This instruction implements AFI 91-202, Safety Programs. It establishes mishap prevention program requirements, assigns responsibilities for program elements, and contains program management information. It applies to all Air Force personnel, including Air Force Reserve and Air National Guard members. In overseas areas, follow this instruction as long as it’s consistent with host country laws and status-of-forces agreements. This regulation implements NATO Standardization Agreements (STANAGs) 3101, Exchange of Accident/Incident Information concerning Aircraft and Missiles; 3102, Flight Safety Cooperation; 3531, Safety investigation and Reporting of Accident/Incidents Involving Military Aircraft and/or Missiles; and 3750, Reporting and Investigation of Airmiss Incidents. Send major command (MAJCOM) supplements to the HQ AFSA/SEF, 9700 Avenue G, Kirtland AFB NM 87117-5670, for coordination and to HQ USAF/SE, 1400 Air Force Pentagon, Washington DC 20330-1400 for approval before publication. Attachment 1 contains abbreviations, acronyms, and terms used in this instruction.

SUMMARY OF REVISIONS

Chapter 9 implements DoDI 5000.2, Part 6, Section I, Systems Safety, Health Hazards and Environmental Impact. Program elements from AFRs 127-2, 127-3, 127-5, 127-6, 127-15, and 800-16 remain substantially intact; however, means of execution have been left to the discretion of individual MAJCOMs. In formation on response to major mishaps is added to Chapter 2 and detailed in amendment 4; information on special publications is added to Chapter 5; instructions for implementation for a bird/aircraft strike hazard plan are expanded in Chapter 7. Information on response to major mishaps is added to Chapter 2 and detailed in amendment 4; information on special publications is added to Chapter 5; instructions for implementation for a bird/aircraft strike hazard plan are expanded in Chapter 7. A | indicates changes from previous edition.

Chapter 1— PROGRAM OVERVIEW

1.1. The Mishap Prevention Process. ................................................................. 5
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2</td>
<td>Determining Standards.</td>
<td>5</td>
</tr>
<tr>
<td>1.3</td>
<td>Applying Standards.</td>
<td>5</td>
</tr>
<tr>
<td>1.4</td>
<td>Identifying Hazards.</td>
<td>5</td>
</tr>
<tr>
<td>1.5</td>
<td>Determining Hazard Abatement Action.</td>
<td>5</td>
</tr>
<tr>
<td>1.6</td>
<td>Taking Action.</td>
<td>6</td>
</tr>
<tr>
<td>1.7</td>
<td>Notifying Other Affected Units and Agencies.</td>
<td>6</td>
</tr>
<tr>
<td>1.8</td>
<td>Program Responsibilities:</td>
<td>6</td>
</tr>
<tr>
<td>1.9</td>
<td>Metrics.</td>
<td>8</td>
</tr>
<tr>
<td>2.1</td>
<td>Safety Staff.</td>
<td>10</td>
</tr>
<tr>
<td>2.2</td>
<td>Organizing the Program.</td>
<td>11</td>
</tr>
<tr>
<td>2.3</td>
<td>Managing the Program.</td>
<td>11</td>
</tr>
<tr>
<td>2.4</td>
<td>Safety Office Equipment.</td>
<td>11</td>
</tr>
<tr>
<td>2.5</td>
<td>Office Administration:</td>
<td>11</td>
</tr>
<tr>
<td>2.6</td>
<td>Publications Library.</td>
<td>12</td>
</tr>
<tr>
<td>2.7</td>
<td>Air Force Councils and Committees.</td>
<td>12</td>
</tr>
<tr>
<td>2.8</td>
<td>Non-US Air Force Councils and Committees.</td>
<td>12</td>
</tr>
<tr>
<td>3.1</td>
<td>Safety Inspection.</td>
<td>13</td>
</tr>
<tr>
<td>3.2</td>
<td>Safety Program Evaluation.</td>
<td>14</td>
</tr>
<tr>
<td>3.3</td>
<td>Assessments.</td>
<td>14</td>
</tr>
<tr>
<td>3.4</td>
<td>Staff Assistance.</td>
<td>14</td>
</tr>
<tr>
<td>4.1</td>
<td>What Hazards To Report.</td>
<td>16</td>
</tr>
<tr>
<td>4.2</td>
<td>Reporting Criteria.</td>
<td>16</td>
</tr>
<tr>
<td>4.3</td>
<td>Reporting Procedures:</td>
<td>16</td>
</tr>
<tr>
<td>4.4</td>
<td>Additional Reporting Procedures:</td>
<td>17</td>
</tr>
<tr>
<td>4.5</td>
<td>Promoting the Program.</td>
<td>17</td>
</tr>
<tr>
<td>5.1</td>
<td>Information Protection.</td>
<td>18</td>
</tr>
</tbody>
</table>
9.4. SSGs. ...................................................................................................................... 34
9.5. Non-developmental Items. ......................................................................................... 34
9.6. Risk Assessment. ....................................................................................................... 34
9.7. SSEA. ...................................................................................................................... 35

Chapter 10—WEAPON SAFETY 36
10.1. Weapon Safety Program Management. ................................................................. 36
10.2. Explosives Safety Standards. .................................................................................. 36
10.3. Missile Safety. ......................................................................................................... 37
10.4. Nuclear Surety. ....................................................................................................... 37
10.5. Department of Defense Explosive Safety Board (DDESB). .................................... 37
10.6. Weapons Safety Training. ....................................................................................... 37
10.7. Weapons Safety Steering Group. ........................................................................... 38

Chapter 11—SPACE SAFETY 39
11.1. Space Safety Program. ............................................................................................ 39
11.2. Space Safety Training. ........................................................................................... 39
11.3. Space Safety Council. ............................................................................................. 39
11.4. Nuclear Surety. ..................................................................................................... 39

Attachment 1—GLOSSARY OF ABBREVIATIONS, ACRONYMS, AND TERMS 41
Attachment 2—ISOX1 INTERVIEW PLAN 45
Attachment 3—HAZARDOUS AIR TRAFFIC REPORT (HATR) PROGRAM
   RCS: HAF-SE (AR) 7602 48
Attachment 4—MISHAP RESPONSE 56
Chapter 1

PROGRAM OVERVIEW

1.1. The Mishap Prevention Process. The host safety office implements the mishap prevention program for all Air Force units on base. Tenant units support the base mishap prevention program and adapt it to their needs. Normally addressed in the Host/Tenant Support Agreement.

1.1.1. The host safety office is responsible for ensuring effective mishap prevention programs and processes are implemented by all Air Force units on the installation.

1.1.2. Safety staffs at all levels assist with implementation and integration of operational risk management into all Air Force operations and missions not covered by technical orders or other directives.

1.2. Determining Standards. Commanders, functional managers, supervisors, and individuals with the host safety office’s help identify rules, criteria, procedures, Occupational Safety and Health Administration (OSHA), or Air Force Occupational and Environmental Safety, Fire Prevention, and Health (AFOSH) standards eliminating unsafe acts or conditions that cause mishaps.

1.3. Applying Standards. Applying sound standards is basic to preventing mishaps. All Air Force units must apply standards by observing these fundamental principles:

- Commanders, functional managers, supervisors, and individuals must all contribute to the mishap prevention program. An effective program depends on individuals integrating mishap prevention on every functional level and being responsible for complying with applicable safety standards.
- Personnel who apply the program's safety standards must fully understand all relevant standards.
- Units must establish specific procedures (for example, inspections) to ensure that all personnel and activities comply with the program standards.
- Every level of command is responsible for compliance with applicable safety standards.

1.4. Identifying Hazards. The primary responsibility for identifying workplace hazards, to include equipment and environmental situations that place workers at risk, rests with the individual. Functional managers, supervisors, and individuals identify hazards by evaluating the work environment and job tasks. Safety, environmental, and medical staffs and fire-protection personnel provide technical assistance.

1.5. Determining Hazard Abatement Action. The proper way to eliminate a particular hazard is often difficult to determine, and alternatives are limited by time and cost. After considering all factors, choose the alternative that contributes the most to overall mission accomplishment. Consider these three categories of corrective actions:

1.5.1. Planning and Engineering. Try to eliminate hazards as early as possible in the planning and design stages when you can make changes to hardware or operations changes at a small cost. Continually review plans, specifications, drawings, and plans to identify and eliminate hazards until the equipment or facility is operating. Eliminate hazards identified after an item is deployed by modifying the item or installing protective devices or guards. The supervisor, with safety staff help, does a job safety analysis (JSA) and operational hazard analysis (OHA) to ensure worker, equipment, and
work environment compatibility. Procedures for JSA and OHA are contained in the Supplemental Safety Training (SST) student handbook.

1.5.2. 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.

1.5.3. Personnel Actions. People work more safely and effectively when they are properly trained and motivated. Supervisors at all levels need to keep their people involved, through quality processes, in risk management.

1.6. Taking Action. Commanders protect national resources, both human and materiel, and have the authority to take action in implementing safety measures.

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

1.6.2. The safety office helps functional managers and commanders determine needed corrective actions and provides commanders with follow-up support until the hazard is eliminated or changes are in place.

1.7. Notifying Other Affected Units and Agencies. Relay hazard and mishap information to other units and agencies with similar missions or equipment. AFI 91-204, *Investigating and Reporting US Air Force Mishaps* (formerly AFR 127-4), and Chapter 5 of this instruction explain what information to relay and what communication systems to use. Mishap prevention data are worthless unless people who need them, get them. Units can’t afford to have mishaps caused by problems already known and solved by other units.

1.8. Program Responsibilities:

1.8.1. The Assistant Secretary of the Air Force (Acquisition) makes policy and gives guidance to ensure that technical and engineering criteria for developing and acquiring Air Force systems, facilities, and equipment conform with OSHA and AFOSH standards and other safety criteria.

1.8.2. The Assistant Secretary of the Air Force (Manpower Reserve Affairs, Installations, and Environment) makes policy, approves policy, and gives guidance to ensure that Air Force programs and operations conform with OSHA and AFOSH standards and other safety criteria.

1.8.3. The Deputy Chief of Staff Logistics:

- Ensures that logistics and maintenance procedures, operations, and technical publications meet all safety standards and criteria.
- Ensures that Air Force procedures for transporting, storing, handling, and using hazardous materials and waste comply with environmental statutes and occupational regulations to reduce the chances of mishaps.

1.8.4. The Deputy Chief Of Staff Personnel makes policy on personnel matters relating to safety.

1.8.5. The Air Force Chief of Safety:

- Implements executive orders, DoD directives, and instructions on safety.
- Makes program policy and establishes guidelines.
• Implements the Air Force Mishap Prevention Program.
• Prepares and publishes AFOSH standards on safety matters to ensure that the Air Force complies with OSHA standards.

1.8.6. The Air Force Civil Engineer ensures that civil engineering procedures, operations, technical publications, and designs for new construction meet OSHA and AFOSH standards, as well as explosives and other safety criteria.

1.8.7. The Air Force Surgeon General:
• Makes policy and establishes guidelines for the AFOSH program.
• Prepares and publishes AFOSH standards related to occupational health.
• Ensures that Air Force occupational health programs meet OSHA requirements.

1.8.8. MAJCOM, FOA, AFRES, NGB, and DRU commanders direct the development of programs that implement the Air Force Mishap Prevention Program that meet the needs of the organizations.

1.8.9. MAJCOM, FOA, and DRU safety staffs:
• Evaluate the management, implementation, and effectiveness of the Air Force Mishap Prevention Program within the command.
• Analyze and distribute prevention data from mishap reports, all safety communication (ALSAFECOM) messages, and analysis programs to subordinate units.

1.8.10. Air Force Materiel Command (AFMC):
• 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.
• Ensures that appropriate personnel review specifications, drawings, and plans to eliminate safety hazards as early as possible.

1.8.11. Commanders develop and implement safety and health programs that integrate safety policy into all on-duty and off-duty operations and activities.

