DoDD 4715.1E, *Environment, Safety, and Occupational Health (ESOH),* 19 March 2005

DoDD 5000.01, *The Defense Acquisition System,* 12 May 2003

DoDD 5400.11, *DoD Privacy Program,* 8 May 2007

DoDI O-3100.11, *Illumination of Objects in Space by Lasers,* 31 March 2000

DoDI 4145.26, *DoD Contractor's Safety Requirements for Ammunition and Explosives,* 9 April 2005

DoDI 5000.02, *Operation of the Defense Acquisition System,* 8 December 2008

DoDI 5000.35, *Defense Acquisition Regulations (DAR) System,* 21 October 2008

DoDI 6050.05, *DoD Hazard Communication (HAZCOM) Program,* 15 August 2006

DoDI 6055.1, *DoD Safety and Occupational Health (SOH) Program,* 19 August 1998

DoDI 6055.4, *DoD Traffic Safety Program,* 20 April 2009

DoDI 6055.07, *Mishap Notification, Investigation, Reporting, and Record Keeping,* 6 June 2011

FORM CA-10, *What A Federal Employee Should Do When Injured At Work*

MIL-HDBK-516, *DoD Handbook Airworthiness Certification Criteria,* 1 October 2002

MIL-STD-882D, *DoD Standard Practice for System Safety,* 10 February 2000

NATO STANAG 3101, *Exchange of Safety Information Concerning Aircraft and Missiles,* 24 February 2009

NATO STANAG 3102, *Flight Safety Co-operation in Common Ground/Air Space,* 27 March 2007

NATO STANAG 3531, *Safety Investigation and Reporting of Accident/Incidents Involving Military Aircraft, Missiles and/or UAVs,* 28 March 2007

NATO STANAG 3750, *Reporting and Investigation of Air Traffic Incidents,* 2 April 2007

Executive Order 12196, *Occupational Safety and Health Program for Federal Employees,* 27 February 1980

OSHA Form 300, *Log of Work-Related Injuries and Illnesses*

Public Law 91-596, *Occupational Safety and Health Act of 1970,* 29 December 1970 as amended

Title 5, Administrative Personnel, Code of Federal Regulations Part 339, *Medical Qualification Determinations*

Title 29, Labor, Code of Federal Regulations 1904, *Recording and Reporting Occupational Injuries and Illnesses*

Title 29, Labor, Code of Federal Regulations 1910, *Occupational Safety and Health Standards*

Title 29, Labor, Code of Federal Regulations 1926, *Safety and Health Regulations for Construction*

Title 29, Labor, Code of Federal Regulations 1960, *Basic Program Elements for Federal Employees, Occupational Safety and Health Programs and Related Matters*

Title 10, U.S.C. Chapter 172, *Strategic Environmental Research and Development Program*

Title 42, U.S.C. Chapter 23, *Development and Control of Atomic Energy*

TO 00-5-1, *Air Force Technical Order System,* 1 October 2008

TO 00-35D-54, *USAF Deficiency Reporting, Investigation, and Resolution,* 1 May 2007

TO 11A-1-33, *Handling and Maintenance of Explosives Loaded Aircraft (ATOS),* 13 November 2006

UFC 3-260-01, *Airfield and Heliport Planning and Design,* 17 November 2008

Prescribed Forms

AF Form 4391, *High Risk Activities Worksheet.*

AF Form 4392, *Pre-Departure Safety Briefing.*

Adopted Forms

AF Form 3, *Hazard Abatement Plan.*

AF Form 9, *Request For Purchase.*

AF Form 55, *Employee Safety and Health Record.*

AF Form 457, *USAF Hazard Report.*

AF Form 651, *Hazardous Air Traffic Report (HATR).*

AF Form 847, *Recommendation For Change of Publication.*

AF Form 979, *Danger Tag.*

AF Form 1118, *Notice of Hazard.*

AF Form 1754, *Job Capability and Safety Analysis (LRA).*

AFVA 91-307, *Air Force Occupational Safety and Health Program.*

FORM CA-10, *What A Federal Employee Should Do When Injured At Work.*

OSHA Form 300, *Log of Work-Related Injuries and Illnesses.*

Abbreviations and Acronyms

AFFORMS—Air Force Forms

AFI—Air Force Instruction

AFJMAN—Air Force Joint Manual

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFOSH—Air Force Occupational Safety and Health

AFSC—Air Force Safety Center

AFTO—Air Force Technical Order

ANSI—American National Standards Institute

ASME—American Society of Mechanical Engineers

BE—Bioenvironmental Engineering

C—Celsius

CAMS—Core Automated Maintenance System

CAS -B—Combat Automated System – Base

CFR—Code of Federal Regulations

CG—Center of Gravity

CMAA—Crane Manufacturers Association of America, Inc.

DoD—Department of Defense

DRU—Direct Reporting Unit

EMP—Emergency Management Plan

F—Fahrenheit

FC—Fiber Core

FOA—Field Operating Agency

GO81—CAMS for Mobility

HQ—Headquarters

HRB—Hazard Review Board

IPS—Improved Plow Steel

IWRC—Independent Wire Rope Core

JSA—Job Safety Analysis

JSM—Joint Service Manual

kV—Kilovolts

LP—Liquid Petroleum

MAJCOM—Major Command

MFT—Multi-Functional Team

MHE—Materials Handling Equipment

Mil Std—Military Standard

NDI—Non-Destructive Inspection

NEC—National Electrical Code

NFPA—National Fire Protection Association

NSC—National Safety Council

OEL—Occupational Exposure Limit

OL—Operating Location

ORM—Operational Risk Management

OSHA—Occupational Safety and Health Administration

PDO—Publishing Distribution Office

PPE—Personal Protective Equipment

RM—Risk Management

ROA—Range Operating Agency

SAE—Society of Automotive Engineers, Inc.

TO—Technical Order

US—United States

USAF—United States Air Force

WWW—World-Wide Web

XIPS—Extra Improved Plow Steel

Terms

Assessment—Assessments determine safety program management, implementation and effectiveness. Like program evaluations, 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.

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 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.

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).

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 and 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).

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 qualified fire official must be relied upon. Fire safety deficiencies will not be assigned RAC 1, 2, or 3.

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 or installation commanders.

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. Hazards to be reported include unsafe procedures, conditions or practices. Hazards must be reported to their responsible supervisor or local agency. If the hazard cannot be eliminated immediately, notify the local safety office using an Form 457, *USAF Hazard Report (HR)* or by telephone or in person.

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 requires 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:** MAJCOMs can determine within the command what are considered high risk activities.

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. **NOTE:** RAC 1 hazards are classified as imminent danger.

Informal Report—A report with no particular format. (e.g. spot inspection, high interest, etc.)

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 Guide—Information placed in a specific format designed to lead supervisors through a series of steps or courses of action ensuring required safety training is provided for all employees. The JSTG is prepared by supervisors to train personnel upon initial assignment or when work conditions or tasks change.

Job Safety Training Outline (JSTO)—An outline of mandatory safety training items that supervisors use to prepare a job safety training guide. The JSTO is used by supervisors as a template to prepare a Job Safety Training Guide for their specific work areas. See Attachment 5.

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.

Major Command—For the purpose of mishap prevention (MAJCOM) includes ACC, AETC, AFMC, AFRC, AFSPC, AFGSC, AFSOC, AMC, ANG, PACAF and USAFE.

Military—Unique Workplaces, Operations, Equipment, and Systems— Military-Unique. The term military-unique refers to 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 OSHA Act. 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**.** Damage or injury includes: damage to DoD property or equipment; environmental damage; occupational illness to DoD military or civilian personnel; injury to DoD military personnel on- or off-duty; injury to on-duty DoD civilian personnel; damage to public or private property, or injury or illness to non-DoD personnel caused by Air Force operations.

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 that are in non-compliance 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. Example include lack of fire detection or suppression equipment and systems, broken smoke alarm, lack of exit signs, and railings which are two inches below standard height. 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) (A&AS), 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*).

Formal Inspection Report—A report with a particular prescribed format. (e.g. Hazard Abatement Plan.)

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, risk management 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.

Spot Inspection—These inspections are no-notice inspections to check the day-to-day safety and health of an organization, work center, facility, etc. Documentation requirements for spot inspections are established by the MAJCOM, NAF, DRU or FOA, or safety office. Minimum documentation will include date, inspector's name and their organization or office symbol, organization or activity inspected, 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, causes of deficiencies and hazards, as noted, recommendations for corrective action and name and phone number of responsible person.

Standards—Safety and health standards (including emergency temporary standards) issued under the OSH Act of 1970. 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.

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".

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 AFSC/SEFE in an electronic spreadsheet format and will be organized into aircraft categories of Bombers, 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. (Ex: EC-135N, KC-135R, F-16C Block 40, F-16B Block 15, etc.)

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 is 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 (ex: LAS-209F, MU-1003, etc.). Additionally, document program's current compliance with applicable Air Force requirements contained within Aircraft Information Programs publications (AFPD 63-14, AFI 63-1401, and AFH 63-1402). 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 (ex: A100A, VADAR, etc.). 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. (Ex: 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 (ex: GCAS, AGCAS, TFR, TAR).

A2.11. Windshear Detection System (WSD). If an additional function of another device then provide information about the device that provides detection (ex: FSAS, MARK VII GPWS, etc).

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

HAZARDOUS AIR TRAFFIC REPORT PROGRAM

A3.1. General. Hazard air traffic report information is vital to Air Force flight safety. This attachment establishes procedures for reporting and investigating near midair collisions (NMAC) and other hazardous air traffic conditions. Report all HATR incidents using the AF Form 651, *Hazardous Air Traffic Report (HATR)*. Use of information taken from these reports is for mishap prevention only and not for disciplinary actions. HATR information is not privileged information and is releasable outside Air Force channels except for the identity of the personnel involved.

A3.2. Reportable Incidents.

A3.2.1. NMAC. Aircrew took abrupt evasive action to avoid a collision or would have taken evasive action if circumstances allowed. **NOTE:** In many cases, the term AIRMISS is the terminology used for European incidents.

A3.2.2. Air Traffic Control (ATC). Any ATC service that did or could contribute to a hazardous air traffic condition. Example: Failure by ATC to maintain required separation between aircraft under their control.

A3.2.3. Aircrew Deviation. Any aircrew actions that did or could contribute to a hazardous air traffic condition.

A3.2.4. Communication or Navigational Aid (NAVAID). An equipment indication/ malfunction that did or could contribute to a hazardous air traffic condition.

A3.2.5. Procedural Guidance. Procedures described in any publication or directive that did or could contribute to a hazardous air traffic condition.

A3.2.6. Ground Incidents. Any occurrence on the movement area that endangered an airborne aircraft or an aircraft operating on the ground.

A3.2.7. TCAS Resolution Advisories (RA). TCAS RAs (involving USAF aircraft/RPA) that require the aircraft/RPA to deviate from an assigned clearance. This includes USAF aircraft/RPA triggering TCAS RA aboard civil or other DoD aircraft.

A3.3. Responsibilities of the Unit Commander. Unit commanders will ensure AF Form 651 is available to aircrews at base operations workplaces, flying squadron operations offices, in trip kits and in USAF ATC workplaces. Commanders must emphasize the importance of identifying hazardous situations through the HATR program and encourage the filing of appropriate HATRs as a method of preventing future mishaps.

A3.4. Responsibility of the Individual Filing the HATR. Any person (e.g., air traffic controller, pilot, safety officer, etc.) aware that a reportable event occurred shall file a HATR. Report the details on AF Form 651 in the following manner.

A3.4.1. If the individual is at the Air Force base where the incident occurred, file the report within 24 hours to the base safety office.

A3.4.2. If the incident occurred at another location (other than home station); report the incident to Air Force safety personnel at the nearest Air Force safety office or the next landing location with an Air Force safety office.

A3.4.3. If an aircrew experiences a NMAC, and circumstances permit, immediately (e.g., while airborne) inform the nearest ATC agency, civil aviation authority (CAA) for overseas incidents, or flight service station and provide the following information:

A3.4.3.1. Identification or call sign.

A3.4.3.2. Time and place (name of NAVAID, radial and distance, and latitude/longitude coordinates if available) of incident.

A3.4.3.3. Altitude or flight level.

A3.4.3.4. Description of other aircraft in the incident.

A3.4.3.5. Advise the controlling agency a written NMAC report will be filed and request that all available data be saved.

NOTE: Aircrews, who experience a NMAC under FAA control, should request that facility to initiate a FAA NMAC report.

A3.5. Responsibilities of the Safety Office Receiving a HATR. Within 24 hours after notification of the incident, the safety office receiving the HATR determines which safety office is responsible for the investigation. Fax the AF Form 651 to the appropriate safety office. Follow this order of priority:

A3.5.1. If applicable complies with host nation agreements.

A3.5.2. If foreign ATC or aircraft are involved, the overseas MAJCOM.

A3.5.3. Nearest Air Force safety office or the next landing location with an Air Force safety office.

A3.5.4. If none, originator's home station.

A3.6. Responsibilities of the Investigating Safety Office. The investigating safety office will:

A3.6.1. Determine if the reported event merits a HATR. Notify the individual or unit that filed the HATR of this determination and the pending actions.

A3.6.2. If the incident is reportable, report the incident in HATR Safety Automated System database.

A3.6.3. Determine which organizations were involved and request that office's assistance with the investigation. Notify:

A3.6.3.1. The base Airfield Operations Flight Commander, or equivalent, if Air Force ATC were suspected to be involved. **NOTE:** Obtain ATC recordings needed for HATR investigations as quickly as possible, ATC recordings are routinely retained for only 15 days. The base Communications Commander if NAVAIDs were suspected to be involved.

A3.6.3.2. The flying unit if local base aircraft were involved. If transient aircraft were involved, notify the pilot's unit of assignment.

A3.6.3.3. The FAA facility or FSDO if FAA ATC or civil aircraft were involved. **NOTE:** Contact the FAA Air Force Representative (AFREP) for help in notifying the proper facility or FSDO. See **Table A3.1** to determine which AFREP to contact. Include

the AFREP in these investigations, especially if you are having difficulty getting information from the FAA.

A3.6.4. Complete the HATR AFSAS preliminary or a preliminary/final report within 10 workdays. If the investigation is not completed within 10 working days, submit a supplemental report every 30 days. Continue the supplemental report until the investigation is closed and a final report is complete.

A3.6.5. Notify the originator's unit and MAJCOM, if required, about corrective actions that the safety office has taken or recommends.

A3.7. Responsibilities of the AFREP at FAA Regional Offices. Review all HATRs and provide assistance when requested.

A3.8. Responsibilities of the MAJCOM OPR for Safety. MAJCOM OPR for Safety will:

A3.8.1. Receive and evaluate all HATRs for their command to ensure proper conclusions and resolutions. Coordinate with appropriate MAJCOM functional OPRs (e.g., airfield operations, civil engineering) to ensure comprehensive review is accomplished.

A3.8.2. Inform AFSC/SEFO for HATRs of non-concurrence with corrective actions taken or recommended on all HATRs.

A3.9. Responsibilities of the Air Force Flight Standards Agency OPR for Airfield Operations. Receive and evaluate all HATRs for trends and concerns that may have Air Force-wide implications. Act as appropriate to establish procedures, clarify guidance and disseminate trend information.

A3.10. Responsibilities of AFSC/SEFO for HATRs.

A3.10.1. Administer the program and ensure the safety offices fully investigate the reports.

A3.10.2. Send host nation HATR reports to appropriate CAA for investigation and resolution of the incident.

A3.10.3. Initiate inquiry for overseas HATR incidents occurring outside the control of overseas MAJCOMs.

Table A3.1. FAA AFREP AND REGIONAL BOUNDARIES BY STATE.

MAILING ADRESS	TEL NUMBERS	AOR
FAA HEADQUARTERS		
DOD Military Representative / AJR-01 HQ Federal Aviation Administration 800 Independence Ave, SW Washington, DC 20591	V (202) 267-9427 V DSN 325-6270 F (202) 267-5868	National/International
ALASKA		

AF Rep, FAA Alaskan Rgn 5800 G. St., Suite 222 Elmendorf AFB, AK 99506-2130	V (907) 552-4056 V DSN 317-552-2374 F (907) 552-5715 F DSN 317-552-5715	AK, Anchorage Flt Information Region (FIR)
EASTERN SERVICE AREA		
AF Rep, FAA Southern Rgn/ ASO-910 P.O. Box 20636 Atlanta, GA 30320-5000	V (404) 305-6900/2 V DSN 797-5481/2 F (404) 305-6911	AL, CT, DE, FL, GA, KY, MA, MD, ME, MS, NC, NH, NJ, NY, PA, PM, PR, RI, SC, Swan Is, TN, VA, Virgin Is, VT, WV
CENTRAL SERVICE AREA		
AF Rep, FAA Southwest Rgn/ ASW-910 2601 Meacham Blvd Fort Worth, TX 76193-0910	V (817) 222-5910/1/2/3 V DSN 477-2910/1/2/3 F (817) 222-5992 F DSN 477-2992	AR, IA, IL, IN, KS, LA, MI, MN, MO, ND, NE, NM, OH, OK, SD, TX, WI
WESTERN SERVICE AREA		
AF Rep, FAA Northwest Mtn Rgn/ANM-900 1601 Lind Ave, S.W. Renton, WA 98057-4056	V (425) 227-2947/8/9 V DSN 984-5204 F (206)227-1114	AZ, CA,CO, Guam FIR, HI, Honolulu FIR, ID, MT, NV, OR, WA, VY, UT

Attachment 4

MISHAP RESPONSE

A4.1. General. Pre-mishap response planning by safety staffs must address appropriate participation in all base-level responses, including:

A4.1.1. Major mishaps.

A4.1.2. Hazardous materials mishaps.

A4.1.3. Natural disasters.

A4.1.4. Nuclear weapons mishaps.

A4.1.5. Conventional munitions incidents.

A4.1.6. Directed Energy Weapons mishaps

A4.2. The basic response planning document for Major Accident Response, Natural Disasters, Enemy Attack, and Distribution is AFI 10-2501, *Air Force Emergency Management Program Planning and Operations*.

A4.3. Planning Factors. Use the following in developing your Comprehensive Emergency Management Plan (CEMP) for all accidents, incidents and unusual occurrences: AFI 10-2501.

A4.4. 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).

A4.5. Source Documents for Specific Planning Criteria. The primary source of detailed planning guidance for safety staffs is AFPAM 91-211, *USAF Guide to Aviation Safety Investigation*. The former contains a "Mishap Response Checklist" for EOC safety representative and guidance for developing a unit control center checklist; the latter describes specialized equipment requirements and an expanded set of tasks for interim safety board members.

A4.6. 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 base readiness flight (disaster preparedness function) to determine how to formally provide for partial EOC support when the full DRF is not activated.

A4.7. Munitions Rapid Response Team. The 84th Combat Sustainment Wing has developed a conventional munitions rapid response team to support Air Force units throughout the world anytime a munitions incident occurs. The team is made up of experts (engineers, equipment specialists, program managers, and safety personnel) from the conventional weapons and munitions programs. These personnel are able to travel anywhere in the world within 24 to 48 hours to assist in determining the cause of a failure. If your MAJCOM or unit has an incident, and this team's help is desired, contact 84th Combat Sustainment Wing to request support by

calling DSN 777-5055, or 775-5506 during duty hours. If after duty hours contact Hill AFB Command Post at DSN 777-3007 or Commercial (801) 775-3007.

Attachment 5

JOB SAFETY TRAINING OUTLINE (JSTO)

A5.1. Mandatory items that will be briefed to all personnel. This Job Safety Training Outline will be used to develop a job safety training guide from which all individuals within the work center will be trained. This JSTO lists mandatory items that will be briefed to all personnel. 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 on the AF Form 55 or equivalent. Deployed and installation commanders may dictate more stringent requirements.

A5.1.1. Hazards of the job and specific safety guidance that applies to their workplace.

A5.1.2. Hazards of the work area environment to include awareness of the Hazard Communication Program requirement ("Employee's Right to Know").

A5.1.3. Proper personal lifting techniques—AFOSH Standard 91-501.

A5.1.4. Location of medical facilities and procedures for obtaining treatment.

A5.1.5. Location and use, as appropriate, of emergency and fire protection equipment.

A5.1.6. Emergency procedures that apply to the workplace, including evacuation, fire reporting, emergency numbers, alarm and extinguisher location(s).

A5.1.7. Requirements and procedures for reporting mishaps, occupational injury and occupational illness.

A5.1.8. Reporting unsafe equipment, conditions or procedures to supervisor immediately.

A5.1.9. Requirements of Air Force Traffic Safety Program, including mandatory use of seat belts and helmets, speed limits, local traffic hazards, personal risk management and cell phone prohibition while operating a GMV or PMV on base. If applicable, discuss motorcycle safety training requirements before riding a motorcycle.

A5.1.10. Purpose and location of AF Form 457, *USAF Hazard Report*.

A5.1.11. Location and content of Air Force Visual Aid (AFVA) 91-307, *Air Force Occupational Safety and Health Program*.

A5.1.12. Purpose of the AF Form 1118, *Notice of Hazard*.

A5.1.13. Risk management awareness training.

A5.1.14. CA 10, *What a Federal Employee Should do When Injured at Work*

A5.1.15. Fire Extinguisher Use. Reference: AFOSH Standard 91-501 and 29 CFR 1910.157.

A5.1.16. Fetal Protection Program Awareness. Reference: AFI 48-145, *Occupational and Environmental Health Program.*

A5.2. Job Specific Training Items. To be accomplished as required based on job tasks and documented prior to employee performing task. Supervisors will select 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.

A5.2.1. Personal Protective Equipment (use, location, fit, care, limitations). Reference: 29 CFR 1910.132, AFOSH Standard 91-501, and other directives.

A5.2.2. Hazardous Energy Control (Lockout/Tagout). Reference: 29 CFR 1910.147 and AFOSH Standard 91-501.

A5.2.3. Hazardous Communication. Reference: AFI 90-821, *Hazard Communication,* and 29 CFR 1910.1200.

A5.2.4. Bloodborne Pathogens. Reference: 29 CFR 1910.1030.

A5.2.5. Hearing Conservation. Reference: AFOSH Standard 48-20, *Occupational Noise and Hearing Conservation Program*.

A5.2.6. Confined Space Program (Entrant, Attendant, Supervisor, Monitor and Rescue Team). Reference: AFOSH Standard 91-25, *Confined Spaces,* and 29 CFR 1910.146.

A5.2.7. Manual and Powered Hoist. Reference: AFOSH Standard 91-501 or current AFOSH guidance.

A5.2.8. Respiratory Protection Program. Use AF FORM 2767, *Occupational Health Training and Protective Equipment Fit Testing (LRA)*. Reference: AFOSH Standard 48-137, *Respiratory Protection Program*.

A5.2.9. Vehicle Mounted Elevated Work Platforms, Self-Propelled and Manual Platforms. Reference: AFOSH Standard 91-501.

A5.2.10. Fall Arrest System(s). Reference: AFOSH Standard 91-501, 29 CFR 1910.66 and 29 CFR 1926.503.

A5.2.11. Forklift (Material Handling Equipment). Reference: AFOSH Standard 91-46, *Materials Handling and Storage Equipment,* or current AFOSH guidance, and 29 CFR 1910.178.

A5.2.12. Explosives Safety Training. Reference: AFMAN 91-201 and this instruction.

A5.2.13. Pole/Tower Climbing. Reference: AFOSH Standard 91-50, *Communication Cable, Antenna and Communication Electronic (CE) Systems,* or current AFOSH guidance.

A5.2.14. Wearing Jewelry in the workplace. Reference: AFOSH Standard 91-501 and applicable technical orders.

A5.2.15. Portable and fixed ladder safety. Reference: AFOSH Standard 91-501.

A5.2.16. Cardio Pulmonary Resuscitation (CPR) Training. Reference: AFOSH Standard 91-501.

A5.2.17. Flight Line Driving. Reference: AFOSH Standard 91-100, or current AFOSH guidance, and other governing directives.

A5.2.18. Fetal Protection Program. Job Specific. Reference: AFI 48-145.

A5.3. Documentation of Training. AF Form 55 or equivalent information technology system will be used. See **Chapter 2.**

A5.4. Maintenance and Disposition of AF Form 55 or Equivalent 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 AF Form 55 or equivalent product. When an individual deploys/transfers to another Air Force position/location, the AF Form 55 or equivalent product will be hand carried to the new supervisor by the individual. The new supervisor will review the AF Form 55 or equivalent product, transfer current training completion dates as necessary and initial HAZCOM date and other one time training to a new AF Form 55 or equivalent product if necessary and retain the old form IAW the Air Force Records Disposition Schedule. The supervisor will destroy the AF Form 55 one (1) year after personnel are separated or retired.

Attachment 6

JOB SAFETY ANALYSIS (JSA)

A6.1. 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.

A6.2. 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:

A6.2.1. Can workers be struck by or contacted by anything?

A6.2.2. Can they strike against or be exposed to any item that can cause injury?

A6.2.3. Can they be caught in or between anything?

A6.2.4. Can they fall?

A6.2.5. Can they overexert themselves?

A6.2.6. Are they required to do repetitive lifting or heavy lifting?

A6.2.7. Are there potential hazards such as chemical substances, physical agents (including noise, ergonomic and thermal stress), ionizing and non-ionizing radiation or biological exposures?

A6.3. Recommended Safe Task Procedure: For each potential mishap cause or hazard identified, consider the following questions:

A6.3.1. How should workers perform the task step to avoid the mishap or eliminate the potential hazard?

A6.3.2. What can be done to eliminate or mitigate the hazard by redesigning the work area or equipment?

A6.3.3. 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.

A6.1. 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	2. POTENTIAL HAZARDS	3. RECOMMENDED

STEPS:	OR MISHAP CAUSES:	PROCEDURES OR ACTIONS:

Attachment 7

RISK ASSESMENT CODES (RAC)

A.7.1. Risk Assessment Codes are tools used by Fire, Safety and Health staffs and Commanders to prioritize the 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 risks.

A.7.1.1. This instruction describes the basic RAC codes 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.

A.7.1.2. Risk Assessment Codes. Qualified safety, fire protection, and health personnel evaluate each safety hazard/deficiency and assign a RAC (**Table A7.1.**) to hazards/deficiencies. Determine the RAC 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 A7.1. Risk Assessment Code Matrix.

Severity	**Mishap Probability**			
	A	**B**	**C**	**D**
I	**1**	**1**	**2**	**3**
II	**1**	**2**	**3**	**4**
III	**2**	**3**	**4**	**5**
IV	**3**	**4**	**5**	**5**

A.7.1.3. Mishap Probability
Code Description
A Likely to occur in time
B Probably will occur in time
C Possible to occur in time
D Unlikely to occur

A.7.1.4. Hazard Severity (Direct correlation to Mishap Classes as described in AFI 91-204)
Code Description
I Death, permanent total disability or loss of a facility or asset of $2,000,000 or more
II Permanent partial disability, temporary disability in excess of 3 months or major damage of $500,000 up to $2,000,000
III Lost workday injury or compensable injury or minor property damage $50,000 up to $500,000
IV Minimal threat to personnel or property, first-aid, minor supportive medical treatment, violation of a standard or damage less than $50,000

A.7.1.5. RAC Descriptor
Code Description
1 Imminent
2 Serious
3 Moderate

4 Minor
5 Negligible

A.7.1.6. Commanders will consider this RAC system when determining which hazards/deficiencies warrant the expenditure of limited resources.

A.7.1.7. Assigned RACs will remain until completely abated even though interim control measures are in effect.

Attachment 8

ABATEMENT PRIORITY NUMBER

A8.1. 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:

A8.1.1. Step 1. Determine RAC from **Table A7.1,** based on mishap severity and probability of occurrence.

A8.1.2. Step 2. Determine the severity probability multiplier (M) from the matrix in **Table A8.1,** using the same severity and probability used to determine the RAC.

Severity	Mishap Probability			
	A	B	C	D
I	188	53	21	7
II	53	21	7	2
III	21	7	2	1
IV	7	2	1	0.26

Table A8.1. Severity and Probability Multiplier Matrix.

NOTE: The multipliers in table represent a proportional distribution of the severity and frequency of mishaps.

A8.1.3. Step 3. Determine exposure (E), or the average number of personnel exposed daily to the hazard during the course of the year.

A8.1.4. Step 4. Determine the total abatement project cost (C). If actual costs are not known, use best available estimate.

A8.1.5. Step 5. Compute the CEI by dividing the C for abatement by the product of M and E, or CEI = C/ (M) (E).

A8.1.6. Step 6. Determine APN by listing the RAC followed by the CEI in parenthesis, or APN = RAC (CEI).

A8.1.7. 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.

A8.2. To use APNs to establish a priority list of projects, follow these steps:

A8.2.1. 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 A8.1** would be 2.

A8.2.2. Step 2. Determine multiplier (M). Plot mishap probability (B) versus hazard severity (II) on **Table A7.1** to obtain a multiplier of 21.

A8.2.3. Step 3. Determine exposure (E). Assumption: The functional manager or supervisor determined that on an average day 25 people are exposed to the hazard.

A8.2.4. Step 4. Determine the total cost of project (C). Assumption: The total cost of the project to abate the hazard as provided to the functional manager by Civil Engineering is $2,100.

A8.2.5. Step 5. Determine CEI. CEI = C/ (M) (E); (M) (E) = 21x25, therefore CEI = 2100/ (21) (25) = 4.

A8.2.6. Step 6. Determine APN. APN will be (RAC) (CEI) = (2) (4).

A8.2.7. 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 A8.2.

Table

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	(96)	3(96)	5
3	(11)	3(11)	6

A8.2. Abatement Priority Number Index.

NOTE: The APN system is not used to compare projects of two different RACs.

Attachment 9

INSTRUCTIONS FOR COMPLETING AF FORM 1118, NOTICE OF HAZARD

A9.1. AF Form 1118. Qualified safety, fire protection, and health (Bioenvironmental Engineering, PH, flight surgeon and (or) occupational medicine physician) officials are the sole issuing authorities for AF Form 1118.

A9.2. 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 (Example: S-20061201-1). The numbering system will coincide with the corresponding Hazard Abatement Plan (AF Form 3).

A9.3. Location. Note the building number, room number and function involved where the hazard is located, and nomenclature of the hazardous item or procedure (Example: Building 18, Room 217, Civil Engineering Carpenter Shop, Table Saw).

A9.4. Hazardous Condition. Describe in detail the nature of the hazard, including a reference to the standard or requirement violated, if any.

A9.5. Risk Assessment Code. List RAC, followed by RAC description. (Example: "1 [Imminent Danger].")

A9.6. 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 code will remain until completely abated even though interim control measures are in effect.

A9.7. Permanent Corrective Action. List the action that will permanently eliminate the identified hazard. Include associated document number. Examples: Install new exhaust system; CE work order and project number.

A9.8. Contact Point. Name, grade, office symbol and telephone number of individual responsible for elimination of the hazard.

A9.9. Estimated Completion Date. Self-explanatory.

Attachment 10

INSTRUCTIONS FOR COMPLETING AF FORM 3, HAZARD ABATEMENT PLAN

A10.1. The AF Form 3 is the instrument by which an identified RAC 1, 2, or 3 hazard requiring more than 30 calendar days to abate is entered into the installation's formal hazard abatement plan. This does not prevent its use for RAC 4 or 5 hazards or deficiencies. The Automated Hazard Abatement System may also be used.

A10.2. Prepare AF Form 3s in an original and two copies.

A10.3. Prepare a separate AF Form 3s for each individual hazard.

A10.4. The functional manager initiates AF Form 3s by completing Parts I and II in as much detail as possible and sends it to the installation safety, fire protection or health office:

A10.4.1. Top of Form, Heading Blocks:

A10.4.1.1. Type of Action. Indicate whether the action is a safety hazard. Indicate whether this is an initial input of a recently identified hazard, a revision of a previously submitted AF Form 3s, or a record of a completed hazard abatement action.

A10.4.1.2. Date. Self-explanatory.

A10.4.1.3. To: Address AF Form 3s to the installation agency (safety, fire protection or health) having oversight responsibility concerning the hazard. Include organization, office symbol and installation.

A10.4.1.4. From: Enter functional manager's organization, office symbol and installation.

A10.4.1.5. Point of Contact. Enter the name, organization, office symbol and phone number of the workplace supervisor where the hazard is located.

A10.4.2. Part I—Hazard Information:

A10.4.2.1. Item 1 (Control Number). Note that the control number is issued by the installation agency (safety, fire, or health) responsible for monitoring the hazard. **NOTE:** The functional manager will leave this blank for a new input unless an AF Form 1118 has been posted. The control numbers on the AF Form 3 and AF Form 1118 for the same hazard will be identical.

A10.4.2.2. Item 2 (RAC). Enter RAC 1, 2, or 3 as provided by safety, fire protection or Bioenvironmental Engineering officials.

A10.4.2.3. Item 3 (Category). Self-explanatory.

A10.4.2.4. Item 4 (Discovery). Give date and method by which the hazard was originally identified. For "inspection" designate type, such as, self, unit or OSHA. Include hazard report numbers, suggestion numbers and other such data for cross-reference.

A10.4.2.5. Item 5 through 8 (Location). Self-explanatory.

A10.4.2.6. Item 9 (Standard Violated). Note that this can include safety, fire protection or health requirements of AFOSH, national consensus standards, OSHA standards, regulations or TOs.

A10.4.2.7. Item 10 (Exposure). Enter the average number of personnel exposed to the hazard daily.

A10.4.2.8. Item 11 (Description). Give a word description of the hazard to illustrate its potential impact if not abated.

A10.4.3. Part II—Abatement Information:

A10.4.3.1. Item 12 (Description). Give a description of the permanent abatement action taken or programmed to eliminate or reduce the hazard.

A10.4.3.2. Item 13 (Method). List the work method or avenue by which the hazard is to be abated. Examples include self-help, civil engineering work order, contract and local purchase.

A10.4.3.3. Item 14 (Project Number). Include document numbers associated with work requests, work orders, job orders, or projects. Also include supply requisitions and maintenance work orders.

A10.4.3.4. Item 15 (Completion Date). If programmed in current fiscal year (FY), provide month and year. If programmed in future FY, indicate FY. If abatement has been completed, indicate actual completion date.

A10.4.3.5. Item 16 (Cost). Indicate whether estimated for unabated hazards or deficiencies or actual for completed abatement actions.

A10.4.3.6. Item 16a (Project Cost). Indicate total cost associated with project identified in item 14.

A10.4.3.7. Item 16b (Abatement 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 16a would show $500,000 while item 16b would show $25,000.

A10.4.3.8. Item 17 (Status). Indicate status of project identified in item 14; include major milestones, reasons for delay, percent complete. Other examples include “in design,” “in procurement,” “under construction,” “awaiting materials,” and “closed.”

A10.4.3.9. Item 18 (Interim Control Measures). List temporary measures taken to reduce the risk associated with the hazard pending completion of permanent abatement action. Examples include issuance of personal protective equipment (specify type), termination of operations and work around procedures (specify).

A10.4.3.10. Items 19 through 21. (Functional Manager; Signature; Date). Self-explanatory.

A10.4.3.11. Item 22 (Review Record). Use this area for functional manager and commander reviews.

A10.4.4. The qualified safety, fire protection or health official assigns a control number for new inputs and completes items 23 through 32 of AF Form 3 based on information furnished by the functional manager in Parts I and II. Once signed and completed retain one copy and send the second copy to the installation safety office to be included in the installation master hazard abatement plan.

A10.4.4.1. Item 23 (Severity). See paragraph **A7.1.4**

A10.4.4.2. Item 24 (Probability). See paragraph **A7.1.3**

A10.4.4.3. Item 25 (Severity and Probability Multiplier). See **Table A8.1**

A10.4.4.4. Item 26 (Exposure). State the average number of personnel exposed daily to the hazard (from item 10).

A10.4.4.5. Item 27 (Project Cost). Estimated cost from item 16a.

A10.4.4.6. Item 28 Risk Assessment Codes (RAC). RACs include items 23 and 24 as well as the RAC descriptor of 1, 2 or 3.

A10.4.4.7. Item 29 Cost Effectiveness Index (CEI). **NOTE:** The CEI equals total cost (item 27) divided by the product of the multiplier (item 25) and the exposure (item 26).

A10.4.4.8. Item 30 through 32. (Qualified Official; Signature; Date). Self-explanatory. These items will be completed on each hazard abatement plan. When the form indicates completed abatement actions (as marked in the "Type of Action" block), the fully qualified safety, fire protection or health official's signature in item 31 indicates certification of completed abatement actions. Certification in this particular instance means the appropriate official has performed a site visit to verify that the hazard has been fully abated.

Attachment 11

PRE-DEPARTURE SAFETY BRIEFING GUIDE (EXAMPLES ONLY)

A11.1. Purpose. Help 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.

A11.2. Overview. Commanders, managers and supervisors will help guide and mentor employees in applying personal risk management 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.*

A11.2.1. 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.

A11.2.2. 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.

A11.2.3. Airmen must ensure they have sufficient funds available to cover expenses (a shortage of funds often leads to exhausting, marathon driving).

A11.2.4. Travelers must check the weather forecast for the intended route of travel.

A11.2.5. 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.

A11.2.6. 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.

A11.2.7. Stress the importance of vehicle condition — vehicle defects also contribute to mishaps.

A11.2.8. 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.

A11.3. 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.

A11.4. DELETE.

A11.5. DELETE.

Attachment 12

AIR FORCE OFF-DUTY HIGH-RISK ACTIVITIES PROGRAM

A12.1. 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.

A12.2. 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:** MAJCOMs can determine within the command what are considered high risk activities.

A12.3. Commander's/Supervisors Responsibility. Commanders or supervisors should 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.

A12.4. Individual Responsibility. Individuals planning to engage in high-risk activities such as those described in paragraph **A12.2,** should 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 risk management practices to avoid jeopardizing life or limbs and their ability to perform their Air Force duties.

A12.5. 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 13

CONTINUING EDUCATION AND TRAINING COURSES

Table A13.1. 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 Program
Risk Management
System Safety Course
Other

Attachment 14

SAFETY EDUCATION AND TRAINING

A14.1. 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 is available from Defense Acquisition University (**https://learn.dau.mil/html/clc/Clc1.jsp?cl**). Organizations responsible for course management are indicated in parenthesis.

A14.2. Mishap Investigation.

A14.2.1. Safety and Accident Investigation Board President Course (BPC), AFSC810 (HQ AFSC).

A14.2.2. Aircraft Mishap Investigation Course (AMIC), WCIP05A (HQ AFSC).

A14.2.3. Aerospace Propulsion Craftsman, Jet Engine Mishap Investigation Course (JEMIC), J3AZR2A671A0M1A (AETC).

A14.2.4. Mishap Investigation Non-Aviation (MINA), WCIP059 (HQ AFSC).

A14.2.5. Aircraft Mishap Investigation and Prevention (AMIP) Clinical Psychologist, B3OZY42P3-003, (AFMC).

A14.2.6. Aircraft Mishap Investigation and Prevention (AMIP) Aerospace and Operational Physiologist, WC1P05A, (AFMC).

A14.2.7. Aircraft Mishap Investigation and Prevention (AMIP) USAF Medical Investigator (Flight Surgeon), B3OZY48G3-003, (AFMC).

A14.2.8. Aircraft Mishap Investigation and Prevention (AMIP) NON-DoD Medical Investigator (Flight Surgeon or other physician), B3OZY48G3-010 (AFMC).

A14.2.9. Life Science Equipment Investigation Course (LSEIC), J3AZR1P071 0L1A, (AETC).

A14.3. Unit Safety Representatives (USR). Developed by MAJCOM, DRU/FOA.

A14.4. Aviation:

A14.4.1. Flight Safety Officer (FSO), WCIPO5C (HQ AFSC).

A14.4.2. Flight Safety NCO (FS NCO), L3AZR1S071-0S5A (AETC).

A14.4.3. Security Assistance Training Program (International) Flight Safety Officer Course, WCIP05U (HQ AFSC).

A14.4.4. Air Combat Command Flight Safety Program Management Course, Y130003.

A14.4.5. DCMA Aviation Safety Officer Course, ASO.

A14.4.6. Air Reserve Component Chief of Safety (ARCCOS), WECIP05K

A14.5. Ground:

A14.5.1. Safety Apprentice, L3ABR1S031-051A (AETC).

A14.5.2. Safety Craftsman, L3AZR1S071-0S1A (AETC).

A14.5.3. OSHA Training Institute (OTI) (AFSC).

A14.5.4. National Safety Council (NSC) Safety Training Institute (AFSC), Refer to OSHA Training Institute catalog.

A14.5.5. Advanced Occupational Safety (AFSC), Refer to NSC Safety Training Institute course catalog.

A14.5.6. Radiation Safety Officer Course, B6OZW43EXA-0A1A.

A14.5.7. Air Combat Command Ground Safety Program Management Course, Y13005

A14.6. Weapons:

A14.6.1. Weapons Safety Management Course , L3AZR2W071 0C2A. (AETC)

A14.6.2. Introduction to Weapons Safety CD ROM available at wing safety offices, (AFSC).

A14.6.3. Air Combat Command Weapons Safety Program Management Course, 3J5ACC2W0X1-000.

A14.7. Systems:

A14.7.1. System Safety Management (SSM), WCIP057 (AFSC).

A14.7.2. System Safety Reliability Analysis SSRA, WCIP060 . (AFSC)

A14.8. Management:

A14.8.1. Chief of Safety Course (COS), WCIP05B. (AFSC)

A14.8.2. Senior Safety Professional Course (SSP), WCIP05D. (AFSC)

A14.9. Risk Management (RM): https://rmis.kirtland.af.mil.

A14.9.1. ORM Fundamentals Course.

A14.9.2. ORM Essentials for Leaders Course.

A14.9.3. ORM Application and Integration Course.

A14.9.4. ORM Executive Course.

A14.10. Other:

A14.10.1. Operational Safety, Suitability and Effectiveness (OSS & E) WSYS155 (AFIT).

A14.10.2. Environmental, Safety, and Occupational Health (ESOH) Compliance Assessments, WENV020 (AFIT).

A14.10.3. Course 8, Supervisor Safety Training (SST), ZZ13212, (HQ AFSC/SEG).

A14.10.4. ACC Aircrew Life Support Program Manager's Course.

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 90-901, *Operational Risk Management*; and AFPAM 90-902, *Operational Risk Management Guidelines and Tools*). 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, etc.), 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 format is shown in **A15.1** below:

A15.1. Sample Risk Assessment Layout

Risk Assessment Title

Background: Broadly describe the situation being evaluated. Provide enough detail so the remainder of the risk assessment can 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, etc.) being analyzed.

Initial Risk: 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 initial risk. Fully explain the methodology used, data considered (e.g., reported mishaps/events, deficiency reports, test results, etc) and rationale for determining baseline 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 indentified 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, etc.) to implement this option.

Schedule: Estimate schedule implement this option.

Residual 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 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 appropriate.

Recommendation: State the recommended course(s) of action, including rationale.

Attachments: Include more detailed or supporting information, as required.

A15.2. Existing Questions from AFSC's System Safety Handbook. NOTE: Not all of the following questions will apply to every risk.

A15.2.1 What were the preliminary mishap risk index results when the safety deficiency was initially identified? **– Initial Risk**

A15.2.2. What is (are) the identified deficiency (design, maintenance, material, quality, software, etc)? **– Hazard Identification**

A15.2.3. What are the hazards caused by the deficiencies in light of known requirements and interrelationships with man, machine and environmental system elements? **– Background and Hazard Identification**

A15.2.4. What, if any, supporting historical data substantiate the need for the modification (list Class A, B, C mishaps, HAPs, Cat I DRs, etc.)? **- Initial Risk**

A15.2.5 What, if any, interim corrective action has already been taken to reduce risk (change in mission, operational restrictions, grounding, increased inspections, TCTO actions, etc.)? **– Interim Risk**

A15.2.6. What, if any, additional action has been recommended by the Material Safety Task Group, SSG, SSWG or other group? **– Risk Mitigation Options**

A15.2.7. What are the expected future mishap rate(s) (class A, B, C, etc.) to be caused by this deficiency if it is not corrected? **– Risk Mitigation Options**

A15.2.8. What are the affected fleet size and its expected future life exposure; for example (list average number of operationally available aircraft per year, years of operational life remaining, average programmed flying hours per year)? **– Risk Mitigation Options**

A15.2.9. What are the expected total future direct losses (and indirect losses) if the modification is not approved? If sufficient data exists to make these predictions, what is the current mishap severity, probability and frequency, and resulting mishap risk index values? **– Risk Mitigation Options**

A15.2.10. How will the proposed modification eliminate or control these losses? **– Risk Mitigation Options**

A15.2.11. How effective will the control of losses be? **– Risk Mitigation Options**

A15.2.12. If the modification is approved, what are the expected losses to be avoided, and any other quantitative or qualitative benefits? **– Risk Mitigation Options**

A15.2.13. Does the proposed modification create any new hazards for the system (consider mission and people, machine and environmental system elements)? **– Risk Mitigation Options**

A15.2.14. Why are other alternatives to risk reduction unacceptable (accept losses, preferred parts substitution, time change, training, procedural changes, increased inspections, etc.)? **- Risk Mitigation Options**

A15.2.15. If the modification is approved, what will be done to reduce risk until the modification is fully implemented? **– Not Included**

Attachment 16

1S0X1 RETRAINEE EVALUATION PROCESS

A16.1. The local Ground Safety Manager (GSM) or designated representative will act as initial Evaluating Agent for retraining applicants.

A16.2. The Evaluating Agent will:

A16.2.1. Ask the applicant's immediate supervisor to appraise his or her work performance, attitude and overall character.

A16.2.2. 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.

A16.2.3. 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.

A16.2.4. Provide meaningful, structured activities which assist in assessing the applicant's suitability for the Safety career field. The activities will consist of:

A16.2.4.1. Assessment of applicant's communication skills: Abilities to write and speak clearly and distinctly.

A16.2.4.1.1. 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.

A16.2.4.1.2. Applicant will instruct/lead some portion of a safety class, i.e., Course II, Course IIIB, SST, FTAC, etc.

A16.2.4.2. Introduction to inspection/spot inspection process.

A16.2.4.2.1. Applicant will review annual reports, conduct follow up for the open write-ups AND conduct spot inspections.

A16.2.4.3. Familiarization to Flight line/maintenance/industrial areas.

A16.2.4.3.1. Applicant will visit flight line/maintenance/industrial areas as deemed appropriate by the Evaluating agent. NOTE: This may be incorporated into paragraph A16.2.4.2.1.

A16.2.4.4. Introduction to mishap investigation.

A16.2.4.4.1. Applicant will investigate and process a mishap. 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.

A16.2.4.5. Introduction to Hazard Abatement Program.

A16.2.4.5.1. 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.*

A16.2.5. Provide the servicing FSS with a memorandum summarizing the following areas based on research and structured activities:

A16.2.5.1. Approval/Disapproval of applicant's request for retraining.

A16.2.5.2. Assessment of applicant's structured activities.

A16.2.5.3. Assessment of applicant's communication skills, both written and verbal.

A16.2.5.4. Overall assessment of the appearance, moral standards, military conduct and bearing.

Figure A16.1. 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