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SECRETARY OF THE AIR FORCE

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Safety

SAFETY INVESTIGATIONS AND REPORTS

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction gives procedures for investigating and reporting all US Air Force mishaps and exchanging F-16 mishap information with European Participating Air Forces (EPAF). It implements Air Force Policy Directive (AFPD) 91-2, *Safety Programs*. It applies to commanders, managers, supervisors, and safety staffs at all levels, all persons who investigate and report Air Force mishaps, and those persons who handle such reports. This instruction provides guidance regarding the control and use of privileged safety reports. Failure to observe the prohibitions and mandatory provisions of this instruction in **Chapter 2** by active duty Air Force members, USAFR members on active duty or inactive duty for training, and ANG members in federal, is a violation of Article 92, *Uniform Code of Military Justice* (UCMJ). Violations by civilian employees may result in administrative disciplinary actions without regard to otherwise applicable criminal or civil sanctions for violations of related laws. This regulation implements NATO Standardization Agreements (STANAG) 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.* Maintain and dispose of all records created by processes prescribed in this publication IAW AFMAN 37-139, *Records Disposition Schedule*.

Send major command (MAJCOM) supplements to HQ USAF/SE, 9700 G Avenue SE, Suite 240, Kirtland AFB NM 87117-5670, for approval before publication.

See **Attachment 1** for a Glossary of References and Supporting Information.

(DOVER) AFI 91-204, 11 December 2001, is supplemented as follows: This supplement provides guidance and requirements for reporting mishaps. It outlines specific agency responsibilities for mishap reporting to include timelines. Also provides guidance on reporting procedures relating to the 512th Airlift Wing personnel. This instruction requires collecting and maintaining information protected by the Privacy Act of 1974 authorized by 10 U.S.C. 8013, Secretary of the Air Force: Powers and duties; delegation

by; as implemented by Air Force Instruction 36-2608, and E.O. 9397 (SSN). System of Records Notice F036 AF PC C applies.

SUMMARY OF REVISIONS

This revision incorporates IC 02-01 and includes numerous changes. It updates the table of contents for **Chapter 3** and changes the way cost figures are computed in mishaps (paragraphs **3.4.**, **3.6.** and **3.7.**) to reflect guidance in DODI 6055.7. A "|" indicates revised material since the last edition.

(DOVER) This document is substantially revised and must be completely reviewed.

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CHAPTER 1

RESPONSIBILITIES

1.1. Responsibilities for Air Force Mishaps.

1.1.1. Purpose of Safety Investigations.

1.1.1.1. Conduct safety investigations primarily to find causes of mishaps in order to take preventive actions. During the investigation, other findings and recommendations of significance may also be identified benefiting risk management actions. This ensures commanders quickly obtain accurate mishap information to enable them to make decisions regarding their organizations safety, combat readiness, and mission accomplishment. Safety investigations take priority over the corresponding accident investigation. Conduct accident and safety investigations separately to protect Part II privileged documents in the safety mishap report.

1.1.1.2. Safety reports will be used primarily for mishap prevention, and privileged reports will be used solely for mishap prevention. They may not be used as evidence for punitive, disciplinary, or adverse administrative actions.

1.1.1.3. Factual, non-privileged evidence collected during a safety investigation may be released upon request. See paragraphs **2.3.** and **2.4.** for handling requests for disclosure.

1.1.1.4. Access to safety reports is limited to those who have a need to know for mishap prevention.

1.1.2. Service to Survivors.

1.1.2.1. Commanders at all levels involved in fatal aircraft mishaps will follow the guidelines established in Air Force Instruction (AFI) 34-1101, *Assistance to Families of Persons Involved in Air Force Aviation Mishaps.*

1.1.3. The Air Force Chief of Safety (HQ USAF/SE) will:

1.1.3.1. Establish Air Force policy for safety investigation and reporting in AFPD 91-2, *Safety Programs.*

1.1.3.2. Coordinate on all inter-service, interagency, international, and government-industry issues related to the safety, occupational health, and environmental security of United States Air Force personnel and materiel.

1.1.3.3. If required, relieve commands of investigation responsibilities and convene an Air Force-level Safety Investigation Board (SIB). AF/SE will advise the investigating MAJCOM's safety staff and confirm the action by message to all interested agencies within 72 hours of mishap occurrence.

1.1.3.4. Determine the final category, class, cause factors, and recommendations for each Air Force Class A and B mishap. For all formal reports (including Class C and HAP formal reports), prepare a Memorandum of Final Evaluation (MOFE).

1.1.3.5. Authorize dissemination of Air Force mishap information to other services, government agencies, and foreign governments to enhance their mishap prevention efforts.

1.1.3.6. Coordinate with the Director of Professional Affairs and Quality Assurance, Office of the Air Force Surgeon General (AFMOA/SGP) on matters associated with the investigation and reporting of occupational illness.

1.1.4. The Air Force Safety Center (HQ AFSC) will:

1.1.4.1. Execute the Air Force safety investigation and reporting program.

1.1.4.2. Administer the requirements of this instruction.

1.1.4.3. Ensure each mishap is properly investigated and reported.

1.1.4.4. Participate in investigations by sending representatives and technical advisors. See specific discipline chapters for requirements.

1.1.4.5. Determine report requirements for mishaps.

1.1.4.6. Develop Air Force investigative and reporting procedures and forms.

1.1.4.7. Review all safety reports and endorsements, making comments and additional recommendations as appropriate.

1.1.4.8. Maintain records of each Air Force safety report.

1.1.4.9. Prepare and maintain the MOFE on all formal reports.

1.1.4.10. Prepare studies and statistical data for use in mishap prevention.

1.1.4.11. Analyze mishap data, develop preventive actions, identify action agencies, and forward recommendations for action.

1.1.4.12. Track the status of safety recommendations from all Class A and B mishap reports (and other formal reports) to ensure corrective actions are completed and/or quantified risk is accepted at the appropriate level prior to recommendation closeout.

1.1.4.13. Task other Air Force agencies for special reports as required.

1.1.4.14. Forward required reports on Air Force mishaps to the Department of Defense (DoD) and the Department of Labor (DOL).

1.1.4.15. Forward required reports on Air Force mishaps to the other services when appropriate.

1.1.4.16. Provide and maintain a mishap database that provides a timely means of inputting reports and downloading mishap data and is accessible and usable by the units in the field.

1.1.4.17. Develop and maintain capabilities to perform necessary unique mishap investigation functions, such as crash data recorder analysis, fire pattern analysis etc. when such capabilities are not sufficiently available through program offices or other agencies.

1.1.5. MAJCOM Commanders will:

1.1.5.1. Assume investigation responsibility for mishap investigations for which their MAJCOM is accountable as defined under paragraphs **1.2.** and **1.3.**, unless relieved of this responsibility by HQ USAF/SE.

1.1.5.2. Ensure compliance with AFPD 36-27, Social Actions; AFI 44-120, Drug Abuse Testing Program; AFI 48-125, USAF Personnel Dosimetry Program; The Air Force Civilian Drug Testing

Plan, and other appropriate directives for toxicological (TOX) testing, including blood alcohol count (BAC) of individuals following mishaps.

1.1.5.3. Validate causes, recommendations and corrective actions taken in mishap reports.

1.1.6. Air Force Materiel Command (AFMC) will:

1.1.6.1. Provide technical assistance to Air Force SIBs.

1.1.6.2. Review mishap reports, including Class Cs, Js and HAPs, ensure System Program Directors (SPD) review MOFEs, and enter corrective actions taken through the Materiel Safety Data Base (DB 10) for tracking.

1.1.6.3. Notify Air Force Nuclear Weapons and Counterproliferation Agency, Kirtland AFB, NM 87117 and the Defense Threat Reduction Agency NSO Kirtland AFB, NM 87117, if nuclear weapon mishaps require design agency evaluation.

1.1.7. The nearest Air Force base to a mishap will:

1.1.7.1. The nearest Air Force base to the mishap or the base controlling the asset for space mishaps will respond to a mishap. Air Reserve Component (ARC) installations will respond with available resources to the maximum extent possible. ARC units are responsible for ensuring local agreements are in place to address the requirements in paragraphs **1.1.7.1.** and **1.1.7.2.** The nearest active duty Air Force base, unless delegated to the nearest ARC installation will:

1.1.7.2. Provide services and aid the investigators throughout the investigation (see **Attachment 2** for desired support). See paragraph **4.2.** for funding issues.

1.1.8. The commander of the nearest Air Force base to a mishap will:

1.1.8.1. Respond to the mishap and follow guidelines established in AFI 32-4001 and AFMAN 32-4004. In addition, perform the actions in **1.1.8.1.** through **1.1.8.6.** In some mishap situations, ARC commanders may perform the actions in **1.1.8.1.** through **1.1.8.6.**, if proximity to the mishap site, distance from the nearest active duty Air Force base, or weapons system expertise make those options more practical. In this situation, ARC commanders will ensure that agreements are in place delineating the support provided.

1.1.8.2. Appoint an Interim Safety Board (ISB) to preserve evidence following guidelines established in Air Force Pamphlet (AFPAM) 91-211. Assist the ISB to ensure all equipment associated with the mishap is impounded and turned over to the formal SIB. Coordinate with AFSC/SEFE (DSN 246-5867) on the removal and shipping of Flight Data Recorders and/or Cockpit Voice Recorders prior the permanent Safety Investigation Board arrival. Notify other bases with involved equipment (including aerial tankers) of the need for impoundment. Under existing agreements, ARC commanders may form the ISB.

1.1.8.3. Notify appropriate civil aviation authorities if the accident involves civil aviation. See paragraph **1.10.**

1.1.8.4. Notify the Military Traffic Management Command at MTSS-S, 5611 Columbia Pike, Falls Church VA 22041-5050, by phone, (703) 681-6951 or DSN 761-6951, when a mishap involves explosives or other dangerous articles being transported or handled by a commercial motor or rail carrier under Department of Transportation (DOT) regulations.

1.1.8.5. Notify the Federal Aviation Administration (FAA) at FAA/AST if licensed commercial space systems are involved in the mishap (e.g., commercial launch damages government property, inadvertently destroyed by AF, commercial booster carrying AF payload, etc.). All FAA/AST notifications are made to the FAA Combined Operations Center, (202) 863-5100, FAA/AST, 400 7th Street, SW, Room 5402A, Washington DC 20590.

1.1.8.6. Ensure TOX testing is promptly accomplished for military members and civilian employees in accordance with AFPD 36-27, *Social Actions,* and *The Air Force Civilian Drug Testing Plan*; or other appropriate directives where aircraft, vehicles, and other valuable assets are involved. If drug use is suspected and after consulting with the servicing staff judge advocate and the personnel staff, SQ/GRP/WG CCs or higher must authorize TOX testing.

1.1.8.6.1. Ensure the medical facility conducting the testing follows chain of custody and other procedures in AFI 44-120. Forward the samples to the Armed Forces Institute of Pathology (AFIP) by the fastest means. AFIP returns test results to the originating medical facility or drug and alcohol abuse control officer (DAACO), who provides copies of those results to the SIB or investigating officer as directed by AFPD 36-27. Follow up with the medical facility or DAACO to ensure results are received.

1.1.8.6.2. For Class A and B Aircraft and unmanned aerial vehicle (UAV) mishaps, test involved flight crews and UAV controllers. For Class A, B, and C mishaps test individuals whose actions or inaction, in the commander's judgment, may have been factors in the mishap sequence.

1.1.8.6.3. DoD civilian testing is limited to only those employees for whom there is evidence they may have caused the mishap. DoD Civilian testing is mandatory for all civilians involved in a Class A or B Aircraft mishap.

1.1.8.6.4. Contractor employees whose actions or inaction, in the commander's judgment, may have been a factor in the mishap sequence may not be compelled to provide a sample for TOX testing unless they consent, or are required to do so under a provision of the contract.

1.1.8.6.5. For aircraft physiological mishaps, test those individuals exhibiting physiological symptoms.

1.1.8.7. Notify the nearest Occupational Safety and Health Administration (OSHA) Area or Regional Office within 8 hours when an on-duty Air Force mishap results in fatal civilian occupational injuries or illness to an AF or non-Air Force civilian. Also notify the nearest OSHA Area or Regional Office within 8 hours when an on-duty mishap (illness or injury) results in the in-patient hospitalization of three or more Department of the Air Force (DAF) or non-Air Force civilians.

1.1.8.8. Notify federal and state Environmental Protection Agency (EPA) officials of environmental hazards associated with the mishap.

1.1.8.9. Ensure personnel take the following actions:

1.1.8.9.1. Forward an OPREP-3 (Operational Report) if required by AFMAN 10-206.

1.1.8.9.2. Inform the public affairs officer (PA) of non-privileged information. Release safety information only as authorized by this instruction.

1.1.8.9.3. Send a preliminary safety message report as required by this instruction. Notify Hammer Ace if communications support is deemed necessary. Contact them during normal

duty hours at DSN 576-3431 or after hours at DSN 576-5891. Hammer Ace services are free when supporting a Class A flight mishap.

1.1.8.9.4. Notify the home base commander of all casualties, both military and civilian, and ensure the casualties are reported as outlined in AFI 36-3002, Casualty Services.

1.1.8.9.5. Notify the departure and destination bases for aircraft mishaps (or the departure base for missile mishaps) and the commander of the unit that had the mishap.

1.1.8.9.6. Notify appropriate medical or law enforcement authorities as soon as possible in case of non-Air Force injury or property damage.

1.1.8.9.7. Notify the home base of the persons involved in a United States Army (USA), United States Navy (USN), United States Marine Corps (USMC), or United States Coast Guard (USCG) or, if the home base is unknown, the nearest base of the responsible service.

1.1.9. Mishap Site Responsibilities:

1.1.9.1. Command responsibility for the site always resides with the designated On-Scene Commander (OSC), from the time of the mishap until all restoration actions are complete. Transfer of responsibility for the site will only be accomplished between individuals who have been trained in accordance with federal regulations.

1.1.9.2. All site responsibilities (e.g., security, medical, fire protection, legal, support, and care and feeding) continue to be the responsibilities of the OSC, or his/her representative until all restoration actions are completed. If the mishap occurs on private or state owned land, the state and/or local law enforcement agency has primary responsibility for security of the site, with the OSC providing supplementary site security in coordination with the state or local law enforcement agency.

1.1.9.3. The OSC and Disaster Control Group (DCG) will provide a briefing to the SIB president and Accident Investigation Board (AIB) president on all known hazards and personal protective equipment (PPE) requirements before allowing them access to the site. OSCs must ensure SIB and AIB personnel are properly trained and equipped to enter any site where hazardous materials (including biohazards posed by blood-borne pathogens) pose a threat to their safety.

1.1.9.4. Access to site will be granted to properly designated SIB and AIB personnel once the scene has been declared safe by the OSC. SIB and AIB visits will be coordinated so as to prevent compromising privileged information.

1.1.9.5. Entry access list (EAL) authority resides with the OSC until EAL authority for the site is passed to the SIB or AIB by the OSC.

1.1.9.6. Custody of wreckage and other physical evidence will be transferred to the SIB president at the discretion of the OSC.

1.1.9.7. Host installation DCG assets needed for follow-on investigative support must be requested through the OSC, or designated representative.

1.1.10. Commander of the mishap unit.

1.1.10.1. On some occasions, the mishap unit will not be the nearest base to a mishap. The commander of the mishap unit must coordinate with the designated host installation to ensure the

appropriate notifications in section **1.1.8.** of this regulation are accomplished. In addition, an ISB should be convened at the mishap unit to gather the available evidence at the mishap base.

1.1.10.2. The commander of the mishap unit must ensure TOX testing is performed in accordance with (IAW) with section **1.1.8.6.** of this regulation.

1.1.10.3. (Added-DOVER) 436th/512th Unit Commanders, Functional Managers, Supervisors, and Unit Safety Representatives:

1.1.10.3.1. (Added-DOVER) Will establish procedures to ensure that 436 AW/SE or 512 AW/SE are notified of all mishaps within 24 hours after mishap is reported.

1.1.10.3.2. (Added-DOVER) Provide 436 AW/SE or 512 AW/SE with a completed copy of DAFB Form 351, **Dover AFB Safety Incident Report**, or suitable substitute within seven days of occurrence. Complete the DAFB Form 351 for any ground safety incident to include injuries to military personnel, civilian employees (Department of the Air Force Civilians and Non-Appropriated Funds Civilians), and/or property damage to Air Force assets. The form does not need to be completed for injuries to civilian personnel while off duty.

1.1.10.3.3. (Added-DOVER) Maintain a record of occupational injuries.

1.1.11. 84 RADES Commander.

1.1.11.1. Commander 84 Radar Evaluation Squadron (ACC Communications Group) will serve as the central source for collections and analysis of radar data in support of AF SIBs.

1.1.12. (Added-DOVER) Notification Procedures:

1.1.12.1. (Added-DOVER) Commanders will ensure that mishaps resulting in injury or damage to USAF property are reported to 436 AW/SE during duty hours at ext 3360 (Weapons), 2140 (Flight), or 3369 (Ground). After duty hours, forward mishap notifications involving 436 AW personnel through the 436 AW Command Post, who shall then page the on-call safety representative. For mishaps involving 512 AW personnel after duty hours, forward the notification to the 512th Operations Center at ext 3800.

1.1.12.2. (Added-DOVER) The 436 AW Command Post will contact the on-call safety representative for response to the items listed in paragraph **1.1.12.3. (Added)** Should radio or telephone contact not be made, the Chief of Safety can be contacted by telephone or pager. 436 AW/SE will provide a notification list to the Command Post.

1.1.12.3. (Added-DOVER) Notification is required for the following categories of mishaps:

1.1.12.3.1. (Added-DOVER) Fatal injuries to any on-duty or off-duty military personnel and on-duty civilians.

1.1.12.3.2. (Added-DOVER) Serious injuries to any on-duty or off-duty military personnel and on-duty civilians.

1.1.12.3.3. (Added-DOVER) When any significant damage occurs to Air Force property.

1.1.12.3.4. (Added-DOVER) Any mishap involving damage to any aircraft. Include tail number and location as a minimum.

1.1.12.3.4.1. (Added-DOVER) 436th Maintenance Group will notify the 436th Flight Safety of damage estimates to aircraft or aircraft support equipment resulting from a flight or ground mishap.

1.1.12.3.5. (Added-DOVER) Any near mid-air collision or air traffic situation involving safety of flight, or notification that an aircrew or agency intends to file a Hazardous Air Traffic Report.

1.1.12.3.6. (Added-DOVER) Notification of in-flight or ground aircraft emergency during non-duty hours. Request Command Post call as soon as work load allows. Provide Estimated Time of Arrival, tail number and nature of emergency. In the event of an engine shutdown in-flight, provide reason, if information is available.

1.1.12.3.7. (Added-DOVER) Any reported bird strike, even if there is no damage.

1.1.12.3.8. (Added-DOVER) Any in-flight incident of a physiological nature which confuses, disorients, incapacitates, or compresses the performance of a crewmember or passenger. Some examples are decompression sickness, hyperventilation, and illness. Refer to AFI 91-204, *Safety Investigations and Reports*, **Chapter 7** for a more detailed list.

1.1.12.3.9. (Added-DOVER) Suspected or actual aircraft fuel contamination.

1.1.12.3.10. (Added-DOVER) Any loss of cabin pressurization that results in cabin altitude above 10,000 feet.

1.1.12.3.11. (Added-DOVER) Any unusual occurrence with either local or transient Aero Club aircraft.

1.1.12.3.12. (Added-DOVER) Explosive or hazardous material incident where materials are damaged, dropped, or where normal procedures are not followed.

1.2. Assigning Mishap Accountability.

1.2.1. General Information.

1.2.1.1. The organization with mishap accountability investigates and recommends corrective action to prevent future mishaps. Mishap accountability in no way implies blame or mishap responsibility.

1.2.2. Mishap Accountability.

1.2.2.1. The Air Force assigns accountability for each mishap to the command (MAJCOM or Air National Guard) that experienced the loss of an owned asset. For statistical purposes, the event is recorded as a mishap in that command (or in the Air Force At Large, when applicable) regardless of any determination as to responsibility for the mishap occurrence. Flight mishaps are normally assigned to the organization credited with the aircraft's flying hours at the time of the event. Non-flight mishaps are assigned to the organization owning the damaged AF equipment or injured personnel. This may or may not be the same as the unit that assumes Operational Control (OPCON). HQ USAF/SE assigns accountability differently from this guidance only if a Memorandum of Agreement (MOA) providing alternative procedures has been coordinated with HQ USAF/SE.

1.2.3. Mishaps involving two or more commands.

1.2.3.1. When multiple MAJCOMs have assets involved, the involved MAJCOM commanders will determine which command is accountable for the mishap and advise USAF/SE within 24 hours. In general, the command whose asset initiated the mishap event is assigned mishap accountability. If event initiation is initially unclear, the command sustaining the highest level of loss in the mishap event will assume mishap accountability. MAJCOM commanders may determine other compelling reasons exist for assigning mishap accountability differently. If this guidance is not sufficient, and MAJCOMs cannot reach agreement, HQ USAF/SE will determine mishap accountability. When a mishap involves Air Force personnel or equipment and assets of another DoD component, the appropriate service Chiefs of Safety determine which service has mishap accountability. Multi-service investigations are discussed in paragraph **1.6.**.

1.3. Determining Who Investigates.

1.3.1. MAJCOM Commander.

1.3.1.1. The MAJCOM commander of the organization accountable for the mishap is responsible for its investigation unless relieved of this responsibility by HQ USAF/SE. Sometimes the location of a mishap may prevent a MAJCOM commander from conducting a prompt investigation. If necessary, the responsible MAJCOM commander may coordinate with another MAJCOM commander to appoint a convening authority nearer the scene. Advise HQ USAF/SE if this occurs.

1.3.1.2. The MAJCOM commander owning the aircraft, space system, explosives, or missile determines the convening authority when operators from different MAJCOMs are involved.

1.3.1.3. The gaining MAJCOM will normally convene Air Force Reserve Command (AFRC) associated unit aircraft mishaps unless a Memorandum of Understanding (MOU) directs otherwise.