1.8.12. Safety staffs:
• Advise the commander, functional managers, and supervisors on safety and health matters.
• Manage the safety program.
• Keep the commander informed on program status and hazards.

1.8.13. Commanders and functional managers below wing level:
• Implement safety and health program elements in their unit or area of responsibility.
• Provide safe workplaces.
• Ensure all individuals receive necessary job safety training.
• Ensure all appropriate hazard abatement actions needed to resolve identified hazards are implemented and follow-up is accomplished until all abatement actions are complete. Keeps safety staff updated on all abatement actions.

1.8.14. Supervisors:
• Know the safety and occupational health standards that apply to their areas.
• Analyze job environment and tasks for hazards through JSA and OHA.
• Enable each worker to participate, through the quality process, in workplace risk management.
• Develop job safety standards or job safety training outlines for their assigned work areas. Train all personnel on standards to follow and hazards to avoid.
• Make sure that all work complies with occupational safety and health standards.
• Exercise control over job tasks to ensure base personnel correctly follow all precautions and safety measures, including the proper use of personal protective equipment.
• Train their staff on safety and health standards, procedures, and requirements of the job tasks and document the training.
• Take appropriate actions to promptly eliminate occupational safety and health hazards and correct deficiencies.
• Immediately report all mishaps that occur in their work area and all subsequent employee absences to the supporting safety office. Inform civilian personnel if a mishap involves a civilian employee.

1.8.15. Individuals:
• Comply with standards, instructions, job guides, technical orders, and operating procedures.
• Identify and report hazards or situations that involve risk.
• Use personal protective clothing or equipment, when required.
• Notify their supervisor about any job-related injury or impaired health that may effect their job performance.
• Report any suspected or actual exposure to chemicals or hazardous materials.

1.9. Metrics.

1.9.1. Mishap rates (calculated as a number of events against some kind of exposure) are most effective when used as a basis of comparison between the appropriate total Air Force rate and individual commands or organizational mission, distinguished by mission as necessary. Comparisons between organizations or MAJCOMs may be misleading based on differences in operations, environment, equipment, or other variables. See Chapter 5 for a description of the various rates and their appropriate use. Some events (for example, space, missile, and explosives mishaps) are tracked by raw numbers instead of rates because of their low frequency of occurrence.

1.9.2. Most quality-based assessment programs advise against the use of "negative metrics." The appropriate use of metrics is particularly important within the safety function, since some use of negative indicators is unavoidable (see AFPD 91-2). While each mishap represents a "failure to prevent," there is no corresponding way of measuring "successful prevention."

1.9.3. Hazardous air traffic reports (Chapter 7), hazard reports (Chapter 4), and other reports submitted as a part of the Air Force Mishap Prevention Program under this instruction and AFI 91-204 are integral to the success of our overall safety program. Significant numbers of such reports may indicate a developing adverse trend, while even a single Class C mishap report or hazard report could identify the potential for a far more serious loss. Accordingly, maximum reporting is an essential ele-
ment of successful prevention and risk assessment and must in no way be discouraged. Therefore, the use of numbers of safety reports of any type as a metric is prohibited.
Chapter 2

THE SAFETY ORGANIZATION

2.1. Safety Staff. One staff element should manage each organization’s safety program. The chief of safety must answer directly to the commander. Full-time safety personnel must be qualified, trained to manage safety programs, and able to function at the staff level. Use the Air Force Manpower Standard (AFMS) 106A for wing safety to determine the required size of the safety staff. In units without an authorized safety position, the commander must appoint an additional duty safety individual to perform the safety functions.

2.1.1. Chief of Safety. Supervises the mishap prevention program for the commander. The chief of safety must be qualified in the primary mission of the unit. For example, in units with an operational primary flying mission, the chief of safety must be a rated officer, qualified and current in a unit mission aircraft. Assigned individuals should complete the Chief of Safety Course (WCIP05B).

2.1.2. Flight Safety Officer (FSO). Full-time FSOs are assigned to authorized unit positions by the AFMS. FSOs at squadron and wing level must be current in a unit mission aircraft. Full-time FSOs must complete the Flight Safety Officer Course (WCIP05A) and should fill the position for 2 to 3 years.

2.1.3. Ground Safety Managers (GSM). Full-time GSMs are assigned to positions authorized unit positions by the AFMS. Assigned individuals must complete the Ground Safety Management Course (WCIP05D) and the Advanced Occupational Safety Course before working as GSMs.

2.1.4. Weapons Safety Managers (WSM). The AFMS authorizes full-time weapons safety personnel positions in units. WSMs must be qualified in their Air Force specialty code (AFSC) or civil service equivalent in the maintenance or operation of nuclear weapons, missiles, or non-nuclear munitions. Full-time WSMs must complete the Air Education and Training Command (AETC) Weapons Safety Course.

2.1.5. System Safety Officers, Managers, and Engineers. Some commands and staff agencies are authorized system safety positions. Individuals in these positions must complete the System Safety Management Course or the System Safety Analysis Course in accordance with their particular job requirements.

2.1.6. Space Safety Officers (SSO). The space safety function is divided into launch safety and orbital safety. SSOs at squadron and wing level must be current in a unit mission.

2.1.7. Flight Safety NCO (FSNCO). The FSNCO is an integral part of the flight safety program and reports directly to the chief of safety or FSO. The FSNCO must have maintenance experience with the unit-assigned aircraft type or safety communities. Once appointed individuals must aircraft and/or maintenance experience. Once appointed, individuals should complete the Flight Safety NCO and Jet Engine Mishap Investigation Courses.

2.1.8. Career Safety Personnel. The Air Force has career safety personnel in an enlisted career field (AFSC 1S0X1) and a civilian career field (GM/GS-018, Occupational Safety and Health Manager or Specialist, and GM/GS-803, Safety Engineer). The enlisted safety career program is described in AFMAN 36-2108, Airman Classification (formerly AFR 39-1). The civilian safety career program is described in AFI 36-601, Civilian Career Program Management (formerly AFR 40-110). See Attachment 2 for the enlisted career field interview plan (A2.4.).
2.2. **Organizing the Program.** Because the same prevention techniques apply to all disciplines, use only one source for safety guidance. In organizing the safety staff:

- Ensure that safety staffs manage the mishap prevention program and report directly to the commander.
- Consolidate all safety disciplines under a single manager.
- As much as possible, consolidate mishap prevention programs for tenants under the host.

2.3. **Managing the Program.** Commanders must establish a management strategy that:

- Ensures that functional managers and supervisors (rather than the safety staff) takes corrective action for deficiencies.
- Minimizes administrative tasks, details, and augmentation duties not directly associated with safety.
- Involves the safety staff in appropriate meetings, conferences, and councils.
- Integrates safety into all operations and missions of the wing's organizations.

2.4. **Safety Office Equipment.** When setting up equipment requirements consider these elements:

2.4.1. **Vehicles and Communication.** The safety staff must be mobile to do its job. In flying units, missile units, and units operating a test range, the staff must have the use of a two-way radio-equipped vehicle. 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. **Tables of Allowance (TA).** These TAs list items that safety offices use:

- TA 006, Organizational and Administrative Equipment.
- TA 009, Small Computer Systems.
- TA 010, Vehicles.
- TA 014, Trainer.
- TA 016, Organization and Individual Equipment.
- TA 453, Ground Accident Prevention.
- TA 629, Audiovisual Equipment.
- TA 660, Non-tactical Communications.

2.4.3. **Mishap Investigation Kits.** Each MAJCOM determines the need for and the contents of investigation kits. A recommended list of contents is in AFPAM 91-211, *US Air Force Guide to Mishap Investigations* (formerly AFP 127-1), chapter 2.

2.5. **Office Administration:**

2.5.1. **ALSAFECOM Messages.** Handle and distribute these messages as described in Chapter 5.

2.5.2. **Mishap, Safety Inspection, and Hazard Reports.** Log and file these reports according to AFI 37-138, *Records Disposition - Responsibilities and Procedures* (formerly AFR 12-50, vol I).
2.6. **Publications Library.** Air Force safety offices normally establish a publications library. When a master publication library and technical order library are readily available, the safety office needs to maintain only those publications that specifically apply to the safety program.

The library should include:

- DoD standards and handbooks.
- Air Force policy directives, instructions, pamphlets, and TOs.
- AFOSH standards.

2.6.1. The DoD Index of Specifications and Standards (DoDISS), maintained by the Information Management directorate, lists Federal and military specifications and standards. Acquire publications that you can't obtain through the supporting Publications Distribution Office (PDO) or Technical Order Distribution Office through the supporting library. When a master publication library and technical order library are readily available, the safety office needs to maintain only those publications that specifically apply to the safety program.

2.6.2. The safety office determines how many magazines their units need and ensures that they receive adequate distribution through the PDO or customer account representatives. AFI 37-160, vol 7, *Air Force Publications and Forms Management Programs--Publications Libraries and Sets* (formerly AFR 4-61), outlines responsibilities for keeping this type of library.

2.7. **Air Force Councils and Committees.** Safety councils and committees provide forums for discussing safety problems and keeping commanders, functional managers, and supervisors informed on the status of the mishap prevention program.

2.7.1. The wing or unit commander determines the need, frequency, agenda, and participants for all safety councils and committees except those required by public law. Commanders can form safety councils and committees at any level to focus group attention on safety or health problems. Any council or committee must satisfy a specific need and may not duplicate an existing management function.

2.7.2. The occupational safety and health council is required by law and is convened according to AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Prevention, and Health Program* (formerly AFR 127-12).

2.8. **Non-US Air Force Councils and Committees.** The Air Force supports federal, state, and local safety councils and committees and encourages safety staffs to take part in them.
3.1. Safety Inspection. Safety inspections help identify hazards and measure compliance with safety program requirements outlined in AFI 91-301. Through inspections, the safety staff helps the commander determine the condition of work areas, the safety of work practices, the degree of compliance with safety and health standards, and the degree of compliance with safety program requirements. The safety staff and functional managers:

- All Air Force facilities and work areas at least once a year, except as otherwise directed.
- High-interest areas monthly by spot inspection and annually as a part of the facility and work area inspection.
- At least 20 percent of unmanned missile launch facilities once a year. Select these launch facilities to ensure that a representative segment of the unit's assets is inspected annually.

3.1.1. Administrative areas. Collateral-duty, task-qualified safety personnel may conduct these inspections 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.

3.1.2. The safety staff and functional managers inspect all work areas periodically, through spot inspections.

3.1.3. Safety Inspection Responsibilities. The host safety staff inspects units that don't have an authorized, full-time safety position in a particular discipline. The host performs the required annual inspection for those safety areas.

3.1.3.1. Unless a host-tenant agreement requires otherwise, the parent or gaining unit or command inspects units not supported by an Air Force base.

3.1.3.2. If their mishap potential is low, remotely located units of approximately 25 people or less may not need an annual inspection by a safety staff. In these cases, the MAJCOM determines other provisions for meeting annual inspection requirements.

3.1.4. Safety Inspection Procedures:

3.1.4.1. Scheduling Inspections. Safety staffs may designate inspections as "prior-notice" or "no-notice." When possible, combine safety inspections with other inspections to reduce the number of inspections a unit receives.

3.1.4.2. Personal Consultations. 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 don't identify employees who want to remain anonymous. Be careful not to offer anyone a formal grant of confidentiality.
3.1.4.3. Inspection Checklists. Use inspection checklists, especially for items common to several units or facilities. Make checklists available to the supervisors of the activities slated for inspection.

3.1.4.4. Safety Inspection Reports. Report annual inspections in writing. Send formal reports to the unit commander, the supervisor, and functional manager. In tenant units, send a copy of the report to the parent safety office. These reports must contain:

- The unit, activity, or work area inspected.
- The date of the inspection.
- A description of any hazards or unsafe work practices, noted with reference.
- Causes of deficiencies and hazards noted.
- Recommendations for corrective action.
- Risk assessment codes (RAC) for identified hazards, where applicable.

3.1.4.5. Follow-up actions. Use spot inspections and follow-up reporting to ensure corrective action is taken and the hazards are mitigated.

3.2. Safety Program Evaluation. At least once every three years, qualified safety personnel must periodically evaluate the safety program management of each organization at wing or installation level and higher.

3.2.1. Command Units--Wing Level and Above. The higher headquarters evaluates the safety program management of organizations above wing level as part of that commander's quality improvement program. Conduct evaluations with prior notice.

3.2.2. Evaluation Scope. Safety program management evaluations address the areas of command and functional manager support, compliance with program directives, and the effectiveness of mishap prevention programs.

3.2.3. Evaluation Reports. 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. Assessments. Qualified safety personnel periodically assess the safety program management of each organization below wing level as part of the commander's quality improvement program. You may conduct assessments in conjunction with the annual safety inspection. Conduct assessments with prior notice.

3.3.1. Assessment Scope. Safety program management assessments address command and functional manager support, compliance with program directives, and the effectiveness of mishap prevention programs, including an analysis of unit mishap reports and other management indicators.

3.3.2. Assessment Reports. Prepare a written report for each assessment. You may include assessment reports with inspection reports, but you must prepare them as separate sections. Send a copy of the assessment report to the commander of the organization assessed.

3.4. Staff Assistance. Safety staffs at all command levels visit subordinate units when problems, deficiencies, or special subjects require on-scene assistance. Visits may also be necessary when units implement new missions, equipment, or programs that impact mishap prevention programs. The objective is to
help develop solutions, not to inspect or evaluate. Give a report to the visited unit’s commander, if requested. Don't require replies unless the 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.
HAZARD REPORTING PROGRAM

4.1. **What Hazards To Report.** Mishap prevention depends on personnel identifying, reporting, and correcting hazards promptly and efficiently. Any person assigned, attached, or under contract to the Air Force may report a hazard. Submit a hazard report on any event or condition that affects flight, ground, weapons, or space safety. Reportable hazards include unsafe procedures, practices, or conditions.

4.2. **Reporting Criteria.** Submit hazard reports unless personnel can take corrective action under this AFI or any of these Air Force publications:

- TO 00-5-1, *Air Force Technical Order System.*
- TO 00-35D-54, *USAF Materiel Deficiency Reporting System.*
- AFI 51-1101, *Air Force Procurement Fraud Remedies Program*

4.3. **Reporting Procedures:**

4.3.1. Report hazards to the responsible supervisor or local agency. If the hazard is eliminated on the spot, no further action is required unless it applies to other similar operations or to other units or agencies.

4.3.2. If the hazard presents imminent danger, the supervisor or individual responsible for that area must take immediate action to correct the situation or apply interim control measures.

4.3.3. Report hazards that can't be eliminated immediately to the safety office by AF Form 457, USAF Hazard Report (HR), by telephone or in person. You may submit reports anonymously.

4.3.4. The safety staff investigates the HR. 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.

4.3.5. If the hazard is validated:

- The investigator assigns a RAC, a HR control number, and monitors corrective action until complete.
- 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.
- The responsible individual completes Part II, "Action Taken," within 10 working days and returns the HR to the safety office for monitoring.
- The investigator tells the originator (if known) about the corrective action 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.

4.3.6. If the HR response is not satisfactory to the reporting member, the member may submit a reevaluation request according to AFI 91-301.
4.3.7. HRs that generate an AF Form 3, Hazard Abatement Plan, may be closed and corrective action monitored through the hazard abatement process. See AFI 91-301 for further action required for AF Form 3 processing.

4.4. **Additional Reporting Procedures:**

4.4.1. Transient personnel unable to report a hazard at a base where it is found, submits the HR to the safety office at their home base or the next Air Force base they visit. That safety office sends the report to the responsible base safety offices.

4.4.2. The safety office sends reports on hazards that can’t be corrected to the agencies that can take appropriate action.

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

4.4.4. Send hazard reports by message if they require urgent action. Send messages to the safety office at the headquarters where action can be taken. List units with similar equipment as information addressees.

4.4.5. Persons identifying hazards involving weather forecasting must submit hazard reports as soon as possible to ensure that records are not destroyed.

Promptly after landing, aircraft commanders advise appropriate facility providing air weather services of their intention to submit a hazard report. If necessary, notify these facilities by message.

4.4.6. Base safety offices send hazard reports that involve other military services, foreign nations, or agencies outside the Air Force to HQ USAF/SE, 1400 Air Force Pentagon, Washington DC 20330-1400 (for action) and to HQ AFSA/CC, 9700 Ave G, Kirtland AFB NM 87117-5670 (for information), with affected Air Force units as information addressees.

4.5. **Promoting the Program.** The safety office makes the AF Form 457 available to all personnel on base. The office must respond promptly to the reporting member.
Chapter 5

MISHAP PREVENTION INFORMATION AND DATA ANALYSIS

5.1. Information Protection. Analyzing and distributing mishap prevention information are key elements in mishap prevention. All safety mishap reports, except Class A and B "8-hour" messages, are "For Official Use Only" (FOUO). For FOUO handling procedures, see AFI 37-131, Air Force Freedom of Information Act Program (formerly AFR 12-30). Some safety mishap reports require additional handling restrictions as "limited-use" reports. The Air Force refers to these reports as "privileged." See AFI 91-204 for further information and handling restrictions.

5.1.1. Limited-use and FOUO controls protect the parts of the report that personnel provided in confidence or conclusions investigators derived from those parts. Use mishap reports only for mishap prevention and limit access to these reports. The safety staff must brief everyone with access to limited-use safety information on the proper handling procedures. See AFI 91-204 for more information.

5.1.2. To provide wider dissemination, sanitize mishap information by removing the parts that make it privileged. In many cases, the remaining data keeps its mishap prevention value. AFI 91-204 describes the method for sanitizing limited-use reports.

5.2. Action Information:

5.2.1. Mishap Reports. Send reports of Air Force mishaps as directed by AFI 91-204. Many of these reports have recommendations needing urgent action by some addressees. Consider mishap reports to be action documents.

5.2.2. ALSAFECOM Messages. The Air Force Chief of Safety (HQ USAF/SE) uses the ALSAFECOM message to rapidly distribute critical safety information. HQ USAF/SE sends these messages to each MAJCOM commander and director (or chief) of safety. The messages convey mishap prevention data and often require action to eliminate hazards.

5.2.3. After receiving an ALSAFECOM message, each director or chief of safety:
   • Reviews the message and sends it to the agencies and units that need to take action.
   • Keeps a file of ALSAFECOM messages that are applicable to the unit.
   • Annotates the message to show its distribution and the actions the unit takes in response to the reported hazard.

5.3. Advisory Information:

5.3.1. Special Publications. The Air Force Safety Agency, Major Commands (MAJCOMs), Air Force Reserve, and Air National Guard may produce special publications providing education and training in mishap prevention.

5.3.1.1. Purpose and Scope. The goal of these documents is to prevent mishaps in operating and maintaining aircraft and associated equipment and facilities, storing and handling explosives, conducting industrial operations, operating government and privately owned vehicles, and participating in off-duty sports and recreation. The publications also provide educational information on implementing OSHA standards and in establishing and maintaining nuclear surety and environmental safety programs.
5.3.1.2. Air Force military members and civilian employees, including Air Force Reserve and Air National Guard units and members, are the primary audience of special publications. The secondary audience is other DoD and non-DoD personnel supporting Air Force missions. A one-for-one safety publication exchange is authorized with foreign militaries where such action clearly supports mishap prevention purposes and is in the US Government’s best interest. This exchange of information provides an open forum for mishap prevention ideas and programs.

5.3.1.3. The Commander, Air Force Safety Agency, will issue special publications pertaining to the entire Air Force mishap prevention program. MAJCOMs, Air Force Reserve, and Air National Guard may issue special publications pertaining to mishap prevention in their unique missions.

5.3.1.4. Operating Policies. The office of primary responsibility (OPR) for each document will determine the number of pages and frequency of publication.

- Each OPR will act as its own reviewing authority for document contents.
- Each OPR will establish a distribution ratio to control distribution of special publications. Publication Distribution Offices (PDOs) will distribute the publications to organizations at Air Force installations. The OPR will make distribution to units without a PDO by the most economical means.

5.3.2. Periodic Summaries. HQ AFSA 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. Regular summaries include:

- Blue Four News. HQ AFSA/SEF sends monthly Blue Four News messages to safety offices throughout the Air Force, summarizing the previous month's Class A flight mishaps and commenting on the trends that the mishaps indicate.
- How Goes It in Ground Safety. HQ AFSA/SEG sends this quarterly message to all Air Force safety offices and the Army and Naval Safety Centers to provide updates on ground safety issues and activities.
- Hurtline. This HQ AFSA/SEG quarterly message provides a summary of Air Force ground mishaps to all Air Force safety offices.
- Ground Safety Spotlight. This HQ AFSA/SEG monthly focuses on safety interest items from recent fatal mishaps, injuries, compensation cost data, or resource protection needs.
- MAJCOM Publications. Most MAJCOMs publish either a safety magazine, newsletter, or safety kit.

5.4. Methods of Distribution. Select an appropriate distribution method by considering your content, time available, and audience. Some suggested methods of distributing advisory information are:

- Periodic safety meetings.
- Supervisor safety briefings.
- Base newspapers and bulletins.
- Safety publications.
- AFSA or MAJCOM publications.
NOTE:
The MAJCOM chief of safety decides whether to distribute summaries to subordinate units.

5.5. Mishap Analysis Programs. Full-time safety staffs at all levels should develop locally oriented mishap analysis programs to evaluate mishap statistics and identify trends. Managers develop a local program to formulate intervention efforts by assessing standard mishap rates and determining the root causes for mishaps. When setting up an analysis program:

- Identify successes or problem areas and trends, measure safety program effectiveness, and guide prevention actions.
- Make sure that the program is flexible enough to allow for additional changes.
- Do not use raw numbers of safety reports files as an indicator of any type. Some healthy prevention programs are characterized by large numbers of reports (indicating safety awareness on the part of submitters), while others may see few or no reports (including a safe operating environment).

5.5.1. Standard Mishap Rates. Safety staffs, at MAJCOM level and above, compute these standard rates for their organization:

5.5.1.1. Flight Mishap Rates. The number of flight mishaps per 100,000 flying hours. Compute separate rates for Class A and B mishaps.

5.5.1.2. Federal Employee’s Compensation Act Lost Time Injury/Illness Rate. The number of appropriated fund civilian lost time injuries or illnesses per 100 appropriated-fund civilians assigned or employed. OSHA uses this rate to determine eligibility for targeted inspections.

5.5.1.3. Remotely Piloted Vehicle (RPV) Rate. The number of RPV Class A, B, and C mishaps per 100 launches.

5.5.1.4. Ground Mishap Rates:

5.5.1.4.1. On-Duty Ground Categories. These rates include combined military and civilian mishaps; combined military and civilian fatalities; combined military and civilian injuries; civilian fatalities; civilian injuries; military fatalities; military injuries; and government motor vehicles (GMVs) mishaps and fatalities. To calculate the rates, use actual civilian work-hours during the fiscal month and year and monthly military strength multiplied by 168 hours, such as in the formula below, which gives a rate per 200,000 hours of exposure:

\[
\text{Combined mishaps} = \frac{\# \text{ of military} + \text{civilian mishaps} \times 200,000 \text{ hours}}{\text{civilian work-hours} + \text{military strength} \times 168 \text{ hours}}
\]

Rationale: The 200,000 hours is based on 100 full-time civilian workers working 40 hours per week, 50 weeks each year (100 x 40 hours per week x 50 weeks). The 168 hours is based on one military worker's average duty hours each month and closely approximates civilian exposure.

5.5.1.4.2. Off-Duty Ground Categories. These rates include mishaps, injuries, fatalities, private motor vehicle (PMV) mishaps, and PMV fatalities. Use the following formula, which also gives a rate per 200,000 hours of exposure:
Off-Duty Fatalities = \# of military fatalities \times 200{,}000 \text{ hours} \\
monthly military strength \times 312 \text{ hours (sum results each month)}

**Rationale:** The 312 hours is based on one military worker’s off-duty time, not counting 8 hours of sleep each day of the month. **Note: Count PMV rates as part of the overall off-duty exposure, based on 200,000 hours.**

5.5.1.4.3. Combined On- and Off-Duty Ground Categories. These rates include mishaps, injuries, fatalities, GMV or PMV mishaps, and GMV and PMV fatalities. Use the following formula:

Combined Mishaps = \# of mishaps, injuries, or fatalities \times 200{,}000 \text{ hours} \\
civilian work-hours + (monthly military strength \times 480 \text{ hours})

**Rationale:** The 480 hours is based on one military member’s on-duty and off-duty time, not including 8 hours of sleep each day of the month.
Chapter 6

SAFETY EDUCATION AND TRAINING

6.1. Safety Training.  AFCAT 36-2223, USAF Formal Schools (formerly AFR 50-5), outlines specific safety-related AFIT- and AETC-funded courses, excluding OSHA courses, available to Air Force personnel.  HQ AFSA manages the AFIT-funded courses listed in this chapter.

6.1.1. Occupational Safety and Health Training. Trains individuals to meet their responsibilities in the AFOSH program. (See AFI 91-301.)


6.1.3. Weapons Safety Training. Trains individuals who work with, operate, handle, transport, maintain, load, or dispose of nuclear or explosive systems.  Chapter 10 outlines the training.

6.1.4. Safety Investigation Board Training. Trains personnel identified as basic flight mishap safety investigation board members and presidents.  See Chapter 7 for more information.

6.1.5. Aircraft Mishap Investigation Course (AFIT), WCIP05A. Trains potential formal board members in aircraft mishap investigation techniques and board procedures.

6.1.6. Jet Engine Mishap Investigation (AETC), J3AZR45470A 001. Provides introduction to design and construction variations of jet engines as needed for mishap investigation.

6.2. Unit Safety Personnel. Individuals assigned additional duty safety responsibilities at the unit level receive training from the base safety staff or through a course developed by a MAJCOM or FOA. The unit is responsible for maintaining training records.

6.3. Full-Time Safety Personnel. There are several safety courses available for full-time safety personnel. MAJCOM safety staffs make sure that persons assigned to full-time safety positions are trained before beginning or as soon as possible after assuming the job. This is the current list of available safety courses:

6.3.1. Flight Safety Courses:

- Flight Safety Officer (AFIT), WCIP05C. Provides safety education for officers assigned to manage flight safety programs.
- Air National Guard Aircraft Mishap Prevention (AFIT), WCIP05K. Provides safety program management techniques for their operations.
- Flight Safety NCO (AETC), G3AZR1S071 004. Trains individuals performing duties as the wing or base flight safety NCO and provides continuing training for ground safety personnel who have a background in aircraft maintenance and have flight safety responsibilities.

6.3.2. Ground Courses:

- Apprentice Safety Specialist (AETC), G3ALR1S031 002. Trains enlisted and civilian personnel in the fundamentals of mishap prevention and Air Force safety program elements.
• OSHA Training Institute (AETC), G5AZG1S071, 000 through 105, 107 through 113, and 206. Provides continuing education for personnel directly involved with workplace inspections or job analysis.

• National Safety Council Safety Training Institute (HQ AFSA). Provides several different courses for civilian and enlisted ground safety personnel at the journeyman level, including Advanced Occupational Safety, Advanced Hospital Safety, Laboratory Safety, Ergonomics, and Chemical Operations.

• Human Factors/System Safety (HQ AFSA). Provides information for ground safety personnel (non-engineers) that enables them to apply human factors knowledge and system safety techniques within the ground safety working environment.

6.3.3. Weapons Courses:

• Weapons Safety Course (AETC), G30ZR4024 001. Teaches personnel how to manage weapons safety programs, including certain technical safety requirements. Individuals assigned full-time weapons safety duties must complete this course.

• Explosives Safety Orientation Course and the Explosives Safety Advanced Course. Taught by the Air National Guard Professional Military Education Center; may be substituted for the AETC course for part-time Guard and Reservist weapons safety personnel. Full-Time technicians should attend the formal AETC course.

• Advanced Weapons Safety Manager's Course (HQ AFSA). Provides follow on training to graduates of the Weapons Safety Course to update WSM's on current issues and concerns.

6.3.4. System Courses:

• System Safety Program Management (AFIT), WCIP057. Provides training for personnel assigned to manage system safety functions.

• System Safety Analysis (AFIT), WCIP060. Trains engineers and technical staff members in the practical application of system safety analysis techniques.

6.3.5. Management Courses:

• Chief of Safety (AFIT), WCIP05B. Provides education in safety and related academic subjects for personnel assigned to manage Air Force safety programs at the wing or base level.

• Ground Safety Management (AFIT), WCIP05D. Provides applied management education for civilian and enlisted personnel with management responsibilities for Air Force ground safety programs.

• Ground and Weapons Safety (AETC), G3AZR1S071 003. Trains enlisted and civilian personnel performing supervisory duties in Air Force ground and weapons safety programs.
Chapter 7

FLIGHT SAFETY

7.1. Program Management. Each unit conducting or supporting flight operations must have a flight safety program to support its mission.

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

7.1.2. Tenant units coordinate their flight safety programs with the host to avoid duplication. If the host doesn’t have a FSO authorization, the largest tenant with an authorization manages the base flight safety program.

7.2. Oversight Requirements:

7.2.1. The FSO must conduct an annual assessment of all assigned flying units’ flight safety programs.

7.2.2. The host FSO assesses tenant unit support of the host base program.

7.2.3. The tenant’s higher headquarters assesses the tenant’s internal program.

7.3. Monitoring. The assigned FSO and FSNCO monitor flight-related facilities or operations as part of a continuous quality-improvement program. Areas for monitoring include:

7.3.1. Programs:

• Supervisor of flying (SOF) program.
• Runway supervision program.
• Life-support facilities and training programs.
• Egress training.
• Foreign object damage-control program, control equipment, and procedures.
• Bird-hazard abatement program.

7.3.2. Airfield Conditions:

• High-interest areas.
• Airfield Daily Inspections.
• Ramps and runways (including taxiways, overruns, stabilized areas, and non-stabilized areas immediately adjacent to runways).
• Lighting systems (including runway lights, approach, taxiway, and ramp lights, and vehicle-control lights).
• Barriers and arresting gear.
• Airfield obstructions (including obstacles on approach paths).
• Airfield markings (including runway markings, distance markings, taxi lines, and so on).
• Vehicle traffic control on or around the airfield and parking areas.

7.3.3. Operations and Maintenance:
• Low-level routes, weapons ranges, and drop zones.
• Unit and transient maintenance operations.
• Aircraft generations, engine start, and launch exercises.
• Emergency-response equipment (including crash-rescue vehicles, ambulances, communications and crash-recovery equipment).
• Assigned and attached unit's flight facilities, briefings, and meetings.
• Snow removal plans and operations.
• Aero club operations.

7.4. **Response to Emergencies.** The FSO reviews and helps develop plans and procedures for handling problems involving aircraft emergencies. These areas of review include:

- Disaster response required by AFI 32-4001, *Disaster Preparedness Planning and Operations* (formerly AFR 355-1).
- Response to aircraft in-flight emergencies.
- Response to severe weather warnings.
- Crash recovery plans.
- Notifying and convening investigation boards.
- Procedures for missing aircraft.
- Procedures and training for extracting crew members from local and common transient aircraft.

7.5. **Aircraft Maintenance.** Assigned FSOs and FSNCOs work closely with maintenance personnel and monitor maintenance areas for continuous quality improvement. These areas should include:

- Debriefing procedures.
- Functional check flight procedures.
- Product Quality Deficiency Reporting System.
- Flight safety information use in maintenance training.
- Distribution of safety publications.
- Aircraft marshaling, fueling, and towing procedures.
- Ground engine-run training procedures.

7.6. **Mishap Board Training.** The FSO trains unit personnel identified to serve as basic aircraft mishap investigation board members. Positions and qualification requirements are in AFI 91-204. MAJCOMs determine the most effective interval and mode of training.

7.7. **US Air Force Hazard Reporting (HR) and Hazardous Air Traffic Reporting (HATR) Programs.** The FSO investigates HRs in accordance with Chapter 4 and HATRs in accordance with Attachment 3.
7.8. **Aero Club Operations.** The host unit commander appoints a FSO as an advisor to the base aero club. If the host unit doesn't have an assigned FSO, the commander obtains the assistance of a tenant unit FSO to provide safety assistance to the aero club. If there is no FSO available, the commander appoints a member of the ground safety staff. The host safety office reports aero club mishaps in accordance with AFI 91-204, AFI 34-117, *Air Force Aero Club* (formerly AFR 215-12), and 49 CFR, chapter VIII, National Transportation Safety Board, part 830, as appropriate.

7.9. **Airfield Maintenance and Construction.** FSOs and FSNCOs monitor routine airfield maintenance and major construction projects. On major construction projects, the FSO reviews the initial plan for compliance with formerly AFR 86-14, *Airfield and Heliport Planning Criteria (Joint)*, and attends the pre-construction conference or briefing to consider if it will effect unit operations. Consider these factors:

- The inspection of areas before use.
- The impact of maintenance and construction on daily flying schedule and emergency situations.
- The communications between the tower and contractor and the availability of the contracting agent.
- Controlling vehicular traffic on the airfield and designating haul routes for contractor trucks.
- Briefing pilots and transient air crews with updated information.
- Establishing the minimum allowable distance between equipment and the runway.
- Marking obstructions, controlling foreign objects, and assigning hearing protection.

7.10. **Midair Collision Avoidance (MACA) Program.** The FSO works closely with the MAJCOM-determined OPR and other interested parties such as the Chief Air Traffic Control Operations Officer (CATCO), the airspace manager, and the local Flight Standards District Officer (FSDO), to establish a comprehensive MACA program. Tailor the MACA program to meet local needs. Consider these key objectives when developing a MACA program:

- Ensure the free flow of MACA information between host and tenant organizations, effective communication between base and local airport managers and fixed base operators, and actively support the HATR Program.
- Provide educational programs to increase the use of available radar services among civil aircraft.
- Use the resources and services of the Federal Aviation Administration (FAA) FSDO accident prevention specialists.
- Develop appropriate maps and graphics showing the base radar services and routes. Distribute the maps to all civil airlines and pilots, base fixed operators, airports and other flying operations that use the surrounding airspace.
- Avoid VFR flyways as much as possible. Establish procedures to control VFR aircraft and minimize the air-traffic hazards.
- 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.
- Ensure that arrival and departure routes (including stereo routes and profile descents) minimize conflicts with runway traffic, nearby airfields, and local flying areas.
• Evaluate the midair collision potential with civil airlines and work with operators of nearby airfields to reduce risk and minimize the hazards.

### 7.11. Bird/Aircraft Strike Hazard (BASH) Program.

#### 7.11.1. Responsibilities for Establishing and Administering a BASH Reduction Program:

**7.11.1.1. HQ AFSA/SEFW**
- Analyzes AFI 91-204 bird strike data to provide baseline information to Air Force agencies.
- Approves the exchange and distribution to US Government and foreign agencies.
- Monitors MAJCOM safety programs concerning BASH.
- Instructs FSOs in developing a BASH reduction program.
- Proposes bird strike hazard reduction policies and guidelines to AF/SE.
- Develops guidelines to aid MAJCOMs in evaluating low level airspace for BASH potential.
- Reviews proposed federal legislation affecting the BASH reduction program and coordinates the Air Force response with AF/SE and other agencies.
- Provides onsite technical assistance to reduce bird strike hazards at bases with flying missions.
- Reviews base bird hazard reduction plans on request.
- Coordinates recommendations for changes in operational procedures with base flight safety to reduce BASH.
- Coordinates USAF BASH program with other federal agencies.
- Identifies research requirements for bird data and bird control techniques and develops research projects.
- Establishes and maintains liaison with international, federal, state, and private agencies regarding BASH reduction.
- Identifies bird remains.
- Provides expert witnesses on community planning issues involving BASH.
- Advises aircraft mishap board president when a bird strike may have been a factor.

**7.11.1.2. MAJCOMs, AFRES, and National Guard Bureau:**
- Ensure each installation with a flying mission has a written BASH Reduction Plan. ANG units are not required to have a written plan except where the ANG is the single manager of the base (ANG is "owner" of the base).
- Ensure exercises or training schedules take BASH into account.
- Consider potential bird strike hazards when developing or revising operational procedures, developing new military training routes, new training ranges, instrument approach and departure procedures, establishing MOAs, or low altitude tactical navigation areas.

**7.11.1.3. Wing, Base, and Installation Safety Offices:**
- Coordinate a BASH reduction program that meets command operational requirements.
• Each installation with a flying mission must develop a contingency plan that lists responsibilities and procedures for bird control.

• Establish a Bird Hazard Working Group (BHWG) made up of personnel concerned with airfield bird control, operations, and safety. The vice wing commander should chair the meeting and will appoint an individual to keep minutes.

7.11.2. Base Level BASH Reduction Program. Each base with a flying mission must establish a BASH reduction program. Identify personnel from base agencies (such as safety, civil engineering, operations, aircraft maintenance) and assign them to support this program. This program requires complete documentation of local bird problems, effects on missions, and possible solutions. ANG units will document bird strikes and discuss their BASH reduction program (if required) at their unit safety and health council, flight safety meeting, or standardization/evaluation board. ANG units on civilian fields will coordinate bird strike problems with their airfield authority. The BASH Team will visit civilian airfields on request.

7.11.2.1. The flight safety office, with the assistance of other base agencies will coordinate an operations plan. Once the nature and extent of bird hazards are defined, the commander will implement the plan to reduce these hazards. Environmental controls, bird dispersal techniques, and operational procedure changes may be required. The flight safety office should coordinate plans with the state conservation agency, if the base has a cooperative agreement for managing fish and wildlife resources.

7.11.2.2. BASH reduction programs at overseas locations may depend on host nation support and regulations. MAJCOMs should evaluate those plans to ensure that the spirit of AFI 91-202 is complied with to the maximum extent possible.

7.11.2.3. Obtain additional information on BASH from AFP 91-212, BASH Management Techniques.

7.11.3. Bird Strike Reporting. The reporting of all bird strikes is a necessary part of an effective BASH Reduction Plan. An in-depth knowledge of the circumstances leading to a bird strike is vital before realistic recommendations can be made.

• Damaging Bird Strike Report. Report damaging bird strikes (Class C or higher) according to AFI 91-204.

• AF Form 853. Record all non-damaging bird strikes on AF Form 853 and send them to HQ AFSA/SEFW, 9700 Ave G, Bldg 24499, Kirtland AFB, NM 87117-5671, twice each year. Reporting periods are 1 October to 31 March and 1 April until 30 September, and are due 15 April and 15 October each year. Negative replies are accepted by telephone. Deployed or temporary duty aircrews report through the host safety office. Send feather or feather fragments of all bird strikes (damaging or non-damaging to the BASH Team at the address below.

7.11.4. Technical Assistance. Technical aid is available through the BASH Team, HQ AFSA/SEFW, 9700 Ave G SE, Bldg 24499, Kirtland AFB, NM 87117-5671. DSN 246-0698 or Comm (505) 846-0698.

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 oversees and implements a total base safety program.

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 host-tenant agreement. Tenant units with fewer than 400 people receive the same safety services as wing subordinate units. For tenant units greater than 400 people that don’t have their own full-time safety personnel, complete a host-tenant agreement for safety services.

8.1.4. AFI 91-301 and AFI 91-207 contain additional responsibilities for ground safety managers.

8.2. Host Ground Safety Staff Responsibilities:

- Investigate and report mishaps according to AFI 91-204.
- Manage the US Air Force base ground safety program, including occupational safety, fire and environmental safety, industrial safety, contractual safety requirements, sports and recreation safety, traffic safety, and fire prevention and traffic safety.
- Support environmental safety and fire prevention efforts.
- Perform and/or assist risk assessment of wing mission and contingency exercises and operations; perform JSAs and OHAs; and report OSHA visits through MAJCOMs as the base focal point.
- Provide technical safety advice and consultation services to all base activities, provide the new commander's safety orientation, promote on- and off-duty safety awareness, and administer the ground safety award program.
- Review and help develop plans and procedures for handling emergencies to include, but not limited to, SAFE HAVEN, SAFE CONVOY, HAZMAT and disaster response required by AFI 32-4001 or AFI 32-4002, and when required by law (Clean Air Act), or accidental release risk management programs for explosives.
- Budget for training and safety promotional campaigns incentives; budget, acquire, and distribute safety education materials.
- Establish procedures to ensure that local purchase requests for equipment meet safety requirements.
- Assists tenants with ground mishap reporting using the Aerospace Safety Automation Program (ASAP); assign installation mishap control numbers.

8.3. Tenant Unit Responsibilities:

8.3.1. Tenant units without full-time safety personnel:
- Conduct an internal unit safety program.
- Support the host installation program.
- Investigate or assist in investigating unit mishaps.
- Conduct spot inspections of unit facilities and operations.
- Provide ground safety support for off-installation exercises involving unit resources.

8.3.2. Tenant units with qualified safety personnel carry out all program elements not performed by the host and conduct their own assessments and inspections. Safety staffs don't evaluate their own programs.

8.4. Safety Standards. The Air Force publishes industrial and general ground safety standards as AFOSH standards, which implement OSHA standards. Area-specific instructions and technical data include other ground safety criteria. When AFOSH standards or safety criteria don't cover a situation, use non-Air Force standards, including professional safety and health standards, national consensus standards, and other Federal agency standards. Air Force activities must comply with OSHA requirements at all times. (Note: AFOSH standards are primarily for functional managers use to ensure the safety of their operations).
Chapter 9

SYSTEM SAFETY

9.1. System Safety Principles. System safety disciplines apply engineering and management principles, criteria, and techniques throughout the life cycle of a system within the constraints of operational effectiveness, schedule, and costs. The degree of safety achieved in a system is directly dependent upon government and contractor management emphasis.

9.1.1. System safety is an inherent element of system design and is essential to supporting system requirements. Successful system safety efforts depend on clearly defined safety objectives and system requirements.

9.1.2. System safety must be a planned, integrated, comprehensive effort employing both engineering and management resources.

9.1.3. Follow this order of precedence to satisfy system safety requirements and resolve identified hazards in accordance with Military Standard (MIL-STD)-882, System Safety Requirements:

- Design for minimum risk.
- Incorporate safety devices.
- Provide warning devices.
- Develop procedures and training.

NOTE:
The degree of safety achieved in a system is directly dependent upon government and contractor management emphasis.

9.2. System Safety Program Requirements:

9.2.1. System safety engineering is both an element of the systems engineering function and a part of the mishap prevention program. System safety programs must meet the requirements of the latest revision of MIL-STD-882.

9.2.2. Program managers must ensure that system safety engineering is an integral part of the systems engineering practices and receives proper management attention. Program managers must provide direct lines of communication to the system safety staff to receive timely information on identified hazards that have high mishap potential.

9.2.3. Management must ensure that safety offices monitor program requirements to identify and correct hazards throughout the operational life of a system or facility to ensure hazards are identified through operational experience, mission changes, environmental effects, or system modification. Management must also ensure that safety staffs identify and control all hazards associated with decommissioning or disposal of a system.

9.2.4. Safety offices must clearly define and document risk acceptance authority during life-cycle system decisions.
9.2.5. Requesting proposals and invitations during a bid for system acquisitions (including test, maintenance and support, modification, and training equipment), you must include detailed tailoring of the system safety tasks as outlined in MIL-STD-882.

9.2.6. Each MAJCOM appoints a trained system safety manager to act as the point of contact to facilitate system safety matters.

9.3. Responsibilities:

9.3.1. SAF/AQ Program Executive Officer (PEO):
- Furnish safety risk assessments to the System Acquisition Review Council.
- Inform the Air Force Acquisition Executive (AFAE) of any significant residual hazards and associated program risks.
- Review all uncontrolled catastrophic and critical hazards before releasing programs to the next milestone phase.
- Accept residual risks that the program manager is not authorized to accept and sends risks beyond PEO authority to the AFAE.

9.3.2. HQ USAF/SE:
- Develop policy and provides guidance on applying system safety management and engineering to Air Force systems.
- Provide an independent assessment of overall program safety (residual hazards and associated risks).

9.3.3. Air Force Materiel Command (AFMC):
- Establish and maintain the Air Force's capability to conduct system safety programs.
- Maintain "acquisition and design lessons learned" data base and ensure that using commands apply appropriate lessons to new programs.
- Chair system safety engineering analysis (SSEA) efforts as required by each system.
- Ensure product centers and laboratories document safety criteria and hazards identified during their efforts.
- Coordinate with the using commands when modifications or changes in system use affect safety.
- Perform safety audits on major systems.
- Evaluate mishap experience to identify deficiencies that engineers and managers may have overlooked or incorrectly analyzed during system development. Correct oversights and update "lessons learned" information.

9.3.4. HQ AFSA:
- Represent the Air Force in system safety matters with other DoD components and both Governmental and non-Governmental agencies.
- Develop independent safety assessments of issues, programs, and systems.
- Oversee system safety training programs and handbooks.
• Attend selected system safety group (SSG) and system safety working group (SSWG) meetings and provide guidance for developing effective system safety and design engineering processes and procedures.

• Review Air Force technical and management documents (operational requirements documents, program management directives, system safety program plans, hazard analyses, SSG charters) for proper system safety program identification.

• Review and comment on mishap reports for technical content and lessons learned. Forward lessons learned to the Air Force Lesson's Learned data bank at the Center for Supportability and Technology Insertion (CSTI/AML) and to appropriate OPRs for standards, specifications, and handbooks.

• Serve as an advisor and consultant to the Non-nuclear Munitions Safety Board (NNMSB), a member of safety study groups for terrestrial nuclear reactors; and as an advisor to the chairman of the US Air Force Nuclear Weapons System Safety Group (NWSSG). See AFI 91-205, Non-nuclear Munitions Safety Board (formerly AFR 127-16); AFI 91-109, Air Force Nuclear Reactor Program (formerly AFR 122-14); and AFI 91-102, Nuclear Weapon System Safety Studies, Operational Safety Reviews, and Safety Rules, (formerly AFR 122-2).

9.3.5. Program Manager or System Safety Manager:

• Establish and maintain tailored system safety program (SSP) in accordance with MIL-STD 882.

• Integrate SSP with other engineering and program milestones.

• Identify and assess safety hazards and risks throughout the program life. Report accepted residual risks and those that require PEO or higher action.

• Incorporate system safety requirements and design criteria into all program documents in accordance with other program requirements such as reliability, maintainability, and human factors.

• Provide system safety assessments for design and program reviews.

• Develop and conduct special tests to verify proper system performance and ensure that safety offices resolve all hazards.

• Develop tracking procedures for all identified hazards and their solutions. Document management decisions for acceptance of residual risks.

• Develop quantitative system safety criteria and operating limits in concert with the using or operational command.

9.3.6. Using Commands:

• Specify any requirements for safety features that could reduce risk, hazards, or their effects. System safety personnel must identify particular system safety constraints as early as possible to the developing command. These system safety constraints could impact the command mission, base locations, unique operational use, support concepts or meteorological environments dealing with the weapons system.

• Participate as SSG and SSWG members. Ensure acquisition, testing, training development, and modification plans include adequate operational system safety criteria.
• Designate a trained focal point responsible for the system safety program. Provide HQ AFSA/SES with the name of the focal point.

9.3.7. Units:
• Establish and maintain a capability to conduct system safety programs.
• Ensure they have adequate organizational structures and resources to perform required system safety program actions.
• Ensure their safety personnel have identified safety requirements and incorporated them into all program documents.
• Use "lessons learned" data bases to define baseline safety criteria.
• Participate, as appropriate, in SSGs and SSWGs to identify risks and hazards.

9.4. SSGs. All major systems require a System Safety Group. SSGs normally consist of the program manager, system safety manager, and representatives from the using command, AFSA, AFMC, Air Force Operational Test and Evaluation Center, and other appropriate DoD and industry organizations.

9.4.1. The program manager or the deputy program manager chairs the SSG.

9.4.2. The SSG meets at least annually at the request of the program manager. Any member of the SSG may request that the program manager call a meeting.

9.4.3. The SSG develops and coordinates the SSG charter and oversees the system safety program throughout the life of the system by:
• Validating the scope of the system safety program, including contractual requirements and deliverable system safety data.
• Ensuring all appropriate managers consider and document the long-term consequences of hazards.
• Providing an overall safety assessment before each milestone or program review.
• Reviewing and evaluating major modifications or engineering change proposals.
• Identifying and establishing SSWGs as necessary, to work detailed system safety issues.

9.4.4. The US Air Force NNMSB may act as the SSG for all non-nuclear munitions.

9.5. Non-developmental Items. These items, formerly known as off-the-shelf acquisitions, require system safety programs to 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. 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.


9.6.1. Express risk as:
• Loss over a period of time.
• Loss over a number of events.
• Losses for a given population.

9.6.2. Assess risk by determining:
• Recurrent hazards.
• Frequency of mishaps.
• Severity of mishaps.
• Exposure.
• Corrective actions that can eliminate mishaps or reduce risk.

NOTE:
See MIL-STD-882C for an explanation of the hazard-risk index method.

9.7. SSEA. The SSEA program evaluates and approves new operations previously prohibited due to the perceived risks. (Examples include hot pit refueling, integrated combat turn around [ICT], and concurrent servicing.)

9.7.1. 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 the developing, supporting, and operational commands.

9.7.2. A using command requests a SSEA in writing to HQ AFMC/SES and informs HQ AFSA. Requests must include:
• A complete description of the proposed operation.
• Justification for accepting the increased risk.
• Recommended location and dates for the SSEA demonstrations.
• Identification of other DoD, Government, or foreign agencies that might be involved.

9.7.3. The SSEA team reports the results of the analysis, including operational concepts, system descriptions, risk assessments, hazard analyses, descriptions of the demonstrations, and final conclusions and recommendations.
Chapter 10

WEAPON SAFETY


10.1.1. Units at and above squadron level with an explosives, missile, or nuclear mission must have weapon safety programs.

10.1.1.1. The host coordinates weapons safety for the entire base. Tenant units implement mission unique mishap prevention programs where the host does not have a mission in that area. Tenant units must coordinate any additional program functions with the host to avoid duplication.

10.2. Explosives Safety Standards. Air Force explosives safety standards are in AFMAN 91-201, Explosives Safety Standards. Criteria for specific munitions and operations are specified in technical publications and other standard publications, such as command and local directives.

10.2.1. Weapon safety personnel:

- Monitor operations involving weapons to ensure that Air Force units understand and comply with all safety standards (see Chapter 6 and paragraph 10.2.3.).
- Review waivers, exemptions, and deviations from established explosives safety criteria.
- Advise commanders of the increased damage potential these exceptions allow.
- Ensure that units take compensatory measures to minimize mishap potential.
- Advise each new commander of waivers, exemptions and deviations.
- Annually review an explosives location map, developed jointly by operations, safety, logistics, and maintained by civil engineering. The base explosives location map must include:
  - Explosives hazard class and division and the net explosives weight authorized at each site.
  - Explosives safety "clear zones" required around each location based on quantity-distance criteria.
  - Primary and alternate explosives movement routes through the installation.
  - Authorized flight line locations for conducting explosives operations to include ICT activities, explosives aircraft cargo on or off loading, and combat aircraft explosives loading.
  - Locations for handling hung ordnance and gun-clearing operations.
  - Arm and de-arm areas.
  - Explosives support facilities, such as flight line munitions holding areas.

10.2.2. Explosives Safety Program Requirements. Units that maintain explosives must:

- With the assistance of CE and safety, submit explosive site plans in accordance with AFMAN 91-201.
- License facilities that store small quantities of explosives in accordance with AFMAN 91-201.
- Review and help develop plans and procedures for handling emergencies to include, but not limited to, SAFE HAVEN, SAFE CONVOY, HAZMAT and disaster response required by
AFI 32-4001 or AFI 32-4002 and when required by law (Clean Air Act), or accidental release risk management programs for explosives.

10.2.3. Weapon systems safety personnel will participate in the quality improvement process in these following areas:

- Maintenance, storage, alert, and operating locations.
- Flight line explosives operations.
- Review flight line explosives operations, operational procedures for aircraft carrying hazardous materials.
- Disposal yards and demolition activities.
- Nuclear surety elements. (See AFI 91-101, Air Force Nuclear Weapons Surety Program [formerly AFR 122-1]).
- Munitions and maintenance handling equipment quality assurance programs.
- Weapon systems maintenance.
- Weapon systems modifications, special exercises, and test programs.
- Planning for contingencies.
- Combat turnaround operations.
- Licensed locations.
- Installation support (CONUS only) for Department of Energy (DOE) shipments (SAFE HAVEN and SAFE CONVOY). (See AFI 32-4001).
- Weapon safety training for unit personnel.

10.3. Missile Safety. Missile systems include ground-launched or air-launched systems and remotely piloted vehicles and drones. The aerospace vehicle, ground support and operational equipment, personnel, and the operational environment are all sources of mishaps. Units must establish and comply with a positive mishap prevention program to maintain safe missile operations.

10.4. Nuclear Surety. The goal of the nuclear surety program is to ensure that the Air Force designs, maintains, transports, stores, and uses nuclear weapons with maximum safety, consistent with operational requirements. AFI 91-101 contains nuclear surety program requirements.

10.5. Department of Defense Explosive 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). The board consists of a chairperson and an officer (colonel or above) from each of the military departments. In addition, each military department must designate an alternate. Within the Air Force, HQ USAF/SE provides the primary and alternate members. The DDESB establishes DoD explosives safety policy and conducts surveys of DoD installations and furnishes a report to the installation commander. Answer these reports through channels to HQ AFSA/SEW. See DoD Directive 6055-.9, The DoD Explosives Safety Board, for further discussion of the DDESB and activities.

10.6. Weapons Safety Training. The base or unit weapon safety manager conducts this training, which augments the job training provided by the supervisor. Supervisor's ensure this training is developed and
conducted in addition to job training. The weapons safety staff evaluates and monitors unit weapons safety, approves lesson plans and reviews them annually. All personnel (supervisory and nonsupervisory) who operate, handle, transport, maintain, load, or dispose of missiles, explosives, or nuclear weapons must receive initial weapon safety training before performing any of those tasks. Conduct recurring training annually thereafter, not later than the end of the month in which the initial training was conducted. Tailor the weapon safety training given to an individual to the specific duties and weapons systems. MAJCOMs ensure that bases or units develop standardized local lesson plans if intermediate or MAJCOM standardized plans are not provided. Nuclear surety training requirements are listed in AFI 91-101. EXCEPTION: People who store and/or handle only the following are exempt from initial and refresher training: (a) Small arms ammunition, including cartridge-actuated tools in quantity-distance class/division 1.4; (b) Other class/division 1.4 items in their packaged configuration only. Personnel who will unpack and handle unpacked items still require training. (c) Document destroyers; (d) Small tear gas items (such as grenades); (e) Aircraft and facility fire extinguisher cartridges.

10.7. Weapons Safety Steering Group. This group is composed of the chiefs of weapons safety, or their representatives, from each MAJCOM. The steering group discusses matters of mutual concern that cross MAJCOM lines. The group must hold periodic meetings, generally following other meetings in which most representatives are already present.
Chapter 11

SPACE SAFETY

11.1. Space Safety Program. Space safety consists of two elements: launch safety and orbital safety. All units must tailor their space safety program to meet their mission requirements. Space systems range from unique space support equipment to large boosters and satellites. Launches, ground support and operational equipment, personnel, and the operational environment are all sources of potential mishaps. Safe operations within the space environment are only possible if positive mishap prevention programs are established and faithfully followed.

11.1.1. Launch Safety. The launch safety program covers activities associated with the ground handling, launching, and preorbital operations of space systems. It also includes activities connected with the deployment, operation, reentry, and recovery (if required) of test vehicles or payloads that don’t attain orbit (either planned or unplanned). Failure to follow all range and ground safety requirements could cause a launch mishap. Note: Missile safety programs cover intercontinental ballistic missile test launches.

11.1.2. Orbital Safety. The orbital safety program covers activities, after orbital insertion, associated with testing and operating space vehicles in orbit or deep space, including reentry, recovery and disposal. Major programs associated with orbital safety include collision avoidance, directed energy clearing house procedures, debris limitation, space vehicle and booster disposal or reentry, space environmental effects, and anomaly monitoring. Safety of orbital systems is the responsibility of the owner or operator. The design and operation of space tests, experiments, and systems must minimize or reduce the accumulation of space debris.

11.2. Space Safety Training. MAJCOMs must ensure that space safety offices provide adequate training to all individuals involved in space operations. Tailor safety training to particular systems and the individual’s specific duties. MAJCOMs must ensure that lesson plans are developed to implement intermediate or MAJCOM guidance.

11.3. Space Safety Council. This AFSA-chaired council meets periodically (generally following other meetings in which most representatives are already present) and resolves space safety issues. The council will publish minutes.

11.3.1. MAJCOM Chiefs of Space Safety appoint the council members.

11.3.2. SSOs may submit agenda items through their MAJCOMs for consideration by the council.

11.4. Nuclear Surety. The space nuclear surety program ensures that radioactive sources and nuclear power systems used in space are designed, developed, built, maintained, transported, stored, handled, launched, and used (including final disposition) with the maximum safety and security consistent with
operational requirements. See AFI 91-110 for nuclear safety review and launch approval requirements and procedures for the use of nuclear powered system and radioactive sources in space.

ORIN L. GODSEY, Brig Gen, USAF
Chief of Safety
Attachments 1

GLOSSARY OF ABBREVIATIONS, ACRONYMS, AND TERMS

Abbreviations and Acronyms
AETC—Air Education and Training Command
AFAE—Air Force Acquisition Executive
AFCESA—Air Force Civil Engineering Support Agency
AFFSA—Air Force Flight Standards Agency
AFIT—Air Force Institute of Technology
AFMC—Air Force Materiel Command
AFMS—Air Force Manpower Standard
AFSC—Air Force Specialty Code
AFOSH—Air Force Occupational Safety and Health Standard
AFREP—Air Force Representative
AFSA—Air Force Safety Agency
AFSC—Air Force Specialty Code
ALSAFECOM—All Safety Communication
AQE—Airman Qualifying Examination
ASAP—Aerospace Safety Automation Program
ATS—Air Traffic Services
BASH—Bird/Aircraft Strike Hazard
CATCO—Chief, Air Traffic Control Operations
CONUS—Continental United States
CSTI/AML—Center for Supportability and Technology Insertion
DDES—Department of Defense Explosive Safety Board
DoD—Department of Defense
DoDISS—DoD Index of Specifications and Standards
FAA—Federal Aviation Administration
FAX—Facsimile Transmission
FOD—Foreign Object Damage
FOUO—For Official Use Only
FSDO—Flight Standards District Office
FSO—Flight Safety Officer

41
FSNCO—Flight Safety NCO
GMV—Government Motor Vehicle
GSM—Ground Safety Manager
GSU—Geographically Separated Unit
HATR—Hazardous Air Traffic Report
HQ AFCESA—Headquarters Air Force Civil Engineering Support Agency
HQ AFSA—Headquarters Air Force Safety Agency
HQ USAF—Headquarters United States Air Force
HR—Hazard Report
ICT—Integrated Combat Turn
JSA—Job Safety Analysis
MACA—Midair Collision Avoidance
MAJCOM—Major Command
MIL-STD—Military Standard
MTR—Military Training Route
NAVAID—Navigation Aids
NGB—National Guard Bureau
NMAC—Near Midair Collisions
NNMSB—Nonnuclear Munitions Safety Board
NTSB—National Transportation Safety Board
OHA—Operational Hazard Analysis
OPR—Office of Primary Responsibility
OSHA—Occupational Safety and Health Administration
PDO—Publications Distribution Office
PEO—Program Executive Office
PMV—Privately Owned Motor Vehicle
RAC—Risk Assessment Code
RPV—Remotely Piloted Vehicle
SOF—Supervisor of Flying
SSEA—System Safety Engineering Analysis
SSG—System Safety Group
SSO—Space Safety Officers
SSP—System Safety Program
SSWG—System Safety Working Group
STANAG—NATO Standardization Agreement
TA—Tables of Allowance
TDY—Temporary Duty
VFR—Visual Flight Rule
WSM—Weapons Safety Manager

Terms

Air Force Occupational Safety and Health (AFOSH) Standards.—Standards published by the Air Force that prescribe the conditions and methods necessary to provide a safe and healthful work environment.

AIRMISS.—European term for near midair collision.

Assessments.—Method of appraising the implementation and effectiveness of the mishap prevention program.

Evaluations.—Method of appraising the effectiveness of mishap prevention program management for units at wing level and above.

Functional Managers.—The senior operating officials at all levels exercising managerial control over an activity or operation. They are normally those who can acquire and commit resources for reducing or eliminating safety hazards.

Hazard or Deficiency.—A condition, procedure, or practice that creates a potential for producing death, injury, occupational illness, or equipment damage.

Hazard or Deficiency Abatement.—Eliminating or permanently reducing a hazard by complying with applicable safety requirements, or taking equivalent protective measures.

Hazard or Deficiency Severity.—An assessment of the expected consequences if a hazard or deficiency 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.

High Interest Areas.—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. These areas are designated by higher headquarters or installation officials.

Inspections.—Safety inspections help identify hazards and measure compliance with safety program requirements.

Interim Control Measure.—Temporary action taken to reduce the degree of risk associated with a hazard or deficiency pending completion of an abatement project.

Mishap.—An unplanned or unsought event, or series of events, resulting in death, injury, occupational illness or damage to, or loss of, equipment or property.

Occupational Safety Health Administration (OSHA) Standards.—Standards, including emergency temporary standards, established by OSHA pursuant to section 6 of the Occupational Safety and Health
Act of 1970. This includes national consensus standards adopted by OSHA by reference.

**Risk Assessment Code (RAC).**—An expression of the degree of risk in terms of hazard or deficiency severity and probability of occurrence. See AFI 91-301 for a discussion of RACs.

**Risk Assessment.**—An evaluation of possible loss in terms of hazard or deficiency severity and mishap probability of occurrence.

**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 DOE classified shipment transporters at DoD facilities to assure the safety and security of nuclear material or non-nuclear classified material. Also includes parking for commercial vehicles containing Class A or Class B explosives.

**Staff Assistance.**—Helps safety staffs develop programs and solve local problems
Attachment 2

1S0X1 INTERVIEW PLAN

A2.1. Requirement. It is critical for the Air Force to continually develop and manage a professional safety force. Standardized interviewing ensures an effective ground safety program. Complete safety specialty descriptions are in AFMAN 36-2108.

A2.2. USAF Retraining Advisory Notes. USAF Retraining Advisory notes 410, 411, and 412 apply to the safety career field.

A2.2.1. Note 410--Base Level OPR Requirement. The OPR functionally responsible for this AFSC must conduct a personal interview to evaluate entry qualifications that can’t be verified from personnel records or by other means. Send interview results to HQ AFSA/SEG with the member’s application or attach a statement that no OPR is available in the immediate locale.

A2.2.2. Note 411. Certification by the commander or staff agency head assigned responsibility for the retraining in AFSC must accompany the application.

A2.2.3. Note 412--MAJCOM OPR Requirement. The MAJCOM OPR functionally responsible for this AFSC must review the application and furnish a recommendation to MAJCOM training officials to help evaluate whether approving the request is in the best interest of the US Air Force and the member. Note: For more information on US Air Force training advisory notes, contact the base personnel formal training section.

A2.3. 1S0X1 Retraine Interview Checklist. The host safety staff must use the following 1S0X1 Retraine Interview Checklist when interviewing potential retrainees for the safety career field. The staff may add other items to the checklist to fit local needs. This interview process helps ensure that only retrainee applicants with a high probability of success enter the safety career field. The senior 1S0X1 or civilian safety manager must conduct the interview. Interviewers must include specific comments on each checklist item in the "After the Interview" section in the recommendation letter and a statement that all checklist items under "Preparation" and "The Interview" were completed.

A2.3.1. Preparation:

A2.3.1.1. Verify that the candidate possesses the mandatory prerequisites specified in AFMAN 36-2108. To enter the safety career field, candidates must have:

- A high school diploma.
- A physical profile of 32222.
- Normal color vision.
- An Airman Qualifying Examination (AQE) score in the general category of 55 or higher.

NOTE: Rather than waive points for those candidates whose AQE scores are too low, suggest that they retake the AQE test to raise their scores. The Air Force considers a candidate's willingness to retake the exam as an indication of his or her desire to cross-train for the safety field.

A2.3.1.2. Check the candidate's background and performance record. Follow these procedures:
• Ask the candidate's immediate and second-line supervisor to appraise his or her work performance, attitude, and overall character.
• Ask the supervisors to assess whether the individual's attitude and desire are sufficient to predict success in the safety career field.
• Determine what professional military education courses the candidate has completed.
• Review the candidate's last three performance reports to identify favorable or unfavorable trends.
• Determine if the candidate has any problems with prolonged standing or walking or other medical problems that would affect work performance in the safety career field.
• Determine any pending punitive action, disciplinary suspension, or investigation.
• Check the candidate's driving record.
• Determine any problems that would preclude TDY or overseas assignments.

A2.3.2. The Interview:
• Set a convenient time and give the interview your full attention. Secure a quiet place to conduct the interview. Make the individual comfortable and let him or her talk.
• Ask the candidate to write a short paragraph telling why he or she wants to retrain into the safety field. (This will provide an opportunity to evaluate the member's writing and communication skills.)
• Examine the person's reasons for retraining. Look for a clearly articulated desire to enter the safety career field. Find out what the candidate believes he or she can contribute to the US Air Force safety effort.
• Determine what knowledge of other Air Force activities the individual must bring to the safety career field.
• Discuss the person's present job, work performance, and attitude toward responsibilities.
• Discuss the safety career field and answer any questions. Be candid by presenting the attractive and the unattractive features of the career field as you see them. Determine the person's attitude toward working nights, holidays, standby, and TDY.
• Assess the candidate's ability to speak clearly and distinctly. Evaluate the candidate's military image (uniform, shoes, haircut, weight).
• Give the candidate copies of the 1S0S1 Career Progression Guide and the 1S0X1 Career Progression Pattern in this attachment.
• Make no promises.

A2.3.3. After the Interview:
• List the candidate's positive and negative features.
• Evaluate whether the person would make an effective safety technician or manager.
• Send the results of your interview to the local CBPO and your MAJCOM 1S0X1 functional manager. Be sure to include:
• Recommendation for approval or disapproval.
• Specific comments on each checklist item under the "After the Interview" section.
• A statement verifying that you completed all checklist items in the "Preparation" and "The Interview" sections.
• The candidate's reasons for applying to retrain.

A2.4. 1S0X1 Safety Career Field Education and Training Plan (CFETP). This plan is a comprehensive core training document that identifies life cycle education and training requirements, training support resources, and minimum core task requirements. It provides personnel a clear career path to success. The supervisor at an individual's first duty assignment will provide the CFETP.
A3.1. General:

A3.1.1. Report and investigate all near midair collisions (NMAC) and alleged hazardous air traffic conditions. Use information in HATR reports only for mishap prevention. Individuals submitting HATRs are granted immunity from disciplinary action if:

- Their violation was not deliberate.
- They committed no criminal offense.
- No mishap occurred.
- They properly reported the incident.

A3.1.2. HATR reports are not privileged information and may be released outside the US Air Force.

A3.2. Reportable Incidents:

- A NMAC, where the aircrew took abrupt evasive action to avoid a collision or would have taken evasive action if circumstances had allowed. NOTE: The term AIRMISS is often used in Europe for such incidents.
- A hazardous air traffic situation, where there was less than required separation between aircraft.
- Communications or navigation aids (NAVAID) that contributed to or could have contributed to a hazardous air traffic condition.
- Any incident, system, publication, directive, or procedure that contributed or could have contributed to a hazardous air traffic condition.
- Any incident, including vehicle operations, on the movement area that endangered an airborne aircraft or an aircraft on the ground.

A3.3. Reporting Procedures:

A3.3.1. Anyone aware of a reportable incident files a HATR, RCS: HAF-SE (AR) 7602.

A3.3.2. Report the details on AF Form 651 within 24 hours to the base safety office if you are at the Air Force base where the incident occurred. Submit the form to the nearest US Air Force Base Safety Office after landing if the incident occurred during flight. Unit commanders will ensure AF Form 651, Hazardous Air Traffic Report (HATR), is available to aircrews at base operations facilities, flying squadron operations offices, in trip kits, and in US Air Force air traffic control facilities.

A3.3.3. If you have a NMAC, inform the nearest air traffic control agency or flight service station and provide the following information:

- Your identification or call sign.
- Time and place (name of NAVAID, radial, and distance) of the incident.
- Altitude or flight level.
- Description of the other aircraft.
• Advise the agency that you intend to file a written Near Midair Collision Report and request that the controllers save all available data.

A3.3.4. Within 24 hours after being notified of the incident, the safety office receiving the HATR determines which safety office is responsible for the investigation. Follow this order of priority:

• The US Air Force safety office at the base where the incident occurred.
• The safety office at the originator's home station, if there is no US Air Force safety office where the incident occurred.
• The overseas MAJCOM, if host nation air traffic services (ATS) or foreign aircraft are involved.
• When flying in a NATO environment, comply with NATO STANAG 3750, "Reporting and Investigation of Airmiss Incidents", except, do not report the name of the aircraft commander.

A3.3.5. Notify the safety office responsible for investigating the HATR and mail or fax a copy of AF Form 651 to them. Note: If the incident occurred overseas and the HATR is filed at a base located in the United States, notify the overseas investigating office by message. This report is designated emergency status Code D. Discontinue reporting during emergency conditions. During MINIMIZE, use regular mail. Don’t assign a report identifier.

A3.4. Investigation and Evaluation Procedures:

A3.4.1. The Investigating Safety Office will follow these procedures:

A3.4.1.1. Determine if a reportable incident occurred. If not, notify the individual or unit that filed the HATR.

A3.4.1.2. Assign a report identifier to use with all correspondence relating to the incident. The identifier contains:

• The date of the incident (year, month, day).
• The wing or base designation.
• The serial number of the report (for example, HATR 91-12-16 63 AW-01). The serial number starts with number 1 at the beginning of each fiscal year. Note: ASAP users use assigned report identifiers.

A3.4.1.3. Determine which organizations were involved and request the proper safety office to help in the investigation. Notify:

• The base ATS management if US Air Force ATS or NAVAIDs were involved.
• The unit is local base aircraft were involved.
• The FAA facility or FSDO if FAA ATS 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. In some cases, the local US Air Force office of primary responsibility (OPR) for ATS can provide a direct link with the FAA but communications with the FAA by a local safety office should normally be through the AFREP.
• The appropriate US Defense Attaché Office if the HATR occurred overseas and information about civil aircraft or host air traffic facilities is not available through normal channels.

A3.4.1.4. Send a HATR preliminary or a preliminary/final message within 10 work days. See Figure A3.1. for the proper format. Refer to Table A3.2. for correct addressees. This report is designated emergency status Code D. Discontinue reporting during emergency conditions. During MINIMIZE, use regular mail.

A3.4.1.5. If the investigation is not completed within 10 working days, send a supplemental message every 90 days to the same addressees as the preliminary message. Continue the supplemental messages until the investigation is closed and a final message is sent.

A3.4.1.6. Notify the originator's unit (and MAJCOM, if required) about corrective action that the safety office has taken or recommends.

A3.4.2. Units that provide air traffic services must:

• Notify MAJCOM OPR for ATS by telephone or FAX of all HATRs that occurred within USAF jurisdiction, or involved USAF controller error or ATC procedures (including terminal instrument procedures). Make immediate notification when the HATR is of significant importance that may warrant immediate up-channel reporting (i.e., host-nation sensitive, high media interest).

• Work closely with the base safety office throughout the investigation.

• Make sure the conclusions in the preventive action paragraphs clearly explain the reason the incident occurred and show how the corrective actions will prevent a recurrence.

• Provide comments and concurrence or non-concurrence in the HATR message.

• Advise the local safety office when unit personnel take additional corrective action as a result of higher headquarters direction.

A3.4.3. Air Force Representative at FAA Regional Offices reviews all submitted HATRs and provides help when requested.

A3.4.4. MAJCOM safety offices, with the assistance from the OPR for AETC, establish procedures to carry out the HATR program. In addition, overseas MAJCOMs:

• Issue supplemental procedures to carry out this program that agree with foreign air traffic control agreements in their area of responsibility.

• Determine which agency should investigate HATRs involving host nation aircraft or ATS.

• Ensure safety offices fully investigate the reports.

A3.4.5. HQ Air Force Flight Standards Agency (AFFSA) OPR for ATS:

• Receive and evaluate all HATRs for trends and concerns that may affect Air Force ATS.

• Provide HQ AFSA, Flight Safety Directorate, recommendations for resolving trends and concerns not under Air Force jurisdiction.

• Assist HQ AFSA in HATR summary development.

A3.4.6. The HQ AFSA OPR for HATRs:

• Administer the program and ensure that safety offices fully investigate the reports.
• Keep an automated data file on all reports.
• Compile a quarterly HATR summary and send a copies to HQ USAF/SE, HQ AFFSA, and MAJCOM OPRs for ATS and Safety.
### Table A3.1. FAA Air Force Representatives (AFREP) and Regional Boundaries by state

<table>
<thead>
<tr>
<th>MAILING ADDRESS</th>
<th>TELEPHONE</th>
<th>RESPONSIBILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFREP, FAA Alaskan Region 11 AF/DOOU Elmendorf AFB AK 99506-2130</td>
<td>DSN 317-552-4056 COM 317-552-5348</td>
<td>Alaska, Anchorage Flight Information Region (FIR)</td>
</tr>
<tr>
<td>AFREP, FAA Central/Great Lakes Region, ACE-900 601 East 12th Street Kansas City MO 64106-2894</td>
<td>DSN 463-4447 COM 816-426-5736 FTS 867-5736</td>
<td>Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin</td>
</tr>
<tr>
<td>AFREP, FAA Southern Region, ASO-900 P.O. Box 20636 Atlanta GA 30320-0000</td>
<td>DSN 797-5481/2 COM 404-763-7243 FTS 246-7243</td>
<td>Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, Panama, Puerto Rico, South Carolina, Swan Island, Tennessee</td>
</tr>
<tr>
<td>AFREP, FAA Southwest Region, ASW-900/AFREP Fort Worth TX 76193-0900</td>
<td>DSN 739-5770 COM 817-624-5900 FTS 734-5900/3</td>
<td>Arkansas, Louisiana, New Mexico, Oklahoma, Texas</td>
</tr>
<tr>
<td>AFREP, FAA Western Pacific Region, AWP910 P.O. Box 92007 WWPC Los Angeles CA 90009-2007</td>
<td>DSN 833-0481 COM 213-297-1161 FTS 984-1161</td>
<td>Arizona, California, Guam, FIR, Hawaii, Honolulu FIR, Nevada</td>
</tr>
</tbody>
</table>

### Table A3.2. List of Addressees for HATRs

<table>
<thead>
<tr>
<th>Rule</th>
<th>HATRs</th>
<th>Send Original to</th>
<th>Send Information Copy (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Occurring in CONUS</td>
<td>All in Rule 1</td>
<td>All in Rule 1 and HQ FAA/ASV-100/ATM-410/Wash DC</td>
</tr>
<tr>
<td>Rule</td>
<td>HATRs</td>
<td>Send Original to</td>
<td>Send Information Copy</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
<td>-----------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>3</td>
<td>Involving FAA Civil Aircraft Air Carrier</td>
<td>All in Rule 1 and Appropriate FAA Region AFREP and Manager Flight Standards Division (Note 1)</td>
<td>All in Rule 1 and HQ FAA/AAT-4/ASF-20A/ASF-20 Wash DC NASA Moffett NAS CA//ASRS// Add: Air Carrier District Office</td>
</tr>
<tr>
<td>4</td>
<td>Involving FAA ATS</td>
<td>All in Rule 1 and Appropriate FAA Region AFREP, Manager Air Traffic Division, and appropriate Air Traffic Control Facility See Note 1</td>
<td>All in Rule 1 and HQ FAA/AAT-4/ATH-200/ASF-20 Wash DC NASA Moffett NAS CA//ASRS//</td>
</tr>
<tr>
<td>5</td>
<td>Investigating office deems necessary (Note 2)</td>
<td>All in Rule 1 and Appropriate FAA Region AFREP and Manager Flight Standards Division</td>
<td>All in Rule 1 and HQ AFRES Robins AFB/ GA/SE/DO ANGRC Wash DC/SE/XO CDR USASC Ft Rucker AL PESC-PO COMNAVSAFE-CEN Norfolk VA/CODE 10 Commandant (G-CSP) USCG Wash DC Other MAJCOM Safety Office, Operations Office, OPR for ATS</td>
</tr>
</tbody>
</table>

**NOTES:**

1. Addresses may change. Contact the ATS facility closest to you or your AFREP for current addresses. If the addressee can’t receive electronic mail, use FAX or normal mail. Manager Flight Standards Divisions (FSD) and Air Traffic Divisions (ATD) share the same mailing address as the AFREP (table 1). Substitute FSD or ATD for AFREP and change the office number to 200 for FSDs and 500 for ATDs.

2. Consider the ATS or the ownership of the aircraft and the users of the scheduled air space involved, if any.

**Figure A3.1. Hazardous Air Traffic Report.**

**NOTE:** Refer to AF Form 651 when filling out HATR message.

A. PRELIMINARY MESSAGE (investigation is not completed within 10 workdays) or PRELIMINARY/FINAL MESSAGE (investigation is completed within 10 workdays):

Subject: Preliminary or Preliminary/Final HATR Number (year, month, day, unit, and serial number), RCS:

HAF-SE (AR) 7602.
1. Condition reported (NMAC, communication failure, etc.).
2. Date and local time of the incident.
3. Location.
4. Altitude or flight level.
5. Type of airspace.
6. Flight conditions at altitude or flight level.
7. State who initiated the report (pilot, controller, etc.).
8A. Aircraft 1 type, model, and series.
8B. Aircraft 1 MAJCOM and unit.
8C. Aircraft 1 type of flight plan.
8D. Aircraft 1 controlling agency.
8E. Aircraft 1 ATS being used.
8F. Aircraft 1 flight activity.
9A. Aircraft 2 type, model, and series.
9B. Aircraft 2 MAJCOM and unit.
9C. Aircraft 2 type of flight plan.
9D. Aircraft 2 controlling agency.
9E. Aircraft 2 ATS being used.
9F. Aircraft 2 flight activity.
10. Narrative description of hazardous condition. Include special factors (emergency, weather conditions, equipment, and so on). If NMAC, include the estimated distance between aircraft when first sighted and distance between aircraft at closest point.
11. Summary of investigation (Preliminary/Final report only). Include agencies involved in the investigation, traffic volume, emergency conditions, and so on.
12. Conclusions (Preliminary/Final report only).
13. Actions taken (Preliminary/Final report only). If Air Force ATS were involved, allow the CATCO or equivalent to include comments about the ATS facility or personnel.
14. Cognizant official and telephone number.

B. FINAL MESSAGE:
Subject: Final HATR Number ________________, RCS: HAF-SE (AR) 7602
1. Narrative description of hazardous condition (if different from the preliminary message).
2. Summary of investigation. Include agencies involved in the investigation, traffic volume, emergency conditions, and so on.
3. Conclusions.
4. Actions taken. If Air Force ATS were involved, allow the CATCO or equivalent to include comments about the ATS facility or personnel.
5. Cognizant official and telephone number.
C. SUPPLEMENTAL MESSAGE (send every 90 days until the investigation is closed and a final message is sent):

Subject: Supplemental to Preliminary HATR Number __________. RCS: HAF-SE (AR) 7602

1. Explain why the investigation has not been completed.
2. Estimate the completion date.
3. Cognizant official and telephone number.
A4.1. **General.** Pre-mishap response planning by safety staffs must address appropriate participation in all base-level responses, including:

- Major Accidents
- Hazardous materials accidents
- Natural disasters
- Nuclear weapons accidents

A4.2. **Base OPlan 32-1.** The basic response planning document is Base OPlan 32-1 (formerly) Base OPlan 355-1). It consists of separate annexes for Major Peacetime Accidents (Annex A), Natural Disasters (Annex B), Enemy Attack (Annex C), and Distribution (Annex A). The host safety office should be reflected in Annex Z and supported by tenants as locally required. A "Safety" tab is required for Annexes A and B; since losses due to hostile action are not investigated as safety mishaps, safety personnel normally support Annex C activities only at the request of the installation commander.

A4.3. **Planning Factors (All Accidents/Incidents/Unusual Occurrences).**

A4.3.1. **Disaster Response Force (DRF).**

A4.3.1.1. The DRF is made up of the Disaster Control Group (DCG), the base command post, unit control centers, and specialized teams. If organizational manning permits, the host safety office should plan to establish a "unit control center" to coordinate safety activities between the accident scene and the supporting installation. If manning does not permit a separate safety unit control center, the safety staff must be reachable through the base command post.

A4.3.1.2. Upon notification of a major peacetime accident, the safety staff typically begins to assemble an interim safety investigation board (SIB) in accordance with AFI 91-204. This process should be kept separate from participation in the DRF or Disaster Control Group (see below) if possible. If manning permits the interim SIB should assemble at a location away from the accident scene until the interim SIB members can be assigned to specific tasks.

A4.3.2. **Disaster Control Group (DCG).** The DCG responds to peacetime major accidents and natural disasters to provide on-scene command and control of USAF military resources and functional expertise. Normally, the DCG consists of the following members: (see AFI 32-4001 for more details).

- On-Scene Commander (OSC)
- Civil Engineer
- Fire Department
- Security Police
- Medical Representative
- Bioenvironmental Engineer
- Maintenance
• Munitions
• Explosive Ordnance Disposal (EOD)
• Staff Judge Advocate
• Services
• Public Affairs
• Communications-Computers
• Safety
• Weather

Ideally, the safety representative to the DCG should not be responsible for assembling the interim SIB.

A4.4. Source Documents for Specific Planning Criteria. The two primary sources of detailed planning guidance for safety staffs are AFMAN 32-4004, *Emergency Response Operations*, and AFPAM 91-211. The former contains an "Accident Response Checklist" for DCG 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 SIB members.

A4.5. Safety Response to Other than Major Peacetime Accidents. Some mishaps may not warrant a full activation of the DRF. However, the safety staff may need some DCG 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 DCG support when the full DRF is not activated.