1.3.1.4. If a mishap involves a non-AF operator, the organization to which the involved equipment is assigned is the convening authority.

1.3.1.5. Host and tenant commanders determine investigative responsibility for tenant ground and explosives mishaps. In instances where the convening authority is not the asset-owning commander, provide a courtesy report to the asset owning commander. NOTE: Tenant units with full time safety personnel will investigate these mishaps for their units.

1.3.2. Convening Authority.

1.3.2.1. This is the commander who appoints the safety investigation board or single investigating officer. The MAJCOM commander *may* delegate convening authority responsibilities using the following guidelines:

1.3.2.2. For all on-duty Class A and nuclear mishaps, the MAJCOM commander is the convening authority. He may not delegate this authority to a subordinate commander.

1.3.2.3. For all on-duty Class B and below mishaps, High Accident Potential (HAP), Hazardous Air Traffic Reports (HATRs), and nuclear incidents and deficiencies, this authority may be delegated to an appropriate level of command.

1.3.2.4. The convening authority for off-duty Class A and B military, motor vehicle, and Class C ground mishaps is the commander of the nearest installation with a full-time safety manager, unless the MAJCOM commander who owns the asset elects to assume investigative responsibility.

1.3.3. The Convening Authority will:

1.3.3.1. Decide scope and size of the SIB (within the limitations of this Instruction).

1.3.3.2. Request support from the Air Force Safety Center when required.

1.3.3.3. Ensure required reports are sent.

1.3.3.4. Ensure all mishap factors are investigated and request technical assistance as required.

1.3.3.5. Seek the advice of the MAJCOM Staff Judge Advocate or the Staff Judge Advocate of the Air Force Safety Center on all legal issues as appropriate.

1.3.3.6. Review safety reports to ensure they meet the requirements of the Air Force mishap prevention program.

1.3.3.7. Forward formal safety reports as required. If more information is found after a formal report has been submitted, send this information to the same addressees who received the formal report.

1.3.3.8. Take or recommend corrective actions to prevent recurrence of the mishap.

1.3.3.9. Authorize the release of non-privileged information to news media, relatives, and other agencies through the Accident Investigation Board (AIB) President.

1.4. Acting on Critical Safety Information.

1.4.1. General Guidelines.

1.4.1.1. If investigators discover information which seriously impacts the operation of a weapon system or the continuation of an exercise, immediately notify the convening authority by telephone and follow up with a confirming message, regardless of whether or not such information is associated with the mishap under investigation.

1.4.2. Responsibilities:

1.4.2.1. The convening authority notifies other action agencies, the appropriate SPD or Item Manger (IM), and HQ AFSC. Action agencies determine the proper administrative response depending on the nature and seriousness of the information.

1.4.2.2. Originating units send critical safety hazard notice messages according to AFI 11-215 *Flight Manuals Program* and Emergency report IAW T.O. 00-5-1 *AF Technical Order System,* to the appropriate agencies, if applicable.

1.4.2.3. Critical information related to military variants of civil aircraft, including commercial-off-the-shelf aircraft, and civil variants of space systems must be forwarded by the convening authority to HQ USAF/SE as quickly as practical. The Chief of Safety ensures all such information contributing to the promotion of aviation and space safety is forwarded to the Administrator of the Federal Aviation Administration and/or the Chairperson of the National Transportation Safety Board for appropriate action.

1.5. Investigating ARC Mishaps:

1.5.1. ARC Aircraft Mishaps.

1.5.1.1. Convening authority may appoint Air National Guardsmen/Reservists to SIBs in technician or military status with the concurrence of the National Guard Bureau (NGB)/AFRC. Appointing orders normally cite Title 10, United States Code, section 672(d), as authority. Ensure SIB duties do not create a conflict of interest with the individual's civilian occupation or interests. The Air National Guard Safety Office (ANG)/DOS can be contacted at DSN 327-2234 or Commercial (703) 607-2234.

1.5.1.2. When formal boards investigate ANG/AFRC Class A aircraft mishaps, the boards are convened by the gaining MAJCOM. The convening authorities for all ANG/AFRC Class B, C, and HAP mishaps that occur within their organization are NGB/CF and/or AFRC/CC. When the National Guard Bureau (NGB)/CF and/or AFRC/CC directs the investigation to be accomplished by personnel outside the local unit, NGB/AFRC will provide resources, workdays, and temporary duty (TDY) funds.

1.5.1.3. Deleted.

1.5.2. **ARC Ground Mishaps.**

1.5.2.1. ANG/CF is the convening authority for all ANG Class A on-duty ground mishaps. The convening authority for all other ground mishaps is specified in paragraph **1.3.2.** of this instruction.

1.5.2.2. (Added-DOVER) Mishaps involving Air Force Reservists:

1.5.2.2.1. (Added-DOVER) The 512th Safety Office will investigate and report mishaps solely involving 512 AW personnel or AF Reserve personnel temporarily assigned to the 512 AW.

1.5.2.2.2. (Added-DOVER) The 512th Safety Office will coordinate investigations and findings through 436th Wing Safety when mishaps involve 436 AW personnel, facilities, or property

1.5.2.2.3. (Added-DOVER) 512th Wing Safety will record and maintain a daily log (automated or manual) of 512 AW civilian and military personnel injuries.

1.6. Investigating Mishaps Involving Multiple Services.

1.6.1. General Guidelines.

1.6.1.1. For a multi-service or joint operational mishap, activate *Memorandum of Understanding Governing Joint Investigation of Mishaps*, effective 20 April 1993.

1.6.1.2. The service that first becomes aware of the mishap will notify the other service's safety center immediately.

1.6.1.3. The involved service Chiefs of Safety will determine investigative responsibility and convening authority. The investigating commander will normally be the commander that sustains the greatest loss or is the most directly involved.

1.6.1.4. The nearest military installation to the mishap site will provide administrative and host base support.

1.6.2. Investigation Board Make-up.

1.6.2.1. When a Joint Mishap occurs AFSC will coordinate with the other Service Safety Centers and the CSAF. All involved services will contribute representatives to the investigation board and the investigating service's rules and procedures will be used. The Air Force will cooperate fully in any non-Air Force safety investigations. Air Force representatives to Joint Safety Investigations will be graduates of formal Air Force safety training courses. When an AF personnel requirement is determined for a non-AF Safety Investigation Board, AFSC will contact the MAJCOM(s) that can best meet the requirement (normally the AFSC/CV will work with the MAJCOM/SE). The MAJCOM SE will then let the AFSC/CV know who they have nominated. Once AFSC has agreed to the individual AFSC will provide a fund site to the MAJCOM and establish direct communication with the individual. Colonels and above will be graduates of the Air Forces Board Presidents Course. All others will have attended the Flight Safety Officer (FSO) course or Aircraft Mishap Investigation Course (AMIC) as a minimum. Air Force representatives to Joint Safety Investigations are responsible to the Air Force Chief of Safety and the CSAF while assigned to Safety Investigation Boards and will provide weekly updates to AF/SE on board activity, unless other significant events occur that should be passed immediately. AFSC will provide technical or other assistance the AF representative requires while on the board. At the conclusion of the Safety Investigation, all Primary Board Members are required to sign the Letter of Authentication (or other services equivalent). Additionally, after the board is complete AFSC will require three items to close the AF representatives responsibility to AFSC:

Copy of orders

Copy of travel voucher settlement

A formal trip report to the AF/SE to include any issues that remain open, challenges or successes of the Joint board, and suggestions to improve AFSC courses to support joint mishap investigations.

1.6.2.2. When appropriate, include an Investigating Officer from each of the involved service components when a full SIB is not used.

1.6.2.3. The USN, USA, USMC, and/or USCG normally takes part in Air Force SIBs when their aircraft, facilities, materiel, or personnel are involved. The non-Air Force members will actively participate in the investigation and aid in report preparation. The investigating MAJCOM determines whether they will be primary members as defined in paragraph **4.4.2.**

1.6.3. Funding.

1.6.3.1. Each service will fund expenses incurred by its representative.

1.6.3.2. Each service will provide funding for salvage or wreckage recovery and environmental cleanup for its own assets that are involved in the mishap.

1.6.4. Reporting.

1.6.4.1. A separate Air Force investigation will not be required when another service's investigation meets Air Force safety needs.

1.6.4.2. Separate messages or formal reports are not required if appropriate Air Force agencies from this instruction are included as addressees.

1.6.4.3. For multi-service or joint operational mishaps, the involved DoD Components determine/allocate costs and losses according to asset ownership and personnel involved. Each DoD Component will report their own losses attributable to a Joint Service accident. The Joint Service mishap report will appropriately reflect DoD Component losses and associated cost accountable to each DoD component.

1.7. Investigating Mishaps Involving NATO Aircraft, Explosive, Missiles, Space Vehicles, or Personnel.

1.7.1. NATO Mishaps.

1.7.1.1. Comply with North Atlantic Treaty Organization Standards of Agreement (NATO) STANAG 3102, *Flight Safety Cooperation*, 3531, *Safety Investigation and Reporting* of *Accident/Incidents Involving Military Aircraft and/or Missiles*, and NATO Air Standard 85/2A, *Investigation of Aircraft/Missile Accidents/Incidents*. Investigate and report mishaps involving Air Force aircraft, space vehicles, or missiles according to this instruction. The investigation required under STANAG 3531 is in addition to, and conducted separately from, the investigation required by this instruction.

1.8. Investigating Mishaps Involving Foreign Military Aircraft, Explosives, Missile, Space, Vehicles, or Personnel in the Continental United States (CONUS).

1.8.1. General Guidelines.

1.8.1.1. For mishaps involving non-US equipment or personnel in the CONUS, the mishap will be investigated using the provisions of this document, established memorandum of agreements (MOA), and STANAG 3531, as applicable. It is desirable to conduct only one safety investigation that has the full support and participation of all involved nations. However, separate investigations are authorized if necessary due to law, agreement, or procedure.

1.8.1.2. Some nations may consider safety results as privileged information to be used solely for accident/incident prevention purposes, while others may permit the use of safety investigation results for disciplinary actions, claims, litigation, or for other administrative actions or purposes.

1.8.1.3. Some nations may require that their national civil authorities conduct the safety investigation of all accidents/incidents involving civil aircraft. In the case of an accident/incident involving civil aircraft and military aircraft, the US military authorities shall ensure the operating nation is invited to participate in the national safety investigation under paragraph **1.10.**

1.8.1.4. Some nations may require separate safety investigations of accidents/incidents involving civil aircraft and military aircraft by military authorities. In this case the US military authorities shall ensure the operating nation is invited to participate in the national civil investigation. The military safety investigation will be conducted in accordance with the provisions of this document and any established MOAs.

1.8.2. Foreign nation operating from a US airfield or launch site.

1.8.2.1. A foreign nation's military authorities shall be responsible for all measures to be taken in the event of an accident or incident which involves only foreign aircraft or missiles and which occurs within the limits of a US airfield or launch site. The foreign nation's military will provide an English translated version of the mishap report to the host base safety office.

1.8.3. Joint-Nation Safety Investigating Committee.

1.8.3.1. The president of a joint-nation safety investigation committee shall be the designated senior member of the operating nation's investigating group. The president may accept any evidence considered relevant to the investigation, whether oral or written and whether or not it would be admissible in a civil court. The committee will accept expert opinion on evidence of any type, whether sworn or unsworn. No person, who in the line of duty may be deemed to be directly associated with the causal factor(s) of the accident or who may have personal interest in the outcome of the investigation, may participate as a member, observer, or advisor to the committee.

1.8.4. Actions after mishap notification.

1.8.4.1. Upon notification of a mishap, both nations will immediately ensure all parties involved have been notified and claim their intentions concerning participation in the safety investigation. They will also provide the names of their investigating group and the designated senior member of the group as soon as possible.

1.8.5. Reporting.

1.8.5.1. All reporting will be in accordance with this document and STANAG 3531 (if applicable).

1.8.6. Guidance Conflicts**.**

1.8.6.1. In the event of conflicts between this document, existing MOAs, and STANAG 3531, STANAG 3531(if applicable) or the MOA will take precedence.

1.9. Contractor Involvement in Mishaps.

1.9.1. Government contractor involvement.

1.9.1.1. Investigate and report mishaps when operations of government contractors result in reportable Air Force losses, even if the government is wholly or partially repaid.

1.9.1.2. If the Air Force administers the contract and the mishap involves reportable losses to Air Force resources, Air Force administrative contract safety personnel prepare the reports with as much information as is available within the terms of the contract.

1.9.1.3. If the Air Force administers the contract and the mishap involves reportable losses to resources of other DoD agencies, Air Force administrative contract safety personnel send all mishap information to the involved agency with an information copy to HQ AFSC.

1.9.1.4. If another DoD agency administers the contract and the mishap involves reportable losses to Air Force resources, the contracting command ensures the loss is investigated and reports the mishap according to this instruction.

1.9.1.5. If the mishap concerns government property in the contractor's possession, the contractor is not required to provide information beyond the terms of the contract. Safety staffs ensure the contract statement of work specifies that the contractor will notify the Air Force when property damage occurs.

1.9.2. Investigating Mishaps Involving Non-accepted Air Force Aerospace Vehicles or Vehicles Leased to Non-Air Force Agencies.

1.9.2.1. Non-accepted Air Force aerospace vehicles include aircraft, remotely piloted vehicles (RPV), UAV, missiles, and space vehicles.

1.9.2.2. The MAJCOM commander who negotiates a contract or agreement for the vehicle lease or manufacture is the convening authority. Mishaps involving aerospace vehicles leased to other than US agencies (lessee does not assume risk of loss) for demonstration purposes or under the operational control of the Defense Logistics Agency (DLA) for contract administration purposes are recorded as mishaps to the Air Force At Large. Mishaps involving these aircraft are not recorded to any command while the aircraft are in the possession of the agency or DLA. The possessing command is still responsible for mishap investigation and reporting. Normally, AFMC negotiates all aircraft and engine leases. If another agency negotiates a lease, the agency and AFMC shall determine whom the convening authority will be prior to executing the lease.

1.9.2.3. The negotiating commander ensures the terms of the contract or agreement state:

1.9.2.3.1. Air Force Responsibility. The Air Force is responsible for the investigation of mishaps involving aircraft.

1.9.2.3.2. Air Force Authority. The Air Force is authorized to investigate mishaps involving other non-accepted aerospace vehicles. The MAJCOM commander ensures procedures for preliminary message notification of such mishaps are established. This allows a timely decision on Air Force investigative participation.

1.9.3. Investigating All Other Contractor Mishaps.

1.9.3.1. If a mishap involves government-furnished or loaned aircraft or missiles, or new production aircraft or missiles (accepted by the Air Force but not yet delivered), the commander of the command negotiating the loan or contract is the convening authority unless otherwise specified in the loan or contract documents. In cases where loan or contract agreements specify investigative jurisdiction, follow the terms of such agreements. In no case will a non-AF agency have mishap investigation jurisdiction.

1.9.3.2. Investigate and report all contractor mishaps resulting in reportable Air Force losses according to this instruction. Investigate and report contractor mishaps causing reportable losses to other governmental departments or agencies according to appropriate contract negotiated requirements.

1.9.3.3. The MAJCOM commander who initiates the contract ensures:

1.9.3.3.1. A record of the mishap involving Air Force property is entered into the Air Force safety reporting system. This record includes required message and formal reports. HQ AFSC assigns the mishap to the command owning the items under contract.

1.9.3.3.2. A record of mishaps involving other DoD property is forwarded to the involved agencies with an information copy to AFSC/CC.

1.9.3.3.3. With MAJCOM commander approval, Defense Contract Management Command (DCMC) safety personnel endorse contractor Class C mishap reports to verify causes and validate corrective actions.

1.9.3.3.4. Other DoD agencies in tenant status on Air Force installations investigate and report mishaps involving their personnel and property using their own agency forms or procedures.

1.10. Investigating Mishaps Involving Civil Aviation.

1.10.1. General Guidelines.

1.10.1.1. The National Transportation Safety Board (NTSB) investigates mishaps between Air Force and civil aircraft occurring within US jurisdiction. Mishaps between Air Force and civil aircraft occurring outside of the US will be investigated under provisions of Annex 13 to the Convention on International Civil Aviation (ICAO).

1.10.1.2. Installation commanders must notify the NTSB, USAF/SE and the FAA if a civil aircraft is involved in a mishap on their installation. MAJCOMs are responsible for notifications if their assets are involved in a civil aircraft mishap off Air Force installations.

1.10.1.2.1. Notify the NTSB and comply with AFJI 91-206, *Participation in a Military or Civil Aircraft Accident Safety Investigation*, when a mishap involves civil aircraft. All NTSB notifications are made to the regional offices.

1.10.1.2.2. Notify the FAA according to AFJI 91-206 when a mishap involves civil aircraft, FAA services, or FAA facilities, except licensed commercial space systems. Aviation mishap notifications are made to the FAA regional offices.

1.10.1.3. For mishaps involving Air Force Aero Clubs see **Chapter 13**, Miscellaneous Air Operations Mishaps.

1.10.2. Investigation.

1.10.2.1. If the Air Force takes part in such an investigation or public hearing, it does so as "a party to" the investigation or hearing.

1.10.2.2. The Air Force may conduct a separate and independent investigation; however, the Air Force investigation must not interfere with the NTSB investigation.

1.10.2.3. The Air Force SIB president complies with AFJI 91-206 when exchanging information with the NTSB.

1.10.2.4. When a military flight mishap involves a function of the FAA, the convening authority will allow the FAA to participate in the military investigation.

1.10.2.5. Cooperation between NTSB and FAA and the Air Force in these investigations is essential. If a military investigation concludes FAA personnel or facilities were causal in the mishap, comply with AFJI 91-206.

1.10.2.6. Air Force representatives to NTSB investigations will be graduates of formal Air Force safety training courses. Colonels and above will be graduates of the Air Forces Board Presidents Course. All others will have attended the Flight Safety Officer course as a minimum. Additionally, Air Force representatives to NTSB investigations are responsible to the Air Force Chief of Safety while assigned to the NTSB investigation.

1.11. Investigating Potential Criminal Acts.

1.11.1. General Guidelines.

1.11.1.1. If safety investigators discover, or suspect, by any means that the mishap may have been caused by criminal misconduct, they must immediately suspend the investigation and report this fact to the convening authority. The convening authority will, with HQ USAF/SE, determine

whether the safety investigation should continue or terminate, and ensure that an appropriate legal investigation is initiated. If this happens, safety investigators must not disclose any privileged information to the AIB, commander directed, or criminal investigators, but they should remain in close coordination with the servicing Staff Judge Advocate office (SJA) and Office of Special Investigations (OSI) to ensure there is no conflict between their respective investigations. To obtain legal counsel on this issue, safety investigators should contact HQ AFSC/JA.

1.11.1.2. If the legal investigators conclude that the injury or damage is the result of a criminal act, the event may not involve a mishap. If a criminal act did not occur, HQ USAF/SE determines whether a mishap occurred and whether a safety investigation is required.

1.11.2. Safety Investigation Termination.

1.11.2.1. If the convening authority decides to terminate the safety investigation, investigators will give all non-privileged material to the criminal investigators and provide them with the names of all known witnesses. Alert the legal investigator if the SIB has interviewed the witnesses. The president of the SIB will ensure all privileged information is safeguarded and preserved with the help of HQ AFSC/JA.

1.11.2.2. Notify previous message addressees of the change in investigative responsibility.

1.12. Investigating Mishaps Involving Research and Development (R&D) Programs**.**

1.12.1. R&D Program Mishaps.

1.12.1.1. Investigate accidental losses in R&D programs according to their class and category. These reports have limited distribution. R&D program mishaps are Air Force mishaps if the involved aircraft, engines, explosive munitions, space systems, missiles, or major missile components (stages, guidance-and-control sections, payloads, etc.) are:

1.12.1.2. Owned in whole or in part or controlled operationally by the Air Force.

1.12.1.3. Government-furnished, loaned, or leased to a non-Air Force agency for modification, test, or experimental project and where the Air Force bears the risk of loss.

1.12.1.4. Undergoing development test and evaluation (DT&E) or initial operational test and evaluation (IOT&E), and follow on operational test and evaluation (FOT&E) by the Air Force or a contractor.

1.12.2. Non-R&D Program Mishaps.

1.12.2.1. Mishaps that have nothing to do with R&D testing, but merely involve R&D items, are not R&D mishaps. An exception to this is if the vehicle or explosives system itself (rather than the equipment installed on it) is being tested or if the equipment or item being tested is involved as a factor in the mishap.

1.12.3. R&D Category and Class.

1.12.3.1. Identify R&D mishaps by class, category, and mishap event number. Examples of this format include Class A Flight R&D (event number) and Class B Explosives R&D (event number). When reports contain competition-sensitive information, identify this after the mishap event number. Forward them only to HQ AFSC and any other addressees the investigating MAJCOM commander directs.

1.12.4. Control of Proprietary Information.

1.12.4.1. HQ AFSC establishes internal procedures to protect proprietary or competition-sensitive information. The investigating MAJCOM commander promptly notifies HQ AFSC when limited distribution and internal protective measures are no longer needed. MAJCOM commanders may convert internal technical investigations to this instruction's format to satisfy reporting requirements when approved by HQ AFSC. If MOFEs are prepared, HQ AFSC forwards them only to the MAJCOM involved. During the final evaluation process, HQ AFSC may correct a mishap's category if it does not meet the criteria for an R&D mishap.

1.13. Using Test Organizations in Investigations.

1.13.1. Test Organizations.

1.13.1.1. Test organizations may take part in investigations when they have test responsibilities. Convening authority ensure preliminary reports are sent to these test organizations when DT&E is involved.

1.14. When to Obtain Legal Representation.

1.14.1. Guidelines.

1.14.1.1. The convening authority should seek the advice of his Staff Judge Advocate or HQ AFSC/JA when non-DoD agencies take part in a mishap investigation or hearing that:

1.14.1.2. Involves a collision between Air Force aircraft or missiles and non-DoD aircraft.

1.14.1.3. Involves high interest because of injury, illness, or death of non-Air Force civilians.

1.14.1.4. Involves high interest because of damage to public or private property.

1.14.1.5. Involves possible radioactive contamination of persons, places, or things.

1.15. Non-Reportable Mishaps.

1.15.1. Guidelines.

1.15.1.1. Do not report the following under this instruction. Although the following are not reportable under AFI 91-204, other instructions may require their reporting.

1.15.1.2. ANG State Employees. ANG state employee injury or illness is not reportable either on or off-duty in accordance with this instruction unless their injury or illness involved Air Force Personnel, contractor operations, or property.

1.15.1.3. Hospitalization for Administrative/Observation Purposes. Do not report instances of persons referred to the hospital for treatment and retained beyond the day of admission solely for administrative or observation reasons.

1.15.1.4. Allergic Reactions. Do not report adverse reactions resulting directly from drugs, serums, vaccines, toxins, anesthetics, or overdoses from drugs (including alcohol poisoning).

1.15.1.5. Civilian Personnel Injuries. Do not report injuries to Department of the Air Force (DAF) civilian personnel occurring during lunch periods that result from activities unrelated to eating lunch. Traveling to and from on-base snack bars, clubs, etc., is related to having lunch. Do not report injuries that occur as a result of falls in parking lots that are not work related, such as

falls in parking lots coming to and from work. ***NOTE:*** Report/Record as appropriate all injuries and illness cases qualifying under the Office of Worker's Compensation Program (OWCP).

1.15.1.6. Combat Damage. Do not report damage or injury by direct action of an enemy or hostile force. This does not include suspected cases of friendly fire. If aviation life support equipment is used subsequent to combat damage and fails for reasons other than combat damage, report the equipment failure to HQ AFSC/SEF. Use AF Form 711GA, *Life Sciences Report of an Individual Involved in an Air Force Flight/Flight Related Mishap* to report the equipment failure. Do not assign a mishap or unit control number to such an equipment failure; it is not a mishap.

1.15.1.7. Component Part Replacement. Except when **Chapter 7** requires reporting as a Class E event, a report is not required for replacement of component parts due to normal wear and tear when all associated damage is confined to that component part. This "normal wear and tear" reporting exemption only applies to items that are normally used until they fail or until pre-determined wear limits are reached. The need for replacement may not be evident until malfunction or failure of the part. Aircraft subsystems (such as engines, engine modules, APU, landing gear, etc.) are assemblies, not component parts. Flight line replaceable engine components and electronic boxes, tires, pump motors and drag braces are examples of component parts. If damage is not confined to the component part, all associated damage costs must be added to determine if the event is a reportable mishap. This exemption does not apply to nuclear safety deficiencies.

1.15.1.8. Contractor Operations Mishaps. Do not report injuries to contractor personnel or damage to contractor equipment occurring during Air Force contractor operations.

1.15.1.9. Death from Natural Causes. Do not report death due to lack of or inappropriate medical attention or natural causes unrelated to the work environment. ***EXCEPTION:*** Report the death by natural causes of an aircrew member during flight, or a missile crewmember on alert, as an Aircraft or Missile (physiological) mishap.

1.15.1.10. Electro-Explosive Device Activation. Do not report intentional electro-explosive device activation when part of it is a normal missile test or launch sequence, the launch is aborted, and there is no other reportable damage.

1.15.1.11. Expected Airdrop Operations Damage. Do not report damage or destruction of equipment, pallets, parachutes, etc., as a result of fair wear and tear expected during airdrop operations.

1.15.1.12. Injuries and Property Damage during Criminal Acts. Do not report injuries or property damage resulting from criminal acts (such as homicide, vandalism, riots, civil disorders, sabotage, terrorist activities, or arson) unless an unsafe condition may have contributed to the injury or damage (paragraph **1.11.**). Do not report injuries resulting from altercations, attack or assault, unless incurred in the performance of official duties when an attack or assault would not be a felony, such as a medical provider assaulted by an incompetent patient. Do not report injuries to persons in the act of escaping from or eluding military or civilian custody or arrest. Do not report injuries or death resulting solely from illegal use of drugs or other substances.

1.15.1.13. Foreign Object Damage (FOD). Do not report aircraft, air breathing missile, or UAV engine FOD discovered during scheduled engine disassembly (e.g. depot engine overhaul for maximum operating time, not for known or suspected FOD). ***NOTE:*** FOD may be reportable under T.O. 00-35D-54, *USAF Materiel Deficiency Reporting and Investigating System*.

1.15.1.14. Jettison of Materiel Nonessential for Flight. Reports are not required for intentional, controlled in-flight jettison or release of canopies, cargo, doors, drag chutes, hatches, life rafts, auxiliary fuel tanks, air refueling drogues, missiles, drones, rockets, non-nuclear munitions or other externally carried equipment not essential for flight when no injury or reportable damage to the aircraft or other property occurs. However, report intentional jettison of missiles, drones, rockets, and munitions that impact on/off range when the reason for jettison is their malfunction. Report all intentional or inadvertent release of missiles or explosives that impact off range. Describe all actions taken to recover or safe these items.

1.15.1.15. Missile or Space Launch Damage. Do not report normal residual damage as a result of a space or missile launch.

1.15.1.16. Musculoskeletal Disorder Injuries. Do not report injuries resulting from musculoskeletal disorders and unrelated to mishap-producing agents or environments normally associated with daily work or recreation.

1.15.1.17. Natural Phenomena. Do not report natural phenomena ground mishaps where adequate preparation, forecasting, and communication actions were taken and there were no injuries. However, report military and civilian injuries resulting from these mishaps. In addition, reportable damage to Air Force aircraft or external stores caused by encounters with natural phenomena in flight is investigated and reported IAW **Chapter 7** of this instruction. Report damage or loss of AF spacecraft when it is known to be caused by natural phenomena within the bounds of the expected environment for that spacecraft and meets the other mishap criteria specified by the space chapter. For example, the loss of a spacecraft due to collision with a large, previously undetected meteoroid would not be reportable.

1.15.1.18. Non-occupational Disease. Do not report a disease when a known pre-existing medical condition is the proximate cause of lost time rather than the injury.

1.15.1.19. Prior Injuries. Do not report injuries sustained before entry into the Air Force or commencement of employment, unless specifically aggravated during current service or employment

1.15.1.20. Stress and Strain Injuries. Do not report injuries resulting from minimum stress and strain such as simple, natural, nonviolent body positions or actions such as the simple act of bending over to pick up some small object or to tie a shoe, dressing, sleeping, coughing, or sneezing.

1.15.1.21. Suicide. Do not report attempted or consummated suicide, or intentionally self-inflicted injuries, to include, e.g., Russian roulette.

1.15.1.22. Testing Mishaps. Do not report damage to Air Force equipment or property during authorized testing, including missile and ordnance firing, providing such damage was expected as a part of the cost of the test to include:

1.15.1.22.1. Damage or destruction of a UAV while used as an authorized target.

1.15.1.22.2. Tests to determine operational limits or destruction levels or limits.

Damage or destruction resulting from flying a UAV within critical profile parameters. However, report intentional destruction of a missile before it completes the entire planned test as a missile mishap, and report mishaps involving R&D programs (paragraph **1.12.**).

1.15.1.23. Animal, Insect, and Reptile Bites. Injuries to or illness from animal, insect, or reptile bites to military personnel while off-duty are not reportable.

CHAPTER 2

PRIVILEGE GUIDELINES

2.1. Defining Types and Limiting Use of Safety Reports.

2.1.1. Guidelines.

2.1.1.1. Produce safety reports to document causes of mishaps and to take preventive actions. These reports are for official use only (FOUO) if they are not classified. However, not each document in the report is FOUO. The factual documents in Part I (Tabs A-S) are released to the accident board and may ultimately be made public. Do not mark these individual documents FOUO. All safety investigation reports (except Aero Club) include privileged information. The following terms and information implement AFPD 91-2 policies on safety reports, their uses, and prohibitions on their use. (*NOTE:* See AFPD 37-1 and DoDI 5400.7 for a complete discussion of FOUO.)

2.1.2. Privileged Reports.

2.1.2.1. All safety investigations for mishaps occurring on or after 3 October 2000 include privileged information. Prior to 3 October 2000, investigations involving ground, explosive, and industrial mishaps were generally not privileged. As of 3 October 2000, all mishap investigations (aircraft, space, missile, ground, explosives and nuclear safety investigation reports) include privileged reports that contain both privileged and non-privileged information. (Note: Aero Club mishap investigations are not privileged; see paragraph **14.5.1.3.**). However, promises of confidentiality are not normally given to witnesses in ground, explosive, or industrial safety investigations. Consequently, witness statements (which are privileged in space, missile, nuclear, and flight mishaps) for ground, industrial, and explosive mishaps are still not privileged. The Safety Board deliberative process to include Board conclusions, analysis, and recommendations are privileged for all types of mishaps, including ground, industrial, and explosive mishaps. SIB message reports (except the 8-hour preliminary message report) and Part II of Class A and B formal reports are privileged portions of the reports. Additionally, Class C and HAP reports for these categories are not prepared in two parts, but contain privileged information. HATRs are not considered safety investigations and are not privileged. (Note: There may be occasions, such as mishaps involving complex systems, military unique items (such as guided missiles, laser devices, or armored vehicles), or military operations or exercises where a witness(es) to a ground, industrial, and explosives investigations will not testify without a government promise of confidentiality. When this appears to be the case, contact HQ USAF/SE for approval to grant confidentiality to that (those) witness(es).

2.1.2.2. Privileged Information. This refers to information that is exempt by statute or case law from disclosure outside the Air Force safety community. The Air Force treats this information confidentially to ensure commanders quickly obtain accurate mishap information, thereby promoting safety, combat readiness, and mission accomplishment. Privileged information includes:

2.1.2.2.1. Findings, conclusions, causes, recommendations, and the deliberative process of the SIB or single investigating officer for all classes of investigation. This protection may also apply to the findings, conclusions, causes, recommendations and deliberative process of the investigator in a ground or explosive mishap.

2.1.2.2.2. Any information obtained from a contractor who built, designed, or maintained equipment involved in a mishap, which information was provided pursuant to a promise of confidentiality.

2.1.2.2.3. Statements or testimony given to the SIB pursuant to a promise of confidentiality.

2.1.2.2.4. Computer generated videotape animations, simulations, or simulator reenactments in which the SIB's analysis is incorporated into the simulation. Animations made from recorder data are not privileged as long as they do not contain SIB analysis or input. If the actual audio voices of the mishap crew are incorporated into the animation, simulation or reenactment videotape, the tape is not releasable due to the privacy interests of the crewmembers or their surviving families.

2.1.2.2.5. Drafts indicating SIB analysis and conclusions.

2.1.2.2.6. Photographs, films, and videotapes which are staged, reconstructed, or simulated reenactments of possible or probable scenarios developed by or for the SIB.

2.1.2.2.7. Diagrams and other exhibits which depict the SIB's analytical process.

2.1.2.2.8. Any Life Science Materials, including photographs with markings or other indicators, that contain analysis of the Life Science SIB member. For example, 24 hour, 72 hour, 14 day histories, interview narratives obtained during the post-mishap physical examination, or any other interviews obtained by the Life Science SIB member, are privileged. Photographs staged by any SIB member, with pointers to structures or features, are privileged. Photographs or videotapes showing human remains or blood splatters are not privileged but are protected by the Privacy Act due to the privacy interests of the crewmembers or their surviving families. They are releasable to the AIB which is responsible for protecting this sensitive (Privacy protected) information.

2.1.2.3. Promise of Confidentiality. The Air Force may give a promise of confidentiality to encourage frank and open communications to individuals who provide witness statements to a SIB or investigating officer and to government contractors, who built, designed, or maintained the equipment and participate in the investigation. Only primary duty safety personnel as members of the DCG, or the designated ISB and SIB members may offer promises of confidentiality for witness testimony. This information is privileged and protected from disclosure to unauthorized personnel. A promise of confidentiality will not be given on a blanket basis to every witness. The safety investigation has the discretion to determine who will be given a promise of confidentiality except as noted in paragraph **2.1.2.1.** above. Where a promise of confidentiality has been extended, **Figure 2.3.** provides a sample witness statement format for use with written, privileged witness statements. Where a promise of confidentiality has not been extended, **Figure 2.4.** provides a sample witness statement format for use with written, nonprivileged witness statements. **Figure 2.6.** contains the taped interview privileged witness statement. Investigators must read the **Figure 2.6.** Promise of Confidentiality advisory to each witness being offered privilege or **Figure 2.4.** if the witness is not offered confidentiality, and must read the appropriate statement onto all tape recordings of interviews.

2.1.2.4. Official Use of Privileged Information. The Air Force ensures privileged safety information is used only by persons and agencies, including convening authority staff, whose duties include relevant mishap prevention responsibilities. Access will be limited to such information as

is necessary for and consistent with mishap prevention. Safety reports are to be used solely for mishap prevention.

2.1.2.4.1. When their duties include mishap prevention and when it is necessary to develop, take, or review preventive actions, the following Air Force officials may obtain access to privileged safety information: commanders of flying, space, and missile organizations, safety officers, flight surgeons, HQ USAF/SE personnel, air, space, and missile crews, those who supervise and train air, space, and missile crews, mishap board members, those who are appointed to assist mishap board members, and commanders of maintenance units or maintenance personnel.

2.1.2.4.2. Other US military services and DoD agencies responsible for flying, supporting or maintaining Air Force aircraft may receive comparable privileged safety information when needed for mishap prevention. In certain cases, the Air Force has agreed to exchange privileged mishap information with other US government agencies solely for mishap prevention purposes. Joint project or program offices may share privileged safety information with members of other DoD agencies working on the same project or program without prior approval from AFSC/JA.

2.1.2.4.3. Comparable persons and offices within EPAF countries may have access to privileged information pertaining to F-16 mishaps only. These countries are participants in the multinational fighter program of co-production of the F-16 with the United States. The release authority (HQ USAF/SE) delegates to F-16 SIBs the authority to release applicable sections of F-16 final mishap message reports solely to the EPAF via Address Indicator Group (AIG) 9399. This information is for mishap prevention purposes only.

2.1.2.4.4. Other Air Force officials such as the SJA (other than AFSC/JA), criminal investigative agencies such as the AF Office of Special Investigations (OSI), Security Police, Historian (HO), and PA do not normally receive privileged safety information because of possible conflicts of interest and because use of such information by such officials would not be for mishap prevention purposes. All questions regarding access to privileged safety information should be referred to HQ AFSC/JA.

2.1.2.5. Controlling and Handling Privileged Reports. Any Air Force personnel having access to these reports and their attachments, or information derived from them, have a duty to control them in a way that prevents their use in any way other than their authorized purpose: mishap prevention. The Air Force does *not* use privileged reports (including message reports produced after the preliminary 8-hour report), their attachments, or information extracted from them, as evidence for punitive, disciplinary, or adverse administrative actions, for determining the misconduct or line-of-duty status of any person, in flying evaluation board hearings or reviews, to determine pecuniary liability or liability in claims for or against the United States, or in any other manner in any action by or against the United States. However, if an individual provides a false statement to a Safety Board under a promise of confidentiality, that statement (and any other information that witness gave to the Safety Board) loses its privileged status and can be used to support disciplinary and/or administrative actions. Any release outside the Air Force, even to members of Congress or officials of the Department of Justice, is governed by this instruction and must be approved by HQ USAF/SE. For purposes of this and the following paragraph, the terms “control” and “access” include both control and access obtained in the normal course of one’s duties and control and access obtained by any other means—whether or not incident to normal duties and whether or not

such access was authorized. When these reports are no longer needed for mishap prevention purposes, destroy them according to AFMAN 37-139, *Records Disposition-Schedule*.

2.1.2.6. Prohibited Uses of Privileged Safety Reports. SIB members, Air Force employees and government contractors will not wrongfully use, permit the use of, gain access to, or allow access to any privileged safety report, portions thereof, or the information therein for other than officially authorized mishap prevention purposes. SIB members, Air Force employees and government contractors will not append or enclose these reports, in whole or in part, in any other report or document unless the sole purpose is to prevent mishaps or is factual information that has been released pursuant to law or regulation. These prohibitions pertain to Part II of formal SIB reports (AF Form 711, USAF Mishap Report); status and final message reports on aircraft, missile, and space mishaps as well as nuclear reports; and special safety investigation reports prepared by HQ AFSC relating to aircraft, missile, and space mishaps and nuclear reports and any other reports or documents containing privileged safety information. Violations of these prohibitions are punishable under Article 92(1), UCMJ, and may be grounds for disciplinary actions according to civilian personnel regulations.

2.1.3. Non-privileged Reports (mishaps that occurred before 3 Oct 00).

2.1.3.1. Ground, miscellaneous air operations, HATR, and explosive safety investigations are normally non-privileged reports in that witnesses are not promised confidentiality. Non-privileged reports are releasable outside the Air Force safety community and outside the Air Force once Privacy Act information, causal findings, and recommendations are removed. The installation chief of safety is the release authority for non-privileged reports to other Air Force personnel. When release will be made outside the Air Force, HQ AFSC/JA is the release authority.

2.2. Transmitting Safety Messages over Electronic Mail.

2.2.1. Using E-Mail.

2.2.1.1. To protect the correct distribution and handling of safety messages, originating organizations should continue to use AUTODIN and the addressing requirements of this instruction. E-mail can be used by AF base message centers to conduct base distribution. The following procedures are approved methods for transmitting safety mishap messages via electronic mail.

2.2.2. Intrabase.

2.2.2.1. This includes wide area networks or local area networks served by a single network control center. The transmitting and receiving units will use appropriate limited-use, privacy act, and FOUO markings as required and transmit unencoded and unencrypted.

2.2.3. Interbase with Encryption (not Encoding) Capability.

2.2.3.1. When encryption capabilities are provided between base gateways the message should be encrypted with appropriate markings on the original message.

2.2.4. Interbase with no Encryption Capability.

2.2.4.1. When no encryption exists between base gateways the transmitter will compress the mishap message and protect the file with a password. Attach the compressed file to the e-mail message and transmit to the addressed destinations. Send the applicable password in a separate message or by another mode of transmission.

2.3. Disclosing Privileged Reports.

2.3.1. General.

2.3.1.1. The Air Force uses a judicially recognized government privilege to protect the investigative process, quickly and accurately obtain all evidence about a mishap, and take appropriate corrective action as soon as possible. Safety reports and resulting products thus effectively help prevent mishap recurrence and thereby enhance national security through combat readiness. All those with access to privileged reports and resulting products must ensure the restrictions on handling mishap information are enforced. It is the responsibility of the safety staff to ensure individuals working with, or having access to, safety reports, messages, video tapes or computer generated simulations are knowledgeable of the limitations placed on their uses and the required protection of such materials. In additions, the installations safety staff must annually review communications center distribution of mishap messages to ensure requirements are valid.

2.3.2. Conditions for Limited Disclosure.

2.3.2.1. Despite these restrictions, the Air Force releases factual parts of limited-use safety reports in certain cases. These factual parts consist essentially of Part I of the two-part report. They are released as follows:

2.3.2.2. FOIA requests under Title 5, United States Code, section 552 (5 USC 552). Send requests to HQ AFSC/JA, 9700 G Avenue SE, Kirtland AFB NM 87117-5670.

2.3.2.3. Providing exhibits to AFI 51-503, *Aircraft, Missile, Nuclear, and Space Accident Investigations*. The safety investigator gives the accident investigator of the same mishap the original documentation of the factual material in Part I of the formal report.

2.3.2.4. Disclosing to Air Force organizations. HQ AFSC/JA may release the factual portions to offices and agencies within the Air Force for official purposes.

2.3.2.5. Tab A through Tab S and factual information gathered through the investigative process are released to the accident investigator for *AFI 34-1101,Assistance to Families of Persons Involved in Air Force Aviation Mishaps,* purposes. Procedures for releasing this information are defined in AFI 34-1101 and must be followed.

2.3.3. Handling Requests for Disclosure.

2.3.3.1. Individuals or agencies outside the Air Force frequently seek information from safety reports produced under this instruction. Upon receipt of any request for privileged safety information, Air Force personnel contact HQ AFSC/JA. Upon receipt of a legal process requiring participation in a court proceeding, including depositions and requests for production of documents, contact HQ AFSC/JA and the nearest Air Force base legal office. Data fax a copy of the legal process to AFLSA/JACT (DSN 426-9009 or (703) 696-9009). Encourage requesters to ask the MAJCOM/JA for the AFI 51-503 accident report if one has been prepared.

2.3.3.2. AF/SE (AFSC/CC) may release the findings of a Safety Board, contained in historical safety reports prepared IAW DoDI 6055.7 (or its predecessors). For the purpose of this provision, historical reports shall be defined as those concerning mishaps more than 25 years old, provided no national defense or safety interest exists as determined by AF/SE (AFSC/CC/CV)

2.3.4. Disclosing to Other Investigators.

2.3.4.1. The convening authority also convenes an Accident Investigation Board (AIB) in accordance with AFI 51-503. This accident investigation is done independently and apart from the safety investigation. Its purpose is to provide a publicly releasable report of the facts and circumstances surrounding the accident, to include a statement of opinion on the cause of the accident, and to gather and preserve evidence for claims, litigation, disciplinary and adverse administrative actions, and for all other purposes. The relationship between the two investigations is shown below:

2.3.4.2. Safety investigations conducted under this instruction take priority over related investigations convened under AFI 51-503, *Aircraft, Missile, Nuclear, and Space Accident Investigations*, or any other Air Force directives in gaining access to the scene, acquiring and examining evidence, and interviewing witnesses.

2.3.4.3. Despite the separation and relative priorities of the two investigations, the SIB President provides certain factual information to the AIB President as soon as possible, as specified in AFI 51-503 and AFI 34-1101, *Assistance to Families of Persons Involved in Air Force Aviation Mishaps*.

2.3.4.3.1. SIB Investigators give the original documentation or best facsimile of all non-privileged materials to the AIB investigators and obtain or exchange a written inventory. Readable copies are acceptable for the safety report.

2.3.4.3.2. SIB Investigators provide information, as it becomes available, but not to the detriment of the safety investigation. This information includes factual information normally included in Part I of the safety report; logs, directives, and photographs not staged; recordings of air-to-air, air-to-ground, and ground-to-air voice transmissions that capture information at the time of the mishap; flight data recorder tape; and all pre-mishap medical records. *Note:* Cockpit Voice Recorder (CVR) tapes and transcripts are not privileged. The CVR tapes will be transcribed by a court reporter. The actual tape is protected from release to the public based upon the privacy interests of the crewmembers or their surviving family members and only those individuals with a need to know will be allowed to hear the actual voice recording of the CVR.

2.3.4.3.3. Do not release medical analysis by a SIB member, findings, recommendations, and comments or references to witness statements. Coroner's reports are not privileged and are releasable to the AIB President, either through the SIB (if available at the time) or through HQ AFSC/SEFL. TOX test results and autopsy protocols are also not privileged and are releasable to the AIB President. However, 72 Hour and 14 Day aircrew medical histories are privileged. The AIB will obtain separate 72 Hour and 14 Day medical histories from the aircrew and/or mishap participants involved.

2.3.4.3.4. The SIB President or single investigator releases the wreckage to the AIB President after it is no longer needed by the SIB.

2.3.4.3.5. Give a complete list of all witnesses to the accident investigator regardless of whether the statements of the witnesses are in the safety report. Provide the names of witnesses to the AIB only after the SIB decides to conduct no further interviews of any of the witnesses.

2.3.4.3.6. Provide original films and videotapes visually depicting the actual mishap sequence, including videotape recordings (VTR) of the heads-up display (HUD), to the AFI

51-503-accident investigator. Include copies of non-official videotapes or films made by individuals and return tapes to original owners.

2.3.4.3.7. Release the following medical information to the AIB. They will protect this sensitive (Privacy protected) information.

2.3.4.3.7.1. Factual photos showing human remains and the autopsy are turned over to the AIB President in a separate envelope. Provide instructions to the AIB to return the photographs to AFSC/SEFL, 9700 Ave G SE, Kirtland AFB, NM, 87120 after the AIB is finished with them.

2.3.4.3.7.2. Copies of the TOX test results, autopsy report, death certificate.

2.3.4.3.7.3. Pre-mishap medical records, factual post-mishap radiographic (X-Rays, MRI, CT scans) series, factual lab reports, and factual post-mishap physical examination (SF Form 88) (DO NOT release post-mishap physical examination interview narratives, 24, 72 hour histories, 14 day histories obtained from crewmember or survivors),

2.3.4.3.8. Video tapes of simulated, computer-generated, animated or re-enacted portions of a mishap flight are always privileged if they were made with the involvement of either SIB personnel or personnel with knowledge of privileged mishap information. *Do not* release them to the AIB President.

2.3.4.3.9. Many Technical Orders (TOs) are subject to the Arms Export Control Act and the Export Administration Act of 1979. You should ensure Technical orders are not subject to the above Acts prior to including them in Part I of your report. If the TOs are subject to the above acts, do not include these TOs in Part I of the SIB report without receiving clearance from the release authority. The release authority is normally annotated near the front page of the document. If the release authority will not grant authority to release the TO, you can still provide the TO to the Accident Investigation Board. However, this should be done separately from the Part I, tabs A-S hand-off as is done with other sensitive information, e.g., autopsy reports.

2.3.4.4. Provide copies of any records or materials required or used in the identification process and copies of requested photographs of the deceased to the mortuary officer. Either AFIP or local flight surgeon may generate these products. HQ Air Personnel Center (AFPC)/MPCCM carefully controls and maintains these documents on permanent file.

2.3.4.5. Persons occupying full-time safety positions routinely examine privileged documents. Do not appoint them to AFI 51-503 accident investigations as long as they are performing full-time safety duties.

2.3.4.6. ISB and SIB members will not be witnesses for other boards investigating the same mishap except to provide Part I factual information or to provide purely factual information within their knowledge that is not otherwise available.

2.3.5. Public Disclosure of Mishap Information.

2.3.5.1. Because of the Air Force's policy to keep the public informed of Air Force actions and activities, both favorable and unfavorable, release information on Air Force mishaps to the public promptly as follows:

2.3.5.2. The convening authority or designated information officer releases factual information about a mishap, including photographs, only as directed in AFPD 35-1, *Public Affairs Manage-*

ment, and AFI 51-503, which incorporates Title 10 United States Code, Section 2254b. The public release of evidence concerning a mishap may not be done by or through officials involved in the safety investigation

2.3.5.3. The AIBoard in accordance with AFI 51-503 will release factual mishap information upon request. If an AIB is not formed the local commander, through the public affairs or legal office, will accomplish the release of factual information. The AIB will not release information if it will jeopardize national defense or will impede an ongoing investigation, (SIB or AIB). The SIB President should coordinate with the AIB President as to whether the release of information will impede the SIB's investigation.

2.3.6. Restricting Information Derived From Privileged Reports.

2.3.6.1. This paragraph prescribes courses of action consistent with both the protection of privileged information and the requirements of the mishap prevention program. To sustain the claim of privilege for this information, use the following guidance:

2.3.6.1.1. Limiting Use within the Air Force. The official use of privileged reports ranges from providing sanitized briefs and statistics to full disclosure of the reports within the Air Force. In each case, answer the question of whether mishap prevention goals can be reached without disclosing privileged information. If the answer is yes, sanitize the information. If the answer is no, affix restrictive markings to the document similar to those used for safety reports. For further assistance contact HQ AFSC/JA.

2.3.6.1.1.1. Unit safety officers may sanitize privileged mishap reports for unit use and for use by appropriate contractor personnel. Wing/Group ground/flight safety managers or designated representatives will review and approve reports and other media sanitized by subordinate unit safety officers prior to release. Contractor personnel must sign a memorandum acknowledging that they understand the limitations on the use of safety reports and other media. See **Figure 2.1.** for memorandum example.

2.3.6.1.1.2. HQ AFSC sanitizes reports for other uses and approves their release. Sanitizing reports or extracts from reports means obscuring the relationship between the identity of a mishap and the findings, conclusions, recommendations, and deliberative processes resulting from the investigation and statements made under a promise of confidentiality. Some mishaps, because of widespread publicity or unique circumstances, cannot be fully sanitized. Sanitizing a report involves separating the following identifying information from related SIB or investigator findings, causes, recommendations, conclusions, or opinions:

2.3.6.1.1.2.1. Date and place of the mishap.

2.3.6.1.1.2.2. Aircraft, missile, vehicle, or weapon serial number.

2.3.6.1.1.2.3. Names and social security account numbers (SSAN), if included, of persons involved.

2.3.6.1.1.2.4. Any other detail identifying the mishap.

2.3.6.1.2. Remove identifying information and markings identifying the documents as privileged or FOUO before reproducing sanitized message reports or extracts of formal reports.

2.3.6.2. Limiting Use outside the Air Force. Protecting privileged reports requires the consistent demonstration of intent not to release them outside the Department of Defense. In practice, however, the interaction between the Air Force and other entities requires some direct communication, such as sharing mishap information with unified commands when appropriate. Also, the Air Force shares certain mishap prevention information in the interests of the general safety community. In most cases, sanitized briefs, summaries, studies, and statistical data serve these aims. When they do not, comply with the following instructions.

2.3.6.2.1. Limiting Use With Contractors:

2.3.6.2.1.1. The convening authority may grant an involved, accredited contractor or manufacturer's representative, assisting a SIB, access to the scene of a mishap. Do not grant visual access to message reports, Part II of the formal report, or group reports.

2.3.6.2.1.2. Contractors who design, manufacture, or maintain equipment involved in mishaps send representatives to support Air Force SIBs at the request of the Air Force. When this occurs, SIB presidents and investigators will ensure those representatives understand that the Air Force may at the contractor's request extend a claim of privilege over documents provided by the contractor representatives to the SIB when the Air Force maintains sole possession or control. Normally, a claim of privilege cannot be asserted over notes, documents, and other matter produced during the SIB investigation by the contractor but retained by the contractor representatives. Grant these contractors access to privileged safety information only if it is essential to correct a deficiency in their equipment and sanitized information is not adequate to take corrective action. Inform contractors they may not release the information outside contractor safety channels. (See **Figure 2.2.** for Memorandum example.)

2.3.6.2.1.3. Contractors providing weapon system maintenance support at the base having the mishap are performing an Air Force function. Authorized officials may provide them access to those parts of the report involving contractor activity when sanitizing is not practical. Ensure contractors understand and agree to their responsibilities to treat such information as a confidential communication. Advise them such disclosure is necessary for fulfillment of contractual obligations; however, the number of contractor employees who have access to the information shall be held to a minimum. Such safety information is Air Force property, and the official providing access will advise the contractor not to maintain such information in their files.

2.3.6.2.1.4. Air Force operations conducted at contractors' facilities require privileged safety information handling.

2.3.6.2.1.5. Contractors providing weapon system crew training are performing an Air Force function, and need information from safety reports, videos, and other similar media to build training scenarios. The wing, MAJCOM safety staff, or HQ AFSC may provide reports for this function after the contractors are briefed on privileged use, and sign a memorandum acknowledging that they understand the limitations on the use of safety reports and other media (See **Figure 2.1.** for memorandum example). No further release is authorized outside their organization. After contractors finish building their training scenarios, they are required to return the safety reports to the Air Force. Retaining copies is not authorized.

2.3.6.2.1.6. Added. Privileged release Authority. AF/SE and AFSC/CV may authorize the release of privileged safety information to contractors who build, maintain, or service Air Force weapon systems or their components provided release of that privileged information is used solely to enhance those weapon systems, i.e., a safety purpose is served. The number of contractor personnel who receive this privileged information should be strictly limited to only those individuals who have a need to know the information in order to enhance the safety of the Air Force weapon systems, i,e., a mishap prevention purpose must be served. Contractor personnel who receive this information will be required to sign a "non-disclosure statement" to the effect that they will not disclose the privileged safety information, except as authorized by the release authorities cited above.

2.3.6.2.1.7. Added. Space System Contractors and Space Technical Support Contractors are performing an Air Force function. Authorized officials may provide them access to those parts of the report involving contractor activity when sanitizing is not practical. Ensure contractors understand and agree to their responsibilities to treat such information as confidential communication. Advise them such disclosure is necessary for fulfillment of contractual obligations; however, the number of contractor employees who have access to the information shall be held to a minimum. Such safety information is Air Force property, and the official providing access will advise the contractor not to maintain such information in their files. **(See Figure 2.1.)**.

2.3.6.2.2. Limiting Use with Other Services. Approval authority for exchanging formal safety reports with other services is HQ USAF/SE or HQ AFSC/CV/JA.

2.3.6.2.3. Limiting Use with NTSB and FAA. The release of privileged safety information to the NTSB and FAA is governed by AFJI 91-206.

2.3.6.2.4. Limiting Use with Foreign Nationals. Release of privileged safety information to foreign nationals is governed by NATO STANAGs 3101, *Exchange of Accident/Incident Information Concerning Aircraft and Missiles*, and 3531, *Safety Investigation and Reporting of Accidents/Incidents Involving Military Aircraft and/or Missiles.* They also apply to requests for privileged safety information or related data from NATO military organizations.

2.3.6.2.4.1. Foreign Nationals Flying USAF Aircraft. In the interest of mishap prevention, and when necessary to protect Air Force weapon systems or crewmembers, AF/SE may authorize wing commanders to provide foreign crewmembers with privileged safety information when the foreign crewmembers are serving functionally as aircraft commanders of U.S. owned or leased aircraft or are serving as qualified crewmembers performing functional or training missions in U.S. owned or leased aircraft. The following limitations regarding access to privileged safety information by these foreign crewmembers will apply: (1) the privileged safety information provided will only pertain to the aircraft system being operated; (2) the information provided will not violate promises of confidentiality given to any witnesses, including government contractors who provided testimony or information to a SIB; and (3) foreign crewmembers will be required to sign non-disclosure agreements limiting the use and disclosure of the privileged safety information they receive.

2.3.6.2.5. Limiting Use of Nuclear Safety Reports with Agencies outside the Air Force. HQ USAF/SE may approve the release of extracts of nuclear safety reports to US governmental

agencies with statutory jurisdiction, such as the Defense Threat Reduction Agency (DTRA); and operations offices or authorized contractors of the Department of Energy. The MAJCOM Commander may provide DULL SWORD reports about weapons and common equipment deficiencies to the Unified Commander as deemed appropriate and necessary for the theater commander to accomplish his or her role in nuclear surety. Send this information by inclusion of the appropriate unified command address in the message report as provided by the MAJCOM supplement to this instruction. The Unified Commander ensures the information is treated as privileged information and not released or distributed outside the respective headquarters without first obtaining permission from HQ USAF/SE. The Air Force releases this information only to reach its nuclear surety goals.

2.3.6.2.6. Limiting Use With ANG Personnel Who Are Not Air Technicians. Do not withhold privileged safety reports from non-technicians who have a need to know when sanitized information is not adequate to develop, take, or review corrective action. The restrictions in paragraphs **2.1.2.5.** and **2.1.2.6.** apply to these personnel. Persons having a need to know include those involved in the mishaps; whose duties include the preparation, dispatch, or internal distribution of safety reports; and those who act in response to mishap prevention recommendations. As in the relationship with contractors, first determine if sanitized safety information will meet their needs. When mishap prevention goals cannot be met by using sanitized safety information, use privileged safety data. In such cases, ensure non-technicians who receive such information understand its privileged nature, and advise them of the restrictions in paragraphs **2.1.2.5.** and **2.1.2.6.** Releasing this information to them does not constitute release outside the Air Force and such safety information remains Air Force property.

2.3.6.2.7. Added. Limiting use with NASA and NRO. Applicable SIB Space reports will be distributed to NASA and NRO upon completion. Internal distribution of privileged safety information becomes the responsibility of these agencies.

2.4. Handling and Disclosing of Non-Privileged Reports (Ground and Explo sives Safety Mishaps that occurred before 3 Oct 00).

2.4.1. Guidelines.

2.4.1.1. Mishap prevention is the purpose of these reports. These reports are usually non-privileged reports and have no claim of privilege. However, they are FOUO and are handled according to AFI 37-131. The circumstances of some ground and explosives reports may necessitate their designation as privileged reports.

2.4.1.2. Do not disclose the identities of involved personnel in educational or promotional materials.

2.4.1.3. HQ USAF/SE is the disclosure authority for ground and explosives safety reports outside the organization that generated the report. Local commanders or their safety officers may release reports or extracts of ground and explosives safety investigations convened under their authority to other local Air Force organizations having an official interest in those reports. The ground or explosive safety reports may not be used for any purpose other than mishap prevention, with the exception that the complete ground or explosive safety report may be released to Air Force claims personnel to assist them in evaluating claims for damages filed against the Air Force. Further release of the report outside of Air Force claims channels, must be approved by HQ AFSC/JA.

2.4.1.4. To control reports retain only one copy of each safety report at wing or base, intermediate command, and MAJCOM safety offices. Air Force and unified command agencies may view these reports for official purposes, but they do not release copies without approval of the appropriate disclosure authority. Advise personnel viewing these reports that findings of cause, conclusions, recommendations, corrective actions, and witness statements taken by safety investigators in the course of the investigation are used primarily for mishap prevention purposes. (AFI 91-302, *Air Force Occupational Safety and Health*, control Air Force relationship with OSHA.) Refer all requests for release to HQ AFSC/JA.

2.4.1.5. Upon written request, HQ AFSC/JA provides the releasable portions of ground and explosive safety reports to the requester.

2.5. Dispose of Records According to AFMAN 37-139.

Figure 2.1. Contractor Statement of Understanding.

STATEMENT OF UNDERSTANDING

1. Protection of privileged safety information resulting from investigations of Air Force mishaps is essential in maintaining the integrity of the process whereby mishap information is obtained and evaluated. You, as an independent contractor, are performing services that assist the mishap prevention program of the United States Air Force.

2. For this reason, you are being allowed access to privileged mishap reports that contain privileged safety information. Access is solely for the purpose of mishap prevention and no other use of the information by you or your firm is authorized. You are not to make any copies of the reports or disseminate the information outside your organization or to personnel in your organization that are not directly providing the services required by contact. You are expressly prohibited from providing this information to your general counsel's office, legal staff, or any personnel involved in litigation.

3. After you are finished with any document provided, you are required to return it to the Air Force. Retaining copies is not authorized.

4. I acknowledge receipt and understanding of the above and agree to abide by the conditions set forth.

Figure 2.2. Letter for Contractor Representatives to Safety Investigations.

MEMORANDUM FOR (Non-Air Force technical expert's name and company/organization)

FROM: (SIB President)

SUBJECT: Protection of USAF Privileged Safety Information

1. In response to my request for technical assistance, the Air Force and your employer have agreed that you will serve as a technical expert for the Safety Investigation Board (SIB) over which I preside. Unless you specifically identify information provided in your technical report as proprietary data or confidential analysis or opinion, it will be included in the releasable portion (Part I) of the SIB's final report as factual material. If you want us to treat any part of your report as privileged information so we can protect it from disclosure outside the Department of Defense, you must specifically request such protection. In such case it will be included in the privileged portion (Part II) of the formal safety report and will be used solely for mishap-prevention purposes.

2. The military safety privilege protects confidentially provided evidence and the deliberative process of the SIB. It enhances the SIB's ability to identify potential causes of mishaps quickly and accurately so we can prevent their recurrence. This process must have the highest degree of reliability to maintain combat readiness, national security, and public safety.

3. In accepting your appointment to serve as technical expert, you must agree to safeguard our safety privilege. You must not disclose to anyone, including your employer, any privileged information derived from our investigation. You will prepare only one copy of your technical report for the SIB. You will destroy or surrender to me any notes, documents, computer files, or other materials, produced or obtained during this investigation, if they contain privileged information. You must not make copies of any privileged documents (including analytical computer products, confidential tape recordings, and staged photographs) for use outside the proceedings of this board. You may not have a copy of Part II of the Board's final report or any part of a draft thereof. You must report to me (or, after the SIB is dissolved, to HQ AFSC) any attempt by anyone, other than a Board member or other duly authorized person, to obtain any confidential or deliberative information from you about this investigation.

4. Before beginning your service to this Board, please sign and date the endorsement below. I will give you a copy of this memorandum.

(Board President's signature block)

1st Endorsement

To: (SIB President)

I acknowledge understanding of the contents of this letter and receipt of a copy thereof, and I agree to comply with the duties and responsibilities stated therein.

(Technical expert's signature block)

(Date)

Figure 2.3. Sample Privileged Witness Statement.

1. I, (Name of Witness)_____, (Grade)_____, (Organization)_____ have been advised by (Name of Investigator) of the following:

a. This investigation is being conducted under the provisions of AFI 91-204 solely for the purpose of mishap prevention within the United States Air Force and to determine all factors relating to the mishap in order to prevent recurrence.

b. I understand I am being interviewed as a witness in a safety investigation and I acknowledge that a promise of confidentiality has been extended to me if I choose to have this statement remain confidential.

c. I understand that my confidential statement will not be made public outside Department of Defense safety channels, and it will only be used for safety purposes. Additionally, my confidential statement will not be used as evidence to support any disciplinary action or any adverse administrative action such as Flying Evaluation Board, line-of-duty status determination, pecuniary liability determination, or elimination from the Air Force. I understand, however, that my statement can be released pursuant to a valid court order on behalf of the defense in a criminal trial. I further understand that if my statement contains false information, i.e., I lie, then my statement will no longer be considered confidential and can be used to support disciplinary and/or administrative actions against myself or others.

d. Non-confidential witness statements may be released to the public pursuant to a Freedom of Information Act request. Only statements given under a promise of confidentiality are protected from release outside safety channels.

e. I understand that the chain of command will review the final mishap report, to include my confidential statement, but the chain of command may only use my statement for safety and mishap prevention purposes.

2. I understand the effect of this promise of confidentiality and I (do) (do not) desire my statement to be treated as confidential.

Witness Signature Block

Figure 2.4. Sample Non-Privileged Witness Statement.

(Date)

1. I, (Name of Witness) _____, (Grade) _____, (Organization) _____, have been advised by (Name of Investigator) _____ of the following:

a. This investigation is being conducted under the provisions of AFI 91-204 solely for the purpose of mishap prevention within the United States Air Force and to determine all factors relating to the mishap in order to prevent recurrence. I understand I am being interviewed as a witness in a mishap investigation and I acknowledge that a promise of confidentiality has not been extended to me.

b. This witness statement may be released to the public pursuant to a Freedom of Information Act request.

c. The chain of command will review the final mishap report.

Witness Signature Block

Figure 2.5. Sample Privileged WARNING Statement.

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CHAPTER 3

MISHAP CATEGORY, CLASS, AND COSTS

3.1. Mishap Category.

3.1.1. General Guidelines.

3.1.1.1. The Air Force categorizes mishaps by the systems involved and the environment in which they occur. There are 12 main mishap categories: Aircraft, Unmanned Aerial Vehicle, Explosive and Chemical Agent, Motor Vehicle, Ground and Industrial, Off-Duty Military, Missile, Maritime, Fire, Nuclear, Space and Miscellaneous Air Operations. Some mishaps involve more than one category. In those cases assign the primary category, then add the involved cross category in parentheses.

3.1.2. Multiple event mishaps. In general, damaging events that occur in succession are considered to occur in a single mishap, and will result in a single mishap investigation, unless there is clearly no possible initiating or sustaining relationship between events. For Aircraft mishaps, once aircrew have boarded the aircraft, all damage to that aircraft or damage caused by that aircraft is considered part of a single mishap sequence until the aircraft is shut down, aircrew are physically separated from the aircraft, and any Crash/Fire/Rescue response is complete. Examples of situations which would be considered as a single mishap are an engine failure in flight followed by a runway departure during an emergency landing; or, an aborted takeoff followed by a brake fire and engine ingestion of firefighting foam. Examples of situations which would be considered as separate mishaps are an aircraft crash followed by an injury to EOD personnel while removing ordinance; an aircraft crash followed by a midair collision between two other aircraft participating in SARCAP; or, an aircraft which departs the runway and then has a crane boom fail while lifting it back on the runway. MAJCOM/SE should contact AF/SE for resolution of questions regarding whether events constitute a single mishap or separate mishaps.

3.1.3. Specific Mishap Categories.

3.1.3.1. Aircraft. This mishap category is further divided into three sub-categories. Do not identify the mishap category by "aircraft" alone; use one of the three sub-categories below.

3.1.3.1.1. Aircraft Flight. A mishap in which there is "Intent for Flight" (see paragraph **7.1.1.**) established and damage to a DoD aircraft.

3.1.3.1.2. Aircraft Flight-Related. A mishap in which there is "Intent for Flight" and no reportable damage to the DoD aircraft itself but the mishap involves a fatality, reportable injury, or reportable property damage.

3.1.3.1.3. Aircraft Ground Operations. A mishap involving an aircraft in which there is no "Intent for Flight" and which results in damage to a DoD aircraft, or results in any injury or fatality if an aircrew member(s) on flying orders is on board the aircraft. A similar injury-related mishap without an aircrew member on board and no damage to the aircraft is categorized as Ground and Industrial. Damage that occurs to an aircraft while being handled as a commodity or cargo is a Ground and Industrial Mishap. Aircraft Ground Operations mishaps do not contribute to Flight mishap rates. Refer to paragraph **7.1.4.** for additional guidance and sub-categories. The Chief of Safety will determine which safety discipline conducts the investigation.

3.1.3.2. Unmanned Aerial Vehicle. A mishap resulting in damage to a UAV, but not involving a DoD aircraft. The term UAV includes Tactical UAV, unmanned Full Scale RPV, Sub-scale RPV, and Buoyant UAV.

3.1.3.3. Explosive and Chemical Agent. This mishap category is further divided into two sub-categories. Do not identify the mishap category by "Explosive and Chemical Agent" use one of the two sub-categories below.

3.1.3.3.1. Explosives. Unplanned damage to or functioning of an explosive item; or damage, illness, or injury caused by an explosive item or when precision guided munitions fail to complete their intended mission. See **Chapter 10** for specific guidance.

3.1.3.3.2. Chemical Agent. Any unintentional or uncontrolled release of a chemical agent from a chemical weapon that results in reportable damage to property from contamination, or costs are incurred for decontamination or individuals exhibit physiological symptoms of agent exposure. See **Chapter 10** for specific guidance.

3.1.3.4. Motor Vehicle. This mishap category is further divided into three sub-categories. Do not identify the mishap category by "Motor Vehicle" alone, use one of the three sub-categories below.

3.1.3.4.1. Government Motor Vehicle (GMV). A mishap involving the operation of a motor vehicle that is owned, leased, or rented by a DoD Component (not individuals); rental vehicles authorized by official travel orders; primarily designed for over-the-road operations; and whose general purpose is the transportation of cargo or personnel. Examples of GMVs are passenger cars, station wagons, vans, ambulances, buses, motorcycles, trucks, and tractor-trailers. Vehicles on receipt to, and operated by, non-DoD persons or agencies and activities such as the U.S. Postal Service or the American Red Cross are not GMVs.

3.1.3.4.2. Government Vehicle Other (GVO). A mishap involving the operation of a vehicle designed primarily for off-the-highway operation such as tracked vehicles, forklifts, road graders, agricultural-type wheeled tractors, and aircraft tugs.

3.1.3.4.3. Private Motor Vehicle (PMV). A motor vehicle mishap, regardless of the identity of the operator, that does not involve a GMV, GVO, or commercial vehicle. The mishap results in a fatality or lost time case injury (involving days away from work) to military personnel on or off-duty or to on-duty civilian personnel, or reportable damage to DoD property. Motor vehicle mishaps involving alcohol or drug use are reportable.

3.1.3.5. Ground and Industrial. DoD mishaps that occur on land, involving DoD operations. These mishaps occur in the industrial or work environment of the employer's premises and other locations where employees are engaged in work related activities or are present as a condition of their employment. The work environment includes not only physical locations, but also the equipment or materials used by the employee during the course of his or her work. This category includes all Air Force functions (administrative, supply, custodial, maintenance, etc.) It also includes any injury or fatality involving aircraft without intent for flight, where there is no reportable damage to the aircraft, and there is no rated air crewmember on board. Ground and Industrial mishaps do not include injuries or fatalities aboard DoD aircraft when: intent for flight is established; intent for flight is not established but there is an air crewmember onboard; or there is reportable damage to the aircraft. These and similar mishaps should be categorized as Aircraft Flight, Aircraft Flight-Related, or Aircraft Ground Operations. Note: See paragraph **7.1.** for definitions of aircraft-related mishaps. Also do not categorize mishaps involving Missile, Explosive,

Chemical Agents, Motor Vehicles, Space Systems and Support Equipment, Nuclear Weapons, Reactors, Maritime, Off-Duty Military injuries or Fire damage as Ground and Industrial.

3.1.3.6. Off-Duty Military. A DoD mishap that results in a fatality or lost time case to off-duty DoD military personnel whether or not on a DoD installation, excluding private motor vehicle (PMV) mishaps.

3.1.3.7. Missile. Unplanned damage to or functioning of a missile; or damage, illness, or injury caused by a missile; or when the missile fails to complete its intended mission. See **Chapter 8** for specific guidance.

3.1.3.8. Maritime. Any DoD mishap on board, or as the result of the operation of, a DoD vessel. This also includes DoD diving or swimmer operations. This term includes mishaps occurring while loading and/or off-loading or receiving services at dockside, and mishaps occurring up to the high water mark during amphibious or inshore warfare training operations. It applies also to all injuries to DoD personnel occurring on board, whether or not job-related. This term does not include mishaps that are reportable under other major categories prescribed in this Instruction, such as Aircraft, Missile, Explosive and/or Chemical Agent, nor to injuries to assigned personnel that occur away from the vessel, whether or not job-related. Mishaps occurring on board that result from shipyard repair facility or private contractor operations are not maritime accidents.

3.1.3.9. Fire. A mishap with reportable damage to real property or equipment, or reportable injury to DoD personnel, resulting from fire that does not involve an MDS weapon system or explosives. This mishap category also includes non-DoD personnel when DoD property, operations, or equipment fires result in injury.

3.1.3.10. Nuclear. A generic term used to denote a nuclear reactor system, nuclear weapon system, or radiological mishap. Nuclear mishaps are further categorized as nuclear weapons system mishaps or nuclear reactor system and radiological mishaps. Nuclear mishaps are not classified by dollar figures.

3.1.3.11. Space. A mishap involving space systems and/or unique space support equipment that are limited to components or equipment not commonly used outside the space industry. Space-related mishaps involving space systems or unique space support systems that may be used in other applications can be classified as Ground and Industrial (Space involvement).

3.1.3.12. Miscellaneous Air Operations. These mishaps represent a special category where Air Force personnel are killed or injured and intent for flight exists, but DoD aircraft are not involved.

3.1.3.13. Deleted.

3.2. Defining Mishap and Event Classifications.

3.2.1. Classes.

3.2.1.1. There are four possible classes for mishaps: A, B, C, and D. Classify non-nuclear mishaps by the total direct dollar cost of damage and degree of injury or occupational illness using the following guidance. There are five possible classes for Events: E, L, X, HAP, and HATR. See the following guidance for Event classes.

3.2.2. Mishap Classes.

3.2.2.1. Class A Mishap. A mishap resulting in one or more of the following:

3.2.2.1.1. Total mishap cost of $1,000,000 or more.

3.2.2.1.2. A fatality or permanent total disability.

3.2.2.1.3. Destruction of an Air Force aircraft. See **Chapter 7** for destroyed aircraft criteria.

3.2.2.2. Class B Mishap. A mishap resulting in one or more of the following:

3.2.2.2.1. Total mishap cost of $200,000 or more but less than $1,000,000.

3.2.2.2.2. A permanent partial disability.

3.2.2.2.3. Inpatient hospitalization of three or more personnel.

3.2.2.3. Class C Mishap. A mishap resulting in one or more of the following:

3.2.2.3.1. Reportable damage between $20,000 and $200,000.

3.2.2.3.2. An injury resulting in a lost workday case involving 8 hours or more away from work beyond the day or shift on which it occurred; or occupational illness that causes loss of time from work at any time. For military personnel, do not count the day of injury or the day returned to duty. Do not count days when military personnel were not scheduled to work.

3.2.2.4. Class D Mishap. Class D criteria are used for civilian and military on-duty mishaps as well as air-launched missile, space, and explosive incidents. A mishap resulting in one or more of the following:

3.2.2.4.1. Total cost for property damage of more than $2,000 but less than $20,000. Property damage includes all government equipment, vehicles, or munitions.

3.2.2.4.2. A nonfatal injury that does not meet the definition of a Class C and results in less than eight hours lost time (military lost work hour cases are not included).

3.2.2.5. Deleted.

3.2.3. Event Classes

3.2.3.1. Class E Events. Certain events deemed important enough to trend for mishap prevention despite the fact they do not meet other mishap class reporting criteria. See paragraphs **7.2.3.** and **9.4.1.**.

3.2.3.2. Class L Events. This classification is used to report events, which do not require up-cannel reporting under this Instruction, but which are required to be reported by local safety staffs for trending purposes.

3.2.3.3. Class X Events. This classification is only used for civilian on-duty mishaps to track claims that are not reportable under this instruction, but are recordable events or result from one of the following:

3.2.3.3.1. A claim by an appropriated fund US employee or foreign national employee covered by the Federal Employees Compensation Act (FECA) solely for medical treatment costs associated with visits to a doctor's office for medical treatment.

3.2.3.3.2. An occupational injury or illness not reportable, but recordable according to this instruction. Report civilian injury and illness cases on AF Form 739.

3.2.3.4. HAP Events. Significant aircraft, missile, space, explosives, miscellaneous air operations, or ground occurrences with a high potential for causing injury, occupational illness, or damage if they recur. These events do not have reportable mishap costs. If the event meets reportable mishap criteria, do not designate it as a HAP. Do not use the HAP designation with any class of mishap.

3.2.3.5. HATR Events. Any hazardous incident that endangers the safety of an aircraft that includes the following incidents: (1) Near Midair Collisions (NMAC), (2) Hazardous Air Traffic Control conditions, (3) communications/navigation (NAVAID) anomalies, (4) hazardous procedures, (5) hazardous ground incidents, and (6) other hazardous incidents. The HATR program is defined in AFI 91-202, Attachment 3.

3.3. Mishap Class or Category Changes.

3.3.1. Additional Reporting Required.

3.3.1.1. When a mishap class or category changes, e.g., due to updated damage cost figures, a subsequent death from mishap injuries, or erroneous initial categorization. Initial notification of a mishap class or category change will be completed using a non-privileged message to the appropriate agencies identified in the addressee tables contained in **Chapter 7** through **Chapter 13**. As a minimum, the message will include the mishap control number, explanation/reason(s) for the class or category change, current status of the investigation, and the grade, age, Air Force Specialty Code (AFSC), and status of personnel seriously or fatally injured. Ensure proper reporting procedures are followed for the new class or category of mishap. The convening authority will closely follow mishaps that have damage estimates close to the threshold limits or injuries/illness that have the potential for improving or worsening. If the mishap classification changes after the final report is submitted, the convening authority will ensure a status report message is sent to change the mishap class. The convening authority will continue to track these mishaps until the MOFE is issued.

3.4. Mishap Costs.

3.4.1. General Guidelines. It is DoD policy to determine accurate mishap costs in order to "provide a factual basis for the allocation of resources in support of DoD accident prevention programs." The use of "standard repair costs" not based upon actual mishap damage or use of artificial labor rates for repair can cause erroneous funding decisions, and must be avoided.

3.4.1.1. Using Costs To Classify a Mishap. Estimate the mishap dollar cost and classify the mishap using the best information available. Calculate the direct cost (per paragraph **3.4.3.1.**) of a mishap by adding all costs of damaged or destroyed assets. Do not classify mishaps based on injury and/or occupational illness costs. (Severity of resulting injury and/or occupational illness, not cost, is used to classify mishaps). If the initial mishap cost estimate is within 10 percent of the next classification threshold cost, the Convening Authority should consider using the higher mishap class until estimates are firm.

3.4.1.2. Updating cost estimates. When improved cost estimates result in an increased mishap classification, issue a status message within one day. When improved cost estimates result in a decreased mishap classification, validate the estimates and issue a status message within ten days. Use the best available estimate for the final report. Investigators must notify the Convening

Authority if estimates may be subject to significant change after the final report. If costs are not firm, the Convening Authority must continue to track costs and update the estimate by message to the final message address list if costs change significantly. A significant change is any change that results in a different mishap classification or if final costs differ by more than 25 percent from the cost estimate in the final report. When items sent for depot repair are later determined to be non-repairable, revise costs to use acquisition cost or replacement cost methods.

3.4.1.3. Joint Service Accidents. For Joint Service Accidents, classify the mishap according to severity of all injuries or all combined damage costs (excluding injury costs). Determine costs, losses and injuries for each involved service according to asset ownership and personnel assignment, and provide a breakout report showing the losses attributable to each service, as well as non-service losses and total losses.

3.4.2. Determining Costs. Identify all reportable damage, injury, and illness resulting from a mishap. Determine whether damage is reportable per paragraph **3.4.3.** and verify that all Direct Costs per paragraph **3.4.3.1.** are included. Calculate damage costs for DoD property per paragraph **3.5.** and for non-DoD property per paragraph **3.6.** Calculate Standard Injury, Illness and Fatality Costs for DoD personnel per paragraph **3.7.**, but do not add these to damage costs. Multiple resources in different locations may be damaged or destroyed in a single mishap.

3.4.2.1. (Deleted)

3.4.2.2. (Deleted)

3.4.3. Reportable mishap damage costs.

3.4.3.1. Direct costs. Only direct damage costs are used to determine mishap classification levels. Direct costs include any reportable damage as a direct result of the mishap, to include actual costs of all destroyed or damaged property. Injury costs are not direct costs and are reported separately from damage costs. The direct cost of damage to property shall be computed using the actual costs of repair or replacement, including work hours to repair, or the best official estimates. Report costs even though the US Government is wholly or partially reimbursed or repairs are accomplished under warranty. The following are included as direct costs:

3.4.3.1.1. Any damage resulting from the mishap event prior to completion of fire fighting and rescue operations, to include additional damage caused by fire fighting and rescue operations.

3.4.3.1.2. Costs for environmental decontamination, property clean up and restoration. This applies to private property and government property.

3.4.3.1.3. Cost for transportation of damaged property to a repair facility (other than the home station for the mishap property). For aircraft ferry flights, use the flying hour costs in AFI 65-503, Table A2-1.

3.4.3.1.4. The cost of damage caused by jettisoned items (such as fuel or stores), but not the value of any intentionally jettisoned items listed in paragraph **3.4.3.2.**

3.4.3.1.5. For mishaps involving ground launched missiles, direct costs include the total man-hours missile maintenance personnel spend repairing the damage.

3.4.3.2. Non-reportable damage costs. Certain damage costs are excluded from DoD reporting requirements.

3.4.3.2.1. The cost of intentionally jettisoned items in the following list shall not be included in the cost of the mishap per DoD rules. If costs for these items can be determined, list the cost in the report for information, but do not include it in the total damage cost. The cost of any consequential damage to any property (including damage to aircraft or environmental cleanup costs) is included as a reportable direct cost, however. The list of non-reportable intentionally jettisoned items is limited to canopies, cargo, doors, drag chutes, hatches, life rafts, auxiliary fuel tanks, missiles, drones, rockets, non-nuclear munitions, and externally carried equipment not essential to flight. This exclusion does not apply to missiles, drones, rockets, or non-nuclear munitions when their malfunction was the reason for jettison.

3.4.3.2.2. When damage occurs to Air Force property as a result of non-government activities, such as a civilian operated private motor vehicle (PMV) crashing into Air Force property, report only Air Force property damage. Do not report any damage to the civilian PMV or injury to the occupants unless otherwise reportable according to this instruction.

3.4.3.2.3. Do not include additional damage occurring during recovery operations; such damage is a separate mishap. For example, if a crane drops a mishap aircraft while moving it onto a trailer, it is a ground mishap in addition to the initial flight mishap.

3.4.3.3. Indirect costs. Indirect costs include those costs resulting after a mishap, but which are not required to correct damage incurred during the mishap event. Indirect costs are not damage costs and are not used in determining mishap classification levels. If indirect costs are significant and known they should be reported in the damage costs section of the mishap report. Examples of indirect costs include:

3.4.3.3.1. Investigation costs such as TDY funding, per diem, and transportation costs for SIB members, investigators and related support personnel.

3.4.3.3.2. Costs for recovery of mishap aircraft, vehicles or components and transportation to a site where the mishap investigation is conducted.

3.4.3.3.3. Costs for ISB members and mishap site support personnel, such as those needed to secure the site and render it safe.

3.4.3.3.4. Costs for time spent inspecting, troubleshooting and setting up maintenance stands or equipment for the purpose of damage assessment. (When such costs are incurred for the purpose of planning or performing repairs, they are direct costs.)

3.4.3.3.5. Costs associated with preparing a damage cost estimate.

3.4.3.3.6. Costs for loss of use of equipment, or for substitute equipment when equipment related to the mishap is impounded or otherwise unavailable.

3.5. Damage To DoD Property.

3.5.1. General Guidelines. Damage cost estimates are intended to quantify the loss of taxpayer assets in a mishap. Determine the costs of reportable damage to all property, including equipment, facilities, and materiel resulting from Air Force mishaps. Each damaged item must be evaluated separately using the proper cost method, and the total damage costs are then added for all items to determine mishap cost. The flowchart at **Figure 3.1.** may be used to determine the appropriate cost method for damaged items.

3.5.1.1. Repairs not accomplished. Costs must be developed to remedy all mishap damage regardless of whether repairs are actually accomplished. An exception is purely cosmetic damage that will not be repaired. Mishap costs are prepared without regard to disposition of the damaged property. For example, if it would cost $20,000 to repair damage to a $2 million aircraft, but a decision is made to retire the aircraft, mishap cost is the cost to repair the mishap damage, not the cost of the aircraft.

3.5.1.2. Repairs or replacement reimbursed or under warranty. Costs to repair damage must normally be reported even if the Air Force is reimbursed or if the repair is accomplished under warranty. In such cases, determine the damage costs as if no warranty or reimbursement existed. These costs are needed to determine appropriate investment in mishap avoidance programs, and to determine whether future warranties should be purchased, etc. An exception is for warranty work performed on Commercial Off-the-Shelf components when an identical warranty for repairs is integral to the purchase price and provided to all customers for those components.

3.5.1.3. (Deleted)

3.5.1.4. (Added-DOVER) 436th Civil Engineering Squadron will notify 436th Ground Safety of the estimate of damages to government real property resulting from a mishap or natural phenomena immediately after determining the estimate. Unit safety personnel reporting government motor vehicle mishaps will make sure the vehicles are turned over to 436th Logistics Readiness Squadron, Vehicle Maintenance for an estimate of damage. 436th Logistics Readiness Squadron, Vehicle Maintenance will immediately notify 436th Wing Safety of the cost estimate of damage.

3.5.2. Cost Methods.

There are three methods to determine the mishap cost: Use Acquisition Costs when property is damaged and will not be repaired or replaced. Use Replacement Costs when property is damaged and will be replaced with similar property. Use Repair Costs when property will be repaired by applying labor to correct the damage or to remove and replace damaged components. If an item is sent for repair and determined to be not repairable or beyond economical repair, use acquisition or replacement cost.

3.5.2.1. Acquisition Costs. When property is damaged and will not be replaced or repaired, calculate damage as the acquisition cost plus the cost of all modifications in then-year dollars.

3.5.2.1.1. For stock-listed equipment, use the Unit Price for the damaged item in the Air Force Master Item Identification Database (D043A) unless actual acquisition cost can be documented. Obtain the National Stock Number(s) of the specific items through the unit maintenance or job control office. For Contractor Logistic Support (CLS) maintained items, use the contractor stock number instead of a NSN. Provide the contractor stock number or NSN to the Base Supply Representative for retrieval of the unit price from D043A. If D043A does not contain unit pricing data on the item, contact the Single Manager for the system.

3.5.2.1.2. For destroyed aircraft, see AFI 65-503, *US Air Force Cost and Planning Factors,* Table A10-1 for acquisition (fly-a-way) costs for entire aircraft. This information can be retrieved from the SAF/FMC web site (.saffm.hq.af.mil FMC Tab, Cost Factors button) or can be obtained from the Air Force Cost Analysis Agency, DSN 664-0453 or commercial (703) 604-0453. Contact the AFMC Single Manager for the damaged system for modification costs.

3.5.2.2. Replacement Costs. When property is damaged and will be replaced, figure damage as the Unit Price of the replacement property as listed in the Air Force Master Item Identification

Database (D043A). Obtain the National Stock Number(s) of the specific items through the unit maintenance or job control office. For Contractor Logistic Support (CLS) maintained items, use the contractor stock number instead of a NSN. Provide the contractor stock number or NSN to the Base Supply Representative for retrieval of the unit price from D043A. If D043A does not contain unit pricing data on the item, contact the Single Manager for the system. Do not include the surcharge as supplied from supply channels in figuring mishap costs.

3.5.2.3. Repair Costs. When property is damaged and will be repaired, include the cost of materials and replacement parts plus the actual cost of the direct shop-hours spent by all individuals removing, repairing and installing equipment, components and parts, as required to complete repairs. Also include time spent removing and replacing undamaged panels, components, or units to gain access to damaged items, and the cost for testing or evaluation to determine serviceability of involved components. Do not include the cost of "on opportunity" upgrades or outstanding tech order compliance items performed in conjunction with the repairs. The operational commander will decide how or where to repair hardware. If an item is sent for repair and determined to be not repairable or beyond economical repair, use acquisition or replacement cost. Calculate repair costs as follows:

3.5.2.3.1. Labor costs. To determine labor costs, multiply direct shop-hours by the actual "shop rate" (also called Source of Repair Sales Rate or Induction Rate per Standard Hour) for the facility where the hours are expended. If work is performed at multiple facilities, use the direct shop-hours and shop rate for each facility. "Shop rates" typically include net labor rates plus facility overhead. Net labor rates include direct labor (mechanics performing work), production overhead (planners, schedulers, parts handlers), general & administrative labor (budget analysts, data systems, facility management), and indirect labor (vacation, sick leave, training, clean-up). Facility overhead includes indirect (consumable) materials, utilities, depreciation and other miscellaneous expenses. (Note: For mishaps occurring prior to 01 October 2001, an artificial figure of $16 per hour was used for all labor rates. After that date, DoD requires the use of actual labor costs.)

3.5.2.3.2. DoD Depot-Level Repairs. For depot repair work, if all work is accomplished in a single Resource Cost Center (RCC), use that RCC shop rate for the direct shop-hours of labor. If work is performed in more than one RCC, either calculate using appropriate hours and rates for each RCC; or add all hours together and use the shop rate for an organizational level encompassing all involved RCC or for the entire depot. Contact the Single Manager for the damaged system or the Financial Management office for the depot to obtain rates.

3.5.2.3.3. Base-Level Repairs. For mishap damage repair accomplished at base level, use the shop rate for the Resource Cost Center (RCC) accomplishing the repair work. Rate Tables are maintained by the Financial management office for the base. Include materials and replacement parts costs.

3.5.2.3.4. Contractor Repairs. Use the actual cost charged to the government for repairs performed by contractors. Contractor repair estimates must include costs to repair the specific mishap damage, but are not required to disclose labor hours or shop rates if such information is competition sensitive. For items repaired by a contractor under warranty, obtain and use the cost of repair as if the item was not under warranty. (See paragraph **3.5.1.2.**) When a contractor repair facility uses established standard repair costs for repairing items and the facility does not have the capability to determine actual repair costs, use the established figures. For exam-

ple, if a facility charges a set fee to repair an actuator regardless of the extent of damage, and cannot determine an actual repair cost for a mishap actuator, use that set fee. Include a detailed explanation from the repair facility for how the established figures are derived and why it is not possible to estimate actual costs.

3.5.2.4. (Deleted)

3.5.2.4.1. (Deleted)

3.5.2.4.2. (Deleted)

3.5.2.4.3. (Deleted)

3.5.2.4.4. (Deleted)

3.5.2.4.5. (Deleted)

3.5.3. Munitions Drop Criteria.

When munitions or all-up-round components are dropped a distance greater than the technical order limit, the depot may have to do serviceability tests. Estimate the cost at 15 percent of the replacement cost in the current stock catalog. If the item fails the serviceability test, correct the dollar cost to full value in a subsequent status report. If the item passes the serviceability test, do not change the report.

3.5.3.1. When munitions or all-up-round components are dropped a distance greater than the technical order limit, the depot may have to do serviceability tests. Estimate the cost at 15 percent of the replacement cost in the current stock catalog. If the item fails the serviceability test, correct the dollar cost to full value in a subsequent status report. If the item passes the serviceability test, do not change the report.

3.6. Non-DoD Property Damage or Injury.

3.6.1. When Air Force operations result in damage to non-DoD property, include those damage costs with DoD property damage costs to determine mishap classification.

3.6.1.1. (Deleted)

3.6.2. When Air Force operations result in injury to non-DoD personnel; use severity of injury to determine the mishap classification and reportability (fatal, permanent partial, etc.). **Note:** Do not include injury costs for non-DoD personnel in the mishap report.

3.6.2.1. (Deleted)

3.6.2.2. (Deleted)

3.6.2.3. (Deleted)

3.6.2.4. (Deleted)

3.6.3. Determine these costs using the following priority:

3.6.3.1. Claims officer's damage statement.

3.6.3.2. Official estimates, such as security police reports, civil police reports, and transportation estimates.

3.6.3.3. Safety investigator's estimate.

3.7. Standard Injury, Illness, and Fatality Costs.

The DoD standardized cost data in **Table 3.1.** will be used to compute the cost of injuries and occupational illness of DoD personnel (civilian and military) involved in a mishap. Do not use this Table for non-DoD personnel. Amounts depicted are required for DoD reporting purposes and seldom have any relationship to actual costs in a specific case. In those cases when the actual lost time is not known at the time a report is submitted, the best official estimate of lost time made by a competent medical authority will be used. Report the extent of injuries, amount of lost time or days hospitalized, and/or fatality or degree of disability for each individual involved in the mishap, and calculate the Standard Injury Costs for the mishap. Report Standard Injury Cost separately from damage costs.

3.7.1. (Deleted)

3.7.1.1. (Deleted)

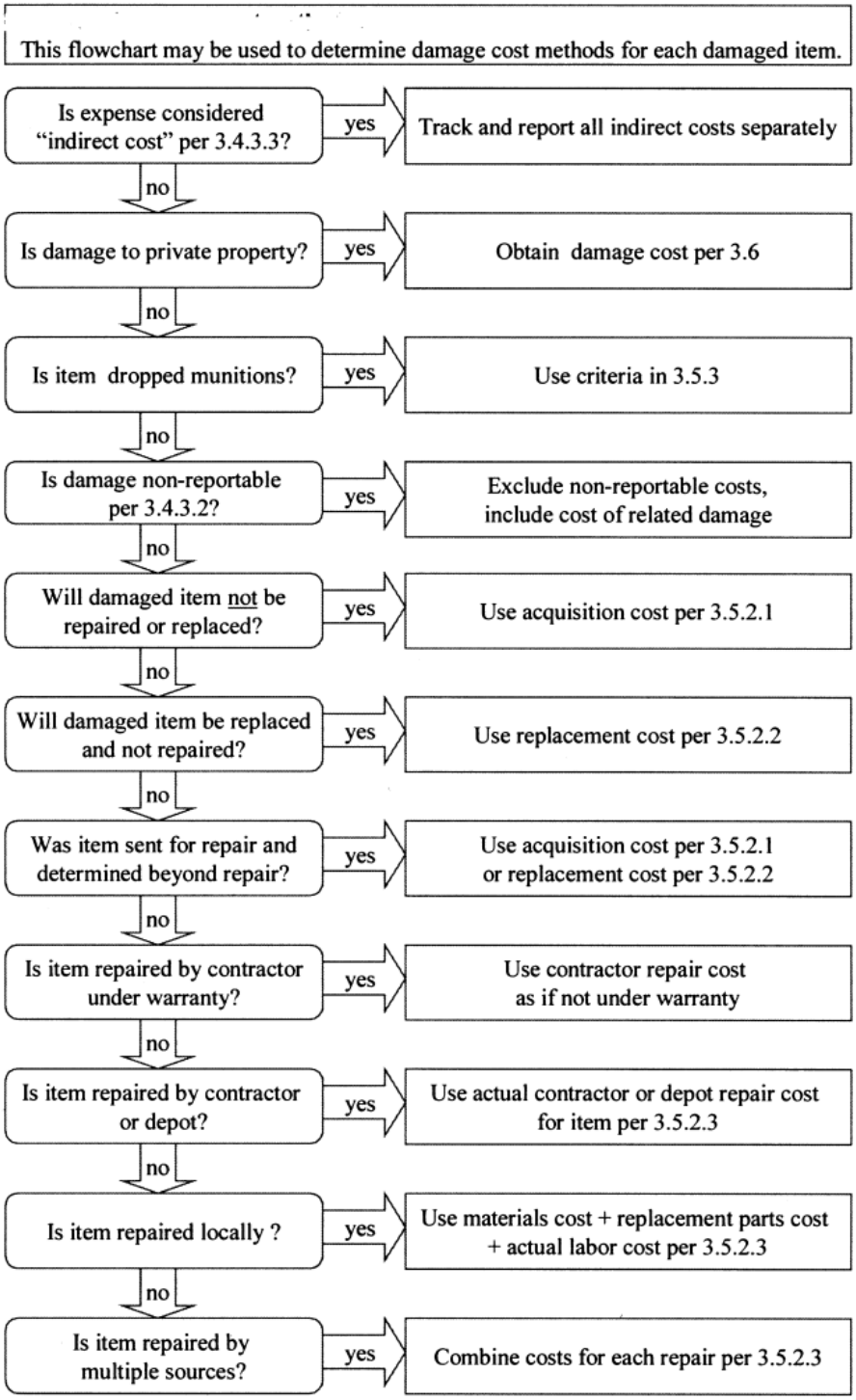
Table 3.1. Standard Injury, Illness, and Fatality Costs.

	A	**B**	**C**	**D**	**E**	**F**
1	Injury or Illness	Rated Officer	Nonrated Officer	Cadet or Enlisted	Civilian Employee	Youth Opportunity Program and Foreign Civilian Employee
2	Fatality	$1,100,000	$395,000	$125,000 (note 1) $270,000 (note 2)	$460,000	$270,000
3	Permanent Total Disability (Note 3)	$1,300,000	$845,000	$500,000	$385,000	$390,000
4	Permanent Partial Disability (Note 3)	$210,000	$145,000	$115,000	$250,000	$180,000
5	Lost Workday	$425/day	$425/day	$375/day	$350/day	$300/day
6	Hospital per Day	$466/day	$466/day	$466/day	$466/day	$466/day
7	No Lost Time	$120/day	$120/day	$120/day	$120/day	$120/day

NOTES:

1. Not on flying status.
2. On flying status.
3. Disability costs include lost workday and hospitalized day costs.

Figure 3.1. Damage Cost Methods.



CHAPTER 4

SAFETY INVESTIGATIONS

4.1. General Guidelines.

4.1.1. Why Conduct Investigations?

4.1.1.1. Conduct safety investigations primarily to find causes of mishaps in order to take preventive actions. During the investigation, other findings and recommendations of significance may also be identified, benefiting risk management actions. This ensures commanders quickly obtain accurate mishap information to enable them to make decisions regarding their organization's safety, combat readiness, and mission accomplishment.

4.1.2. Investigation Scope.

4.1.2.1. Several factors influence the scope of investigations: severity of injury or occupational illness, future mishap potential, and whether another agency's investigation will produce a report the Air Force can use for mishap prevention. The convening authority determines the depth of investigative effort required for each mishap, subject to any restrictions in this Instruction. The convening authority may appoint a SIB, a tailored SIB or a single investigator. For complex investigations, including most Class A mishaps, commanders normally convene a full SIB. Unless restricted by the CSAF directives, commanders may convene a tailored SIB by designating a specific SIB composition. When the causes and preventive actions are evident at the outset of the investigation, the convening authority may decide to appoint individual investigators, rather than convening a SIB. SIB membership and qualification requirements differ for various categories of mishaps. See individual system chapters for further information.

4.1.2.2. Other Agency Involvement. Other agencies, such as the local police or NTSB, may investigate mishaps occurring outside the direct sphere of Air Force influence. A separate Air Force investigation may not be needed if the necessary information for Air Force safety reporting can be taken directly from these other reports.

4.1.2.3. OSHA Investigation of US Air Force Occupational Mishaps. OSHA officials may accompany Air Force safety investigators in an observer status, or they may conduct a separate investigation of occupational mishaps involving either a DoD civilian fatality or a catastrophe in a non-military unique environment resulting in the in-patient hospitalization of three or more civilian personnel.

4.1.2.4. AIB investigators will not attend SIB proceedings, or meetings, or have access to or discuss any Part II privileged information with SIB investigators. This prohibition also applies to the MAJCOM out-brief. AIB investigators, with a safety need to know, e.g., pilots, commanders, operations personnel, may have access to privileged safety information from the corresponding Safety Investigation, upon final completion and approval of their AIB report.

4.2. Investigation Funding.

4.2.1. Local Support.

4.2.1.1. The host installation funds all in-house support even if the host installation is not assigned to the investigating MAJCOM/DRU/FOA. See paragraph **4.2.4.**for expenses that exceed the resources of the host installation. See **Attachment 2** for desired SIB support..

4.2.2. TDY Travel.

4.2.2.1. Each command funds TDY travel of its assigned personnel who are Air Force SIB members or technical experts, according to AFI 65-601, Volume 1 *Budget Guidance and Procedures*. For joint service boards (paragraph **1.6.**), each service funds its own members' TDY. The investigating MAJCOM funds travel costs of members from another service appointed to an Air Force board. Observers to an Air Force board fund their TDY.

4.2.3. Other Support.

4.2.3.1. The investigating MAJCOM funds leasing of vehicles or special equipment, leased communications, and other contractual services.

4.2.4. Cost Overruns.

4.2.4.1. Request an operating budget authority (OBA) adjustment per AFI 65-601, Volume 2, if investigation costs cannot be financed through reprogramming within the OBA. Send requests for OBA adjustments to the Director of the Budget, HQ USAF.

4.3. Mishap Investigation Timeline.

4.3.1. Guidelines.

4.3.1.1. In order for mishap investigations to provide effective and timely dissemination of information for mishap prevention, they must be accomplished in a timely manner. All time-line milestones start from the day of the mishap. The following is a notional timeline for completing all SIB requirements. SIB work completed 30 days from the mishap date. MAJCOM briefing ASAP after completion of the SIB investigation, usually two weeks maximum to get on the convening authority's calendar. The convening authority releases the Final Message within ten working days of the convening authority briefing. The convening authority may send out any kind of immediate need messages such as one-time inspections, groundings, flight crew information file (FCIF) restrictions, etc., if these are needed before the SIB briefs. The SIB should place a greater priority on a complete and accurate final report than on trying to finish in the 30 day timeline. If unique circumstances prevent the SIB from meeting the above recommended timeline requirements, the convening authority must request a waiver from HQ USAF/SE.

4.4. Safety Investigation Boards.

4.4.1. General Guidance.

4.4.1.1. The SIB member or single investigator activities prescribed by this instruction take precedence over all other duties. Each Air Force base, wing, and higher level commander will keep a current list of personal qualified for a SIB. List only required basic members. ARC units are not required to maintain lists of potential board members for aircraft mishaps. For Class A Aircraft Mishaps, the convening MAJCOM/DRU/FOA will coordinate with HQ AFRC and ANG safety staffs to request qualified individuals to serve on a SIB. Do not establish flight, missile, space, or nuclear SIBs below wing or equivalent level.

4.4.2. SIB President Qualifications.

4.4.2.1. By CSAF direction, for Class A Aircraft Flight, Aircraft Flight-related, Unmanned Aerial Vehicle, Missile, and Space mishaps, and nuclear accidents:

4.4.2.2. The SIB President will be appointed from outside the wing or equivalent organization having the mishap. The SIB President will not be attached to the mishap wing for flying purposes. Also, do not assign a SIB president to a mishap if he/she has or anticipates an assignment to the mishap wing in the next 6 months.

4.4.2.3. The SIB President will be a graduate of the HQ AFSC Board President Course prior to his or her appointment.

4.4.3. SIB Operation and Composition (General).

4.4.3.1. The size and membership of the SIB depend on the category of mishap being investigated and its complexity. See the safety discipline chapters in this Instruction for additional guidance.

4.4.3.2. Select one or more SIB members equal to or senior in rank to the senior person directly involved in the mishap. Normally, the SIB president is the senior SIB member.

4.4.3.3. Select SIB members who do not have a personal interest in the investigation and who are able to act impartially.

4.4.3.4. Select a SIB member qualified in safety investigation for each safety discipline involved in the mishap.

4.4.3.5. The SPD or IM and any involved test organization may decide to take part in the investigation. Inform the investigating MAJCOM commander, preferably within 24 hours after the mishap, if participating in the investigation.

4.4.3.6. The SIB president is the final point of release for all information from the board and as such the SIB president is the final decision point for all finding, causes, and recommendations.

4.4.3.7. A “primary member” is a person authorized to have an equal voice with all other primary members (except the board president) to determine findings, causes, recommendations, and is authorized to submit a minority report.

4.4.3.8. Sometimes a mishap involves weapon systems or equipment common to another US military service. In these cases personnel from the other service may request to observe the Air Force investigation as non-primary members. HQ AFSC forwards these requests to the convening authority. An observer is not a member of the Air Force SIB.

4.4.3.9. Do not assign foreign exchange officers or other officers serving with Air Force forces as formal SIB members. This exclusion does not apply to HQ AFSC SIB representatives discussed in paragraph **1.1.4.4.** Comply with provisions in standing international agreements.

4.4.3.10. SIB members will not act as accident investigators, technical advisors, or witnesses in an AIB investigation of the same mishap.

4.4.3.11. Officers currently performing safety duties cannot participate in AIB investigations.

4.5. Investigative Evidence:

4.5.1. Impounding Air Force Materiel.

4.5.1.1. SIBs and single investigators have inherent priorities over other activities and investigations connected to the mishap, including the right to impound Air Force property involved in the mishap. Group commanders or higher will need to act on their impoundment requests. However, rescue of personnel and control of hazardous materials always take precedence over safety investigations, even at the risk of losing evidence. An installation commander may also choose to remove wreckage interfering with important mission activities or causing a hazard at the mishap scene.

4.5.2. Human Factors Evidence.

4.5.2.1. This includes evidence of mental and physical capability and medical opinion about the capability of individuals to return to their duties. Consult the mortuary officer of the supporting base to determine if civil authorities have jurisdiction over human remains. The mortuary officer should have an MOU with civil authorities according to AFI 34-501, *Mortuary Affairs Program*.

4.5.3. Photographs.

4.5.3.1. Still photography, film, and videotape can preserve otherwise perishable evidence and aid the investigation. Photograph liberally, but be selective when including photographs in the report.

4.5.4. Electronically Stored Data.

4.5.4.1. This includes crash survivable memory units in flight data recorders (FDR), CVRs, and nonvolatile memory chips on circuit cards from electronic engine controls, programmable navigation equipment, and other avionics. Take great care in handling and analyzing these components. The Mishap Analysis and Animation Facility (MAAF) at AFSC is the central Air Force activity for recovery, transcription, and analysis of FDR data in support of Air Force safety investigations. Contractor assistance will be arranged by AFSC if investigation requirements exceed MAAF capabilities. HQ AFSC/SEFE will provide guidance on the correct routing, handling, downloading, and analysis of recorded flight data. Any data processed based upon privileged safety information or involving board deliberation renders the processed data non-releasable.

4.5.5. Witnesses**.**

4.5.5.1. Physical and documentary evidence is usually the most credible form of evidence, but witness accounts often provide important leads. Witnesses include those involved in the mishap, those who saw it, and those whose training and experience qualify them as experts.

4.5.5.2. Witnesses can make privileged or non-privileged statements. The investigator or SIB president will determine when to extend a promise of confidentiality based on the category of the mishap and the need for protection of the witness' statement. Non-privileged statements are always preferred if the witness is willing to provide one and the investigator believes the witness will not withhold information.

4.5.5.2.1. Privilege. For privileged safety investigations, advise witnesses of the purpose and privileged nature of the investigation before they testify. Military members and DoD civilian employees are required to testify in SIB proceedings. Military members may be compelled to testify pursuant to command orders. The failure of military members and DoD civilians to testify before the SIB may be punishable under Article 92, UCMJ, and applicable civilian directives. Do not advise witnesses of their Article 31, UCMJ, or 5th Amendment Rights. **Figure 2.3.** is a sample statement for a witness making a privileged statement.

4.5.5.2.2. Non-Privilege. Advise witnesses providing non-privileged statements (ground and industrial, explosive, motor vehicle, off-duty military, maritime, fire, FOD, etc.) that the main purpose of the investigation is mishap prevention. Investigators taking non-privileged witness statements from Air Force personnel involved in safety investigations should not offer protection beyond this assertion. Promises of confidentiality are not normally given to witnesses in these categories of mishap investigations. See **Figure 2.4.**

4.5.5.3. Use the following guidelines for witnesses appearing before an SIB investigator:

4.5.5.3.1. Do not administer truth serums, hypnotic techniques, drugs, or polygraph tests. If a witness provides a statement while under medication, add a notation to their statement.

4.5.5.3.2. Do not have witnesses testify under oath. Ensure witnesses understand that they are obliged to give honest, good faith testimony.

4.5.5.3.3. The sole purpose of SIB investigations is mishap prevention. If an SIB investigator believes Air Force personnel questioned in the investigation may be guilty of criminal misconduct, refer to paragraph **1.11.**

4.5.5.3.4. If safety investigators will interview a witness suspected of criminal misconduct without offering that witness confidentiality (for example as in a ground mishap investigation), the interviewer should first consult with the base SJA.. Criminal investigators must know if the safety investigators conduct an interview without rights advisement. Sometimes a safety interview should be delayed pending criminal investigation.

4.5.5.4. Retaining Access to Participants. Safety investigators may need frequent access to or multiple interviews with participants in a mishap. Commanders will make all participants available to investigators upon request of the board president/single investigating officer (IO). The Board president/single IO will advise the commander when participants are no longer needed.

4.5.5.5. Returning Participants to Duty. Safety investigators make no determinations regarding the fitness of participants to be returned to normal duties. Commanders decide if and when participants are to be returned to duty.

4.5.6. Disposing of Physical Evidence (Other Than Wreckage).

4.5.6.1. Keep all evidence that is not turned over to the AIB for storage until after the final message has been completed and released. Do not destroy documentation until the final message is released. Destroy SIB internal working papers after final message release. If there is a need to retain any documents longer, place all such documents in a folder marked as SIB privileged investigation material maintain it under seal until no longer needed, and then destroy it. Delete all information stored electronically in a computer or on storage media.

4.5.6.2. Provide all non-privileged evidence to the AFI 51-503 Accident Investigation Board. If there is no follow-on AIB investigation coordinate with AFLSA/JACT, through the convening authority's SJA, to determine whether the evidence in the hands of the SIB should be retained for use in potential claims or litigation. If there are no such requirements, reproduce enough copies for the safety report and then return the original documents and records used by the SIB to their proper custodian.

4.5.6.3. If any physical evidence has been sent for analysis and not returned to the SIB, advise the AIB of that information and notify the possessor to return the evidence to the AIB. If there is no

AIB, advise the possessor to return the evidence to the unit accountable for the mishap asset, or obtain authorization for other disposition.

4.5.6.4. Return usable personal equipment or protective gear to surviving possessors of record or to the issuing authority, subject to the prior needs of the SIB and AIB. Clearly mark the item to indicate its involvement in a mishap to ensure the necessary inspections are accomplished prior to reissue.

4.5.6.5. Quickly analyze personal items impounded as investigative evidence, and return them to the owner, summary court officer, or next of kin, through the AIB. Contact HQ AFSC/JA for assistance if necessary.

4.5.6.6. Deleted.

4.6. Recovering and Disposing of Wreckage.

4.6.1. Removing Wreckage from the Mishap Scene.

4.6.1.1. SIB investigators may request wreckage recovery assistance from the nearest military base through the On Scene Commander.

4.6.1.2. Do not destroy or remove wreckage without the agreement of the SIB and AIB, except for essential rescue or to prevent interference with air operations or vital civil functions. Police the mishap scene for human remains and parts of aircraft, explosives, missiles, vehicles, weapons, and environmental contaminants. The convening authority retains the wreckage if additional investigation, testing, or study of the wreckage is needed.

4.6.1.3. When the wreckage is no longer needed for safety investigation requirements, transfer custody to the AIB President.

4.6.1.4. If wreckage falls into populated areas, the convening authority or the nearest Air Force installation commander determines whether prompt removal is the best course of action. In questionable cases, consult with HQ AFSC.

4.6.1.5. If recovery or salvage of submerged wreckage is required but is beyond the capabilities of the base concerned, the convening authority may request help from the US Navy, as follows:

4.6.1.5.1. Contact Commander, Naval Sea Systems Command, Attn.: Supervisor of Salvage (CODE OOC), DSN 327-2758, or commercial (703) 607-2758. For an after-hours duty officer, call (703) 602-7527 and include the following information:

4.6.1.5.1.1. Exact location of wreckage if known.

4.6.1.5.1.2. Whether wreckage is marked by buoy or “pinger,” and expected life of pinger.

4.6.1.5.1.3. Type of ordnance on board aircraft or space vehicle, if any.

4.6.1.5.1.4. Whether classified material is on board aircraft or space vehicle.

4.6.1.5.1.5. A statement that funding for travel, per diem, salaries and contractual support will be provided by separate correspondence. Funding must be identified for the Supervisor of Salvage to mobilize resources.

4.6.1.5.2. Follow up telephone requests with a message to: CNO WASHINGTON DC//N31/N889// with an information copy to: COMNAVSEASYSCOM WASHINGTON DC//OOC// per instructions given by the Supervisor of Salvage. In addition send an information copy to:

4.6.1.5.2.1. The commandant of applicable naval district.

4.6.1.5.2.2. The cognizant fleet commander if outside the CONUS. For Pacific areas, use CINCPACFLT, Far East, Commander, Seventh Fleet. For Atlantic areas, use CINCLANT-FLT, Norfolk, VA. For European and Middle East areas, use CINCUSNAVEUR.

4.6.1.6. Explosives. The On Scene Commander is responsible for cleanup, rehabilitation, and security of the area until relieved by higher authority or the organization having physical possession of the component at the time of the mishap (see AFI 32-4001, *Disaster Preparedness Planning and Operations*). Request additional assistance from:

4.6.1.6.1. The 75 CEG/CED, Hill AFB UT 84056-5912, DSN 777-5501, commercial number (801) 777-5501, if explosive ordnance disposal (EOD) is required.

4.6.1.6.2. The Air Force Operations Center, Washington DC 20330-1480, DSN 227- 6103, commercial (202) 697-6103, if additional technical advice or medical assistance is required.

4.6.1.6.3. The Munitions Rapid Response Team has personnel knowledgeable in munitions available to support MAJCOMs whenever there is a problem. This team can be activated to respond within 24 to 48 hours. Contact OO-ALC/WMCS for this support. During duty hours call DSN 777-5156, 5053, 5055, or 4865. Off duty hours contact Hill AFB command post at DSN 777-3007 or commercial (801) 777-3007.

4.6.2. Disposing of Physical Evidence (Wreckage).

4.6.2.1. All wreckage from Class A mishaps must be retained and stored at the host installation or other appropriate storage area until a formal release from AFLSA/JACT is obtained for appropriate disposal or repair. Contact the installation Staff Judge Advocate to obtain release fromo AFSLA/JACT. After release is obtained return Air Force equipment not damaged beyond repair to the possessing organization. Components subjected to a crash or fire environment must be carefully evaluated by responsible systems engineering personnel who are cognizant of the crash environment before permitting any further use. The possessing agency must contact the System Program Office for inspection, disposition or shipping instructions. Items returned to the source of repair through the supply system must be tagged with a DD Form 1575 and AFTO Form 350, which must be annotated with: "Removed from Class A mishap number (include the assigned mishap number). Engineering evaluation required." DO NOT place components from crash damaged aircraft into the supply system without these safeguards.

4.6.2.2. Keep Air Force wreckage that is damaged beyond repair until all investigators indicate it is no longer needed and release is obtained from AFSLA/JACT.. Dispose of it in one of the following ways:

4.6.2.2.1. Forward exhibits supporting tear down report (TDR) requests and laboratory evaluations according to paragraph **4.7.3.**. Provide post-TDR disposition instructions for all hardware sent for TDR. (AFLSA/JACT release is not required for any wreckage components sent to ALCs or other laboratories for evaluation and testing. These parts will be retained and stored at the ALC or laboratory until released by AFSLA/JACT.)

4.6.2.2.2. If there is an AFI 51-503 investigation, transfer custody of the wreckage to the AIB President. Ensure the AIB President knows the wreckage is available and acknowledges custodial responsibility in writing. Tell the host installation commander of the transfer. If there the AIB President is not available SIB is prepared to release the wreckage, release the wreckage to the host installation commander or his/her designee who will maintain custody until the AIB President is able to accept it.

4.6.2.2.3. Release wreckage not needed in support of depot, laboratory, or the AIB investigation to the host installation commander in writing for storage until AFSLA/JACT releases the werckage for appropriate disposal. Dispose of damaged, or destroyed property according to AFI 23-101 and the proper environmental laws. Before deciding whether the basic airframe is damaged beyond repair, contact the prime center for the aircraft and allow them to survey the wreckage. The wreckage can then be turned over to DRMO for disposal.

4.6.3. Obliterating or Marking Wreckage.

4.6.3.1. All reasonable actions must be made to remove and properly dispose of wreckage, with special care given to the removal of all wreckage on private or state owned property. If, after all, reasonable efforts are taken, there is wreckage still remaining which cannot be reasonably removed, obtain authorization from the appropriate federal or state officials to leave the wreckage in place. If permission is obtained obliterate or mark all wreckage not removed from the mishap scene, according to one of the following procedures, in the order of preference:

4.6.3.1.1. Dismantle the wreckage as much as possible and bury the residue when terrain accessibility and laws permit.

4.6.3.1.2. Have qualified explosives ordnance disposal (EOD) personnel demolish the wreckage to scatter parts in small pieces over the widest area possible, using established procedures. Coordinate with the responsible civil authorities and take care to prevent forest fires or damage to public or private property.

4.6.3.1.3. Mark all wreckage with a large and conspicuous yellow painted cross. Give the exact location of the wreckage by coordinates, together with photographs showing configuration of wreckage, to the Air Force Rescue Coordination Center (AFRCC).

4.6.3.1.4. If wreckage is so inaccessible the standard demolition or painting methods cannot be used, carefully plot and photograph it from as low an altitude as practical. Provide the exact wreckage coordinates and photographs showing the wreckage configuration to air search activities and the AFRCC, Langley AFB VA 23665-2789, DSN 574-8112, commercial (800) 851-3051.

4.6.3.2. Abandoning wreckage as explained above does not constitute abandoning legal title to the property. Procedures for abandoning legal title is governed by AFI 23-101.

4.7. Technical Assistance.

4.7.1. Guidelines.

4.7.1.1. The field investigator needs to consider all factors influencing the mishap and survival sequences. Early evidence may eliminate many possible factors that should not be pursued. When investigating factors beyond the expertise of the appointed investigators, request technical assistance. At this point, discontinue further processing of the evidence, such as disassembling

components, until a specialist arrives. If items are to be sent to a laboratory, handle them only as instructed by the analyzing agency. Ensure the Air Force maintains custody of all materials. After analysis, the SIB accounts for all materials and analyses.

4.7.2. Requesting Technical Assistance.

4.7.2.1. Requests for technical assistance to safety investigations are routed through MAJCOM channels to HQ AFSC/SEF (DSN 246-5867, commercial (505) 846-5867). SIBs with HQ AFSC representation may directly request technical assistance. Outside normal duty hours, phone the Kirtland AFB command post at DSN 246-3777, commercial 505-846-3777 or 1-800-445-1327, and ask for the HQ AFSC Technical Assistance Duty Officer.

4.7.2.2. HQ AFSC will determine the best available source for technical assistance or laboratory analyses for Class A and B mishaps. HQ AFSC/SEF will arrange for specialists to contact the SIB. Funding and travel arrangements are normally the responsibility of responding specialists or agencies unless specialists are non-Air Force, in which case the convening authority or System Manager must fund the response.

4.7.2.3. Overseas commands may use technical assistance available within their own resources in the overseas area without HQ AFSC coordination, but must coordinate with HQ AFSC for assistance from CONUS sources.

4.7.3. Using Technical Specialists.

4.7.3.1. When technical specialists support an investigation, they are under the control and authority of the Single Investigator, SIB president, or investigating officer. This applies to DoD military and civilian personnel as well as contractor and manufacturer representatives. If contractor or manufacturer representatives will only produce a report for Part II of the formal report, the SIB president will have a government specialist provide a comparable Tab J factual report and technical analysis for Part I of the formal report. The SIB president may, at his discretion, promise a contractor representative confidentiality in the preparation of an engineering analysis if necessary to avoid a potential conflict of interest for the contractor, protect proprietary information, ensure cooperation in light of potential litigation, or for any other valid need for privilege.

4.7.3.2. When technical specialists complete their investigations, they are expected to provide a written report (with a copy in electronic format) to the safety investigators detailing results of their work. The report should use the format in **Figure 4.1.** These reports will summarize their observations and include analysis and conclusions regarding physical evidence and other factual information, and are included in Part I of the formal report. Separate reports may be prepared for Part II of the formal safety report.

4.7.3.3. Technical specialists may also provide analysis and conclusions regarding privileged information, including confidential witness testimony and board deliberations. Such reports may be provided orally or in written form. These reports may be incorporated into the body of Tab T in the SIB report and written copies destroyed, or they may be included in Tab W.

4.7.3.4. Use the format in **Figure 4.1.** for Part I reports. Investigators must review these reports to ensure they do not contain privileged information.

4.7.3.5. When a SIB receives conflicting reports from different technical specialists or laboratories include both reports in the SIB final report. In the SIB narrative, explain the rationale for the board's decision as to which technical report they determined was most applicable and why

opposing views were discounted. If a follow-up report from a technical specialist corrects or updates a previous report and includes all relevant technical information from the previous report, it is not necessary to include the previous report.

4.7.3.6. Place reports submitted by representatives of contractors who design, manufacture, or maintain equipment involved in a mishap in Part II (Tab W) of the formal safety report, if provided under a promise of confidentiality. Non-privileged technical reports are placed in Part I (Tab J). SIB Presidents ensure a memorandum of acknowledgment on protection of privileged data is prepared according to **Figure 2.2.** and endorsed by all contractor personnel offered confidentiality or provided access to privileged information.

4.7.4. Deficiency Reports

4.7.4.1. Request priority TDRs through the SPD, IM, or equivalent by submitting a deficiency report (DR). If a TDR is requested, do not attempt field disassembly of the exhibit. When the SIB and its team members determine through their own teardown that a part is deficient, the SIB will ensure that a DR is submitted IAW T.O. 00-35D-54 *USAF Deficiency Reporting and Investigating System*.

4.7.4.2. The SIB or IO initiates Category I DRs for suspect items involved in Class A and B mishaps. Handle and ship exhibits for TDR according to T.O. 00-35D-54. TO 00-85-20, *Engine Shipping Instructions*, tells how to mark engines for TDR. Ensure the mishap event number is referenced in the DR Report Control Number (RCN) line. Take follow-up action to ensure exhibits were received and TDRs are in progress.

4.7.4.3. The investigator initiates Category II DRs for suspect items involved in Class C mishaps or HAPs. Ensure the mishap event number is referenced in the DR Report Control Number (RCN) line.

4.7.4.4. The investigating MAJCOM takes follow-up action if the final safety report was sent before receipt of all TDRs. If final exhibit disposition instructions were not included in the original request for TDR, the MAJCOM will provide them to the SPD or IM.

4.7.4.5. AFMC responds to requests for priority TDRs as required by T.O. 00-35D-54, and command directives. Do not dispose of Class A exhibits sent for priority TDR without written approval of AFSLA/JACT. All other exhibits should be held for a minimum of 1-year following TDR before disposal. Furnish a preliminary report of priority TDR findings to the field investigator as soon as possible to help with compiling the final safety report. Include the mishap event number in TDRs related to Air Force mishaps. Distribute TDRs as follows:

4.7.4.5.1. One copy to HQ AFSC. Send to AFSC/SEF if mishap is Aviation-related, SEG if Ground-related, or SEW if Explosives, Space or Missile-related. Attach all supporting documents (such as metallurgical analyses, photographs, and test reports) to this copy. For Class A and B and nuclear mishaps, provide the documents as soon as they are available. If the TDR and supporting documents were not previously sent, they may be attached to the Air Logistics Center (ALC) or Product Center endorsement. For HAP events, send the TDR upon completion. Include the mishap event number from the safety message report.

4.7.4.5.2. One copy to the SIB or investigator requesting the TDR. If the SIB has forwarded its final report, send this copy to the investigating MAJCOM safety office.

4.7.4.5.3. One copy to the MAJCOM/DRU/FOA possessing (or gaining) the aircraft. Send an additional copy to ANG/DOS for ANG mishaps and HQ AFRC/SE for AFRC mishaps.

4.7.4.5.4. One copy to the Aeronautical Systems Center (ASC)/ENVS, if the mishap involved an aircraft or non-space vehicle. For missiles other than ballistic missiles, send one copy to ASC if required by table 5.2.

4.7.4.5.5. One copy to the Space and Missile Systems Center (SMC)/AXZ, 160 Skynet Street, Suite 2315, Los Angeles AFB CA 90245-4683, if the mishap involved a system or component used by a ballistic missile or space launch vehicle.

4.7.4.5.6. One copy to the SPD with engineering authority for the system or item in question.

4.7.4.5.7. One copy to HQ AFMC/SE for all Class A and B mishaps.

Figure 4.1. Technical or Engineering Evaluation of Physical Evidence and Factual Information.

Mishap System: Type and serial number

Mishap Date:

Investigator: Name, organizational address, and phone numbers.

I . INTRODUCTION: Intent of the report or analysis; purpose.

II BACKGROUND: Not always required. If used, a statement of the mishap scenario, limited to facts (such as mishap dat e, aircraft type and serial number, type mission).

III EVALUATION: Investigator analysis.

IV DETERMINATION: Investigator observations, opinions and conclusions about the analysis performed. Describe strong and weak points of analysis if appropriate. Do not include any opinion as to whether or not a particular failure contributed to or caused the mishap. (This does not preclude stating an opinion that a failure would likely create a certain condition, even if the mishap was inevitable under such a condition. For example, an opinion could be expressed that a widget failure would have caused trim to move to the full nose up position, without making the connecting statement that such a trim position would inevitably cause a crash.) Do not include any analysis or conclusions based upon privileged witness testimony or board deliberations.

CHAPTER 5

SAFETY REPORTS AND SUMMARIES

5.1. General Information.

5.1.1. Safety Reporting.

5.1.1.1. Includes message reports, formal reports, and occupational injuries and illness forms and logs summarizing occupational mishap experience.

5.1.2. Reporting Mishaps Involving More Than One Mishap Category.

5.1.2.1. Declare only one mishap, report it as a single event, and combine the safety reports into one message. In the report subject, use cross-referencing to other categories after the main category and sub-category; e.g., Missile, Aircraft Involved..

5.1.2.2. Investigate accidental losses in R&D programs according to their class and category. These reports have limited distribution.

5.2. Determining Mishap Event Number.

5.2.1. Guidelines.

5.2.1.1. Because it is the single common worldwide identifier of a mishap, include the mishap event number in the subject lines of all non-nuclear message reports. Refer to the mishap event number in all related correspondence, DRs, TDRs, and endorsements. For all non-nuclear mishaps, the mishap event number consists of sixteen characters, such as "19980307ZQKL005A," assembled as follows:

5.2.1.2. Date of Mishap. This is the local date, not the Zulu or Coordinated Universal Time (CUT) day. Use eight digits (YYYYMMDD).

5.2.1.3. Installation Code. Use the four letter Home Location Code from SORTS. GSUs for ARC forces need to use the local base code. Note: GSU and tenant units may not have the same codes as the reporting unit.

5.2.2. Unit Control Number.

5.2.2.1. Use separate sets of four-character combinations (three digits and one letter) for unit control numbers. ("Unit" means group equivalent or higher.) Assign the numbers consecutively for each non-nuclear mishap. Host base safety staffs should assign blocks of numbers to their tenants. The last space designates the mishap or event class (A, B, C, D, E, H, L, or X). HAP events have no reportable costs and are designated by the letter "H," e.g.,"19980307ZQKL406H."

5.2.3. Marking Messages, Reports, Documents, and Other Safety Materials.

5.2.3.1. Air Force mishap messages are subject to limited distribution. Aircraft, missile, space, nuclear, and certain ground and explosives safety reports contain privileged information. *NOTE*: For classified messages add the proper security classification marking from AFI 31-401, *Information Security Program Management*, and omit the notation "FOR OFFICIAL USE ONLY."

5.2.3.2. Marking Privileged Messages. Place the **Figure 2.5.** Privilege Warning between rows of slashes immediately before the subject line of all privileged messages. *EXCEPTION:* Preliminary

Class A and B aircraft messages ("8-hour" reports) are factual only and fully releasable unless controlled for other reasons, such as information security.

5.2.3.2.1. Marking Privileged Reports. Place the **Figure 2.5.** Privilege Warning at the foot of each page.

5.2.3.2.2. Do not place markings (such as "FOR OFFICIAL USE ONLY") on unclassified pages of privileged reports that are non-privileged such as Part I. For classified pages, add the proper security clearance marking from AFI 31-401 and omit the notation "FOR OFFICIAL USE ONLY."

5.2.3.2.3. Marking Reports Submitted on AF Form 739. Do not mark this report or log for limited distribution.

5.2.3.2.4. Marking Other Safety Documents Containing Privileged Information. Each page of other safety documents containing privileged information must be marked with the **Figure 2.5.** Privilege Warning. Examples are MAJCOM endorsements of mishap reports and semiannual updates of open recommendations. For classified documents, add the proper security classification marking from AFI 31-401 and omit the notation "FOR OFFICIAL USE ONLY."

5.2.3.2.5. Marking Recorded Audio and Video Media Containing Privileged Material. Material derived from privileged SIB analysis, witness testimony, simulator reenactments, computer generated flight profiles, and similar sources are used for mishap prevention in safety briefings and training. Place the **Figure 2.5.** Privilege Warning on the outer surface of all media containing privileged material and on outer wrappings, containers or cases. Privileged tapes and products will contain the **Figure 2.5.** Privilege Warning at the beginning and the end of the tape, program, or recording.

5.2.4. Controlling Message Reports During MINIMIZE.

5.2.4.1. During emergency condition MINIMIZE, send only the following reports by electronic transmission:

5.2.4.1.1. Preliminary and status reports on nuclear accidents and incidents, and nuclear safety deficiencies resulting in a significant degradation of nuclear surety or having a serious operational impact (such as a possible code compromise).

5.2.4.1.2. Preliminary and status reports on non-nuclear Class A and B on-duty mishaps.

5.2.4.2. Send all other reports by first-class mail within 7 working days until MINIMIZE is canceled. MAJCOMs may consolidate reports from their units and subsequently mail them to addressees outside their command within 15 working days.

5.3. OPREP-3 Reports.

5.3.1. When To Report.

5.3.1.1. Except for certain nuclear and radiological safety reports this instruction does not require OPREP-3 reports. OPREP-3 reports are prescribed by AFMAN 10-206 for command post network notification of certain events, including some events defined as mishaps in this instruction. On request, safety staffs may assist command posts in assembling the required information for OPREP-3 reports on non-nuclear mishaps. However, these OPREP-3 reports must not contain privileged information.

5.4. Message Reports.

5.4.1. Guidelines.

5.4.1.1. These reports are licensed as a part of the "Mishap Message Reports" group (RCS: HAF-SE(AR)9402). Report mishap message reports during declared or war emergency conditions (emergency status code C-2). The following explanations and instructions apply when non-nuclear message reports are required.

5.4.1.2. Whenever possible, mishap reports will be created using the Safety Automated System.

5.4.2. Preliminary Report.

5.4.2.1. Only the first electronically transmitted safety message advising of a non-nuclear mishap is titled Preliminary Report. (*Note: OPREP-3 Reports do not satisfy this requirement*.) For Class A and B on-duty mishaps, send a fully releasable preliminary message report within 8 hours.

5.4.2.2. Include purely factual information only. Ensure no privileged safety information is included (nothing based on witness testimony, board analysis, etc.).

5.4.2.3. Send it by military circuits. When military communications are not available, use commercial facilities to send basic mishap data and follow up with a copy by first class mail.

5.4.2.4. Include a narrative description of what happened (but not why), stating the best and most complete information available in simple and direct terms. Do not delay the report for lack of information: If complete data is not available, provide it in a status report.

5.4.3. Status Reports:

5.4.3.1. Status reports are sent to relay new information discovered since the preliminary report and may include investigative conclusions such as what areas are considered to be factors and areas considered unlikely to be factors. Investigators may send status reports for any mishap as they deem necessary. Status reports are normally privileged messages. See individual discipline chapters for message formats.

5.4.3.2. A status report *must* be sent within 72 hours for all non-nuclear Class A and B on-duty mishaps. The purpose is to relay new information discovered since the preliminary report and to identify SIB primary members or the investigating officer (by name, grade, organization, and SIB position).

5.4.3.3. A status report *must* be sent at the 15-day point of the investigation for all non-nuclear Class A and B on-duty mishaps. The purpose is to relay the status of the mishap investigation and any new information discovered since the 72-hour status report.

5.4.3.4. Status reports may be sent at any time to update information prior to final reports when awaiting results from DRs, TOX tests, etc. Findings, causes, and recommendations may be made in a status report if a delay is anticipated in receiving DR or TOX test results, but the investigator believes enough information is available to reach a conclusion. In this case, issue a status report no later than 30 days after the mishap with as much information as is known. Publish a final report when the DR closes or TOX test results are known and revise the status report's findings, causes, and recommendations, if required.

5.4.3.5. If new information is found and the information makes significant changes to the final report, send a message that updates the new findings, causes, or recommendations.

5.4.4. Final Report.

5.4.4.1. This report provides a narrative of the mishap sequence of events, states the mishap causes, recommends preventive actions and tells what corrective actions have been taken. The report may also include other findings and recommendations of significance, which do not relate directly to the causes of the mishap, but can be of value in risk management and mishap prevention.

5.4.4.2. Use the consolidated mishap report (CMR) format for all non-nuclear Class A, B, and C mishaps, and Class E and HAP events, except as noted.

5.4.4.3. Complete the investigation and prepare the final message within the specified time limits in the individual discipline chapters of this Instruction. The convening authority will release the final message unless this responsibility is delegated to the SIB or Investigator. Do not delay release of the final message for internal command staffing. Such action delays review and timely initiation of corrective actions by other MAJCOMs and offices of primary or collateral responsibility. Internal command staffing and initiation of investigating MAJCOM corrective actions are a function of the formal review process.

5.4.5. Summary Report.

5.4.5.1. Summary reports are submitted periodically, through MAJCOMs, to HQ AFSC. They contain a summary of certain kinds of mishaps occurring in the reporting organization during the reporting period. See individual discipline chapters for information on any required summary reports.

5.4.6. HAP Reports.

5.4.6.1. HAP reports are a part of the "Mishap Message Reports" group (RCS: HAF-SE(AR)9402). If a HAP event involves materiel failure, malfunction, or design deficiency, the SPD or IM forwards corrective action taken or contemplated to HQ AFSC/SEF, HQ AFMC/SE, and the investigating MAJCOM by message within 60 days following the date of the associated DR or combined mishap DR. Replies to DRs by the agency with engineering responsibility suffice for the ALC action message if the HAP's mishap event number is included. Follow the guidance in paragraph **4.7.3.** for TDRs prepared as the result of HAP events.

5.5. Formal Reports.

5.5.1. General Information.

5.5.1.1. Formal safety reports present detailed information, both factual and analytical, about mishaps. They are made up of AF Form 711-series forms and attached exhibits. All forms in the AF Form 711-series are licensed as "Safety Investigation Reports" (RCS: HAF-SE(AR) 9404). Safety investigation reports are not prepared during declared or war emergency conditions (emergency status code C-2). Formal safety reports are used solely for purposes directly related to mishap prevention. Thorough documentation of serious mishaps is highly desirable, since close review of formal safety reports can lead to preventive actions not apparent to field investigators in the course of their investigations. **Chapter 7** through **Chapter 13** provide detailed instructions for preparing formal reports for each category of mishap. MAJCOMs or HQ AFSC may direct preparation of a formal report for any mishap, even under circumstances where this instruction does not specifically require one.

5.5.2. Waiving the Formal Report.

5.5.2.1. USAF/SE, in conjunction with the investigating MAJCOM, may waive certain formal reports. The SIB or investigating officer requests the waiver from the MAJCOM during the investigation. The MAJCOM sends a message to AFSC/SEFM with enough information to justify the waiver. As a general rule, USAF/SE will only consider waivers for mishaps involving known materiel deficiencies for which corrective actions have been established. USAF/SE normally will not waive formal reports for mishaps involving personnel factors (such as human performance failures and inadequate supervision). AFSC/SEFM coordinates and tracks all waiver requests and is responsible for internal and external coordination. All safety functionals will submit requests through SEFM and SEFM in turn, will contact requesting safety office with USAF/SE approval/disapproval of request. Large-scale SIB investigations typically require formal reports. USAF/SE evaluates each waiver request on a case-by-case basis, considering all the message reports, the waiver request, supporting material and other factors, and either approves or disapproves the waiver by the end of the next duty day after receipt. When USAF/SE waives the formal report, submit command endorsements based on the final message report.

5.5.3. General Composition of Formal Reports:

5.5.3.1. The formal report may have one or two parts. Both one- and two-part reports must use AF Forms 711.

5.5.3.2. All formal privileged safety reports must have two parts: Part I, Facts; and Part II, Privileged Documents. Part I contains factual information that may be disclosed outside the Air Force; Part II contains the privileged portions of the formal report and will not be disclosed.

5.5.3.3. Deleted.

5.5.3.4. See AFPAM 91-211, *Air Force Guide to Mishap Investigation,* and **Attachment 3** for specific formal report composition.

5.5.4. Authenticating Formal Reports.

5.5.4.1. Type each primary SIB member's name, grade, and position on the last page of the tab containing board analysis and conclusions. Have each concurring member, including Primary Members from other services on Joint Investigations, sign above it for authentication of the report or for any changes to the report. If the formal SIB report needs to be changed after it is completed and signed by the board, all primary members of the SIB shall be physically reconvened.

5.5.5. Controlling the Formal Report.

5.5.5.1. Once the SIB completes the investigation and finalizes the hard copy report, the SIB will send all copies of the formal report to the convening authority. The convening authority safety office will control all hard copies of the report until the convening authority is briefed on the results of the investigation. Upon approval for release, the MAJCOM safety office will control the distribution of the report. MAJCOMs may set up different procedures to speed up the distribution process. Publish these procedures in the MAJCOM Supplement.

5.5.6. **Forwarding Formal Reports.**

5.5.6.1. The memorandum of transmittal (**Figure 5.2.**) will list all addressees receiving copies of (or extracts from or attachments to) the report. Number and account for all copies of privileged reports by listing each addressee, including office symbol and copy number, in the "Distribution

List" attachment to the memorandum of transmittal (for example, HQ ACC/SE, Harbor Center, 2 Eaton Street, Suite 402, Hampton VA 23669, copy 4 of 20). The memorandum of transmittal goes before all Tabs in Part I of the report.

5.5.6.2. Include a statement signed by the SIB president, certifying the number of copies of the report listed are the only copies of the SIB report produced. See **Figure 5.2.**

5.5.6.3. Distribution of privileged reports is restricted to those with a need to know in the Air Force. Do not provide copies or extracts to agencies outside the Air Force. If an agency outside the Air Force needs a copy of the formal report for corrective actions, notify HQ AFSC/JA by message or telephone before sending copies to these organizations.

5.5.6.4. AFSC or MAJCOMs may require additional copies to be sent to their headquarters to aid in staffing the report. After completing the command endorsement, MAJCOMs must destroy all but the file copy.

5.5.6.5. Send copies of the formal report to all Air Force agencies or organizations tasked in the recommendations. If investigators conclude action needs to be taken by an agency outside the convening authority's command, but cannot specifically identify where it must be accomplished, the convening authority's safety office will:

5.5.6.5.1. Locate the responsible agency and provide the investigating officer with a point of contact, <u>or</u>

5.5.6.5.2. Accept initial responsibility for the action by being tasked as OPR in the formal report. In this case, the convening authority's safety office should ensure an extra copy of the formal report is prepared and available for forwarding when the appropriate action agency and point of contact are determined.

5.5.6.6. If an Air Staff office is the action agency for a validated recommendation, the MAJCOM safety office will forward a copy of the report to AF/SEI for transmittal to the Air Staff office. MAJCOM safety offices forward reports directly to FOAs or DRUs.

5.5.6.7. HQ AFSC may request extra copies of reports for distribution to other agencies. Send these copies to HQ AFSC/JA, who will provide them to the proper agency.

5.5.6.8. Do not produce "information only" copies of formal reports.

5.5.6.9. The SIB president may keep a complete copy of the formal report (for briefing purposes) for 60 days. List this copy on the memorandum of transmittal and return it to the MAJCOM safety office for disposition.

5.5.6.10. Wing-level units or below destroy formal reports upon receipt of the MOFE. Numbered Air Forces and above destroy formal reports upon final close out of recommendations and when no longer needed for mishap prevention purposes. The convening authority may retain reports according to AFI 37-138. HQ AFSC/JA must approve retention of these reports for other than the convening authority.

5.6. Writing the Narrative.

5.6.1. Contents of the Narrative.

5.6.1.1. The factual summary of circumstances portion of a formal report explains how the mishap occurred. The narrative portion of the formal report and message report explains why it happened. The narrative portion of the formal report and message report for all mishap categories includes six major areas: brief synopsis or narrative of the mishap, investigation and analysis, findings, causes, recommendations, and other findings and recommendations of significance.

5.6.1.2. Include an additional major area-history of flight-in formal reports of Aircraft Flight, Aircraft Flight-related, or Unmanned Aerial Vehicle mishaps. History of flight may also be appropriate in miscellaneous air operations mishaps.

5.6.1.3. Clearly show the scope of the investigation (evidence examined) and analyze the evidence presented (thought process and conclusions). Explain why certain possibilities are eliminated, but others are retained.

5.6.2. Identifying Involved Personnel.

5.6.2.1. Do not identify involved personnel by name, Classified or personal call sign in the narrative. Unclassified ATC flight call signs may be used. For example, use such terms as "Bandit flight lead." "Involved personnel" are those personnel who had an active role in the mishap, were injured in it, or whose actions or inactions initiated or sustained the mishap sequence..

5.6.3. Referring to Exhibits.

5.6.3.1. When a formal report includes supporting documents (records, photos, statements, technical reports, and the like), refer to the tabs and page numbers of the exhibits rather than repeating the supporting material.

5.7. Documenting the Investigation and Analysis.

5.7.1. Guidelines.

5.7.1.1. The investigation and analysis should be written so the reader clearly understands the relationship of how the findings and causes were determined. Additionally, some discussions concerning the logic in how the recommendations were chosen should be included in this section. Analyze data collected from witness statements, testimony, technical evaluations, and other information. Describe each area investigated and discuss its significance. Briefly discuss evidence with little or no significance. Extensively analyze areas important in explaining the mishap. Summarize conclusions at the end of this section before going on to the findings.

5.7.2. Documenting Mishap Factors.

5.7.2.1. Mishap factors explain why causes, such as pilot error, supervision, or equipment failure, occurred. These factors are not mutually exclusive but are often interrelated and in some cases influence each other. Most mishaps involve multiple mishap factors. To ensure the investigation considers all areas, use AFPAM 91-211, *Air Force Guide to Mishap Investigation*. Omit factors not applicable and add others as necessary to analyze the mishap.

5.7.3. Documenting Human Factors.

5.7.3.1. Consider human factors from both individual human performance and environmental, mission, and supervisory influence perspectives. While medical members are tasked with accomplishing the human performance narrative, they draw heavily on each SIB member's individual area of expertise to complete the report.

5.7.4. Documenting Risk Factors.

5.7.4.1. Identify pre-existing hazards and risks within the mishap sequence and determine whether individuals or management directly addressed these particular factors during preparation and execution of the mishap sequence.

5.8. Determining Findings.

5.8.1. Guidelines.

5.8.1.1. Findings are based on the weight of evidence, professional knowledge, and good judgment.

5.8.1.2. They are arranged in chronological order. Number the findings consecutively. Precede each number with the word "finding". (E.g. Finding 1, Finding 2, etc.).

5.8.1.3. Each finding is a single event or condition. Each finding is an essential step in the mishap sequence, but each finding is not necessarily causal. Do not include any more information in each than is necessary to explain the event occurrence.

5.8.1.4. Identify correctable events in the sequence. In some cases the event sequence begins long before the actual mishap sequence with such things as design problems, improperly written directives, or an inadequate training program.

5.8.1.5. Ensure the sequence continues to the point where all damage or injury has occurred and the initial rescue or recovery actions are completed. If the finding is not identifiable in the narrative, you have not written the narrative completely. Findings should not include or address new material not addressed in the narrative.

5.8.1.6. Include injuries occurring in the mishap at the appropriate chronological point in the event sequence. For example, insert ejection injury events occurring before the aircraft impacts findings at the point they occurred chronologically. Injuries or fatalities suffered by persons on the ground following a crash would be at the end of the main sequence, e.g., "the pilot ejected successfully; the aircraft crashed in a parking lot adjacent to the runway, fatally injuring two persons."

5.8.1.7. Do not include people's names in the findings. Be specific, but do not include supporting evidence in the findings, because the report narrative has already documented the evidence and the conclusions of the investigation. Each finding must have a logical connection to preceding findings. If no logical relationship exists, the sequence of the mishap has not been correctly described. Ensure critical events required to sustain the mishap sequence have not been omitted. Conversely, do not include events interesting to the reader, but not necessary to sustain the mishap sequence.

5.8.1.8. When the investigator cannot pinpoint a correctable event in a sequence, list as much of the sequence as can be supported and insert a statement relating to the undetermined area. If there are supportable alternatives identify them as such and list them. Show them as subordinate to the applicable finding by using a format such as "event XXX occurred due to one or more of the following reasons." If the finding is CAUSAL, then for each alternative list the applicable causal agent-area-reason (CAR) taxonomy. Do not list all of the possible alternatives that could have existed merely because they cannot be eliminated. Place this sort of conjecture in the analysis and narrative. The findings should contain a reasonable measure of probability based on evidence, professional knowledge, and good judgment.

5.8.1.9. Write findings as full sentences, not bullet points. Use past tense, since the events occurred in the past. (Example: *Wrong* - Crew chief clears pilot from chocks. Pilot taxis to runway. *Right* - The crew chief cleared the pilot from the chocks and the pilot taxied to the runway.)

5.8.2. Other Findings of Significance.

5.8.2.1. Other Findings of Significance (OFS) uncovered during the investigation, but not contributing to the mishap sequence should follow the mishap recommendations in message and formal reports. OFS are findings that the investigators believe could contribute to future mishaps and/or which warrant command attention. The OFS should also be fully supported in the narrative portion of the report. Apply the same criteria for shortfalls discovered in the life sciences arena.

5.9. Determining Causes.

5.9.1. Guidelines.

5.9.1.1. A cause is a deficiency the correction, elimination, or avoidance of which would likely have prevented or mitigated the mishap damage or significant injury.

5.9.1.2. Apply the reasonable person concept when determining a cause. If a person's performance or judgment was reasonable considering the mishap circumstances, do not assign cause. It is not appropriate to expect extraordinary or uniquely superior performance in such cases. Human limitations (physiological or psychological) may be causal even though they are reasonable. Environmental conditions may be causal if they were not reasonably avoidable. Findings that sustained the mishap sequence, but were normal to the situation as it developed are not causal. These are often the unavoidable effects of a preceding cause.

5.9.1.3. Do not list a party as causal for not taking an action unless they should reasonably have been expected to take such action, but they did not. Similar rationale applies to lack of a system or procedure. Do not list failure to provide a system or procedure as causal unless a party should reasonably have been expected to do so given the information available prior to the mishap. Also consider whether a reasonable implementation plan would have progressed such that the mishap could have been avoided.

5.9.1.4. The lack of a system safety device, such as Traffic Alerting and Collision Avoidance System (TCAS) and Ground Collision Avoidance System (GCAS) should not be considered a causal condition.

5.9.1.5. Identify causal findings by adding the word "CAUSE" to the beginning of the finding statement. It is not necessary to list causes under a separate heading. Word a causal finding as a clear and simple statement of a single condition or event. In most instances a causal finding is correctable by commanders, supervisors, or individuals. Causal findings end with the causal agent-area-reason terms from **Attachment 4**.

5.9.1.6. Most mishaps are the result of system or process failures. Individual actions/failures are often the *result*, not the *cause*, of these systemic failures. Proper identification of failed or inadequate processes often leads investigators to the real "root causes" therefore providing maximum mishap prevention potential.

5.9.1.7. Not every finding in a properly developed sequence is causal. Some are effects or the expected result of a previously identified cause even though their inclusion sustains the sequence

leading to the mishap. An engine flameout precipitated by a fuel boost pump failure is the expected result of the boost pump failure and is not causal. The boost pump failure may have been a result of an even earlier cause such as a bearing failure.

5.9.1.8. Environmental conditions such as a bird strike, lightning, high wind, or flood, may be causal only if all reasonable avoidance and damage/injury mitigation actions were taken.

5.9.1.9. An individual, group or organization is virtually always responsible for a failure. Publications or objects should almost never be found causal. Rather, the party responsible for ensuring the publications are correct or the party responsible for ensuring an object does not fail with catastrophic consequences is causal, unless the party took all reasonably expected actions. In such cases, there may be process or organizational failures, and appropriate parties may be identified as responsible for these failures. The intent of identifying causal parties in a Safety Investigation is to identify the point where corrective action is needed, not to place blame.

5.9.1.10. Occasionally, an investigator may not be able to conclusively determine a specific cause event. In these special cases, the investigator may choose to list two or three most probable causes along with a CAR for each option. In rare instances the causal event may be unknown.

5.9.1.11. Causal findings should always be worded in active voice, clearly identifying the actor(s) and causal action (deficiency), along with any necessary explanation. Examples: *Passive* – No safety pins were installed in the widget. *Active* – The crew chief did not install safety pins in the widget as required by tech orders. *Passive* – Mission planning did not cover en-route obstacles. *Active* – The mishap crew failed to address en-route obstacles in mission planning as required.

5.9.1.12. Causal Agent-Area-Reason (CAR) is a tool to help investigators in two areas. First, to assist them in arriving at a "root cause" for each causal finding. Second, to help them write clear and concise causal finding statements. Causal findings should identify the causal agent ("Who") and the action taken ("What"). Why the action (or lack of action) occurred should be fully explained in the narrative and may be included in the causal finding if appropriate. Use this format for adding CAR selections after each causal finding: Causal Agent, (command level/functional area), Causal Finding Area, and Reason. **Attachment 4** defines each CAR term in **Table 5.1.**

5.10. Determining Recommendations.

5.10.1. Guidelines.

5.10.1.1. All mishap investigations should include recommendations to prevent future mishaps.

5.10.1.2. Recommendations are feasible solutions related to the causes of the damage, fatalities, or injuries in the mishap sequence of events. Although normally recommendations are made against causal findings, they may also be included against non-causal findings. Every causal finding should have recommendations for future prevention or mitigation, although exceptions are permitted.

5.10.1.3. List the recommendations as a separate major topic immediately following the findings. Number recommendations consecutively. Precede each number by the word "recommendation" (for example, Recommendation 1, Recommendation 2, etc.). Include only one recommendation in each statement. Use another number rather than a sub-grouping (such as 1a, 1b, etc.).

5.10.1.4. In the mishap recommendations, do not recommend briefing personnel on the mishap. Such a briefing is a basic command responsibility and a normal function of safety offices at all levels of command.

5.10.1.5. Write recommendations that have a definitive closing action. Do not recommend sweeping or general recommendations that cannot be closed by the action agency. Vague recommendations addressing the importance of simply doing one's job properly are also inappropriate. However, recommendations to place CAUTIONS and WARNINGS in Technical Order guidance relating the adverse consequences of not doing one's job properly may be appropriate. Recommendations for specific action such as refresher training, implementing in-process inspections, etc. to ensure job duties are being properly performed may also be appropriate since they are specific, and can be closed.

5.10.1.6. Recommendations should require the action agency to correct a deficiency rather than to implement a particular solution. The action agency normally has greater expertise than the investigators and should be given the opportunity to develop the optimal solution for a problem. Examples: *Poor* - Move the right engine fire push-button to the right side of the cockpit. *Better* – Implement changes to the engine fire push-buttons to help preclude engine shutdown errors.

5.10.1.7. Do not write recommendations that only require a study or evaluation. Action should be required based upon results of any recommended study. In most cases, it is not necessary to even recommend a study. The recommendation can be written to simply require corrective action, since evaluations are implicit in the process. Examples: *Poor* – Evaluate changes to the anti-lock system. *Better* – Implement changes to the anti-lock system to prevent loss of feedback.

5.10.1.8. Recommendations may vary in scope. Some actions can be taken at unit level. Other recommendations need actions by MAJCOMs or other agencies.

5.10.1.9. Assign action agencies for all recommendations.

5.10.1.10. If a recommendation depends on tests or analyses that are incomplete when the report is sent in, explain this and give a reference to the test or analysis (such as DR, study, or contract number).

5.10.1.11. Do not list HQ AFSC as an action agency in place of appropriate organizations managing or controlling the resources involved.

5.10.1.12. If the proposed action affects only organizations, resources, or people within the MAJCOM experiencing the mishap, confirm you have picked the right action offices with the MAJCOM safety office.

5.10.1.13. If the proposed action requires action by an agency or organization outside the MAJCOM experiencing the mishap, coordinate the action with the proposed action office.

5.10.1.14. Do not list non-Air Force organizations as an action office for a recommendation, because AFSC normally does not have authority to task such organizations for follow-up action. Identify the Air Force agency responsible for interaction or contractual oversight with the non-AF organization, and list that AF agency as the office responsible to ensure evaluation and implementation of the recommendation. Write the recommendation as an action for the AF agency to accomplish.

5.10.1.15. Although Air Force-level actions will normally be accomplished by field operating agencies (FOA) ensurethe appropriate Air Staff agency is tasked as the OPR.

5.10.2. Other Recommendations of Significance.

5.10.2.1. The SIB may make "Other Recommendations of Significance" (ORS) related to OFS uncovered during their investigation that they believe will prevent or mitigate future mishaps. In message and formal reports, place the OFS and ORS in the same section following the primary Findings and Recommendations and use a format of following each OFS with the appropriate ORS.

5.10.3. Recommendations to Change Publications.

5.10.3.1. SIBs and investigating officers make recommendations and submit appropriate forms to change publications, technical orders, flight manuals, or checklists. Submit AFTO Form 22, according to T.O. 00-5-1, Air Force Technical Order System, or AF Form 847, Recommendation for Change of Publication (Flight Publications), according to AFI 11-215, Flight Manual Procedures, as applicable. Utilize local base support personnel as necessary to complete the applicable forms. Make a statement in the recommendations stating "AFTO Form 22 or AF Form 847 submitted". If the proposed change is time sensitive, use the emergency critical safety hazard message format in AFI 11-215 or the emergency report format in T.O. 00-5-1. OPRs that are identified as action agencies are responsible for approval and implementation of these changes. Follow the guidelines below when recommending changes to publications..

5.10.3.2. The tasked MAJCOM (or in the case of multi-commands publications, the lead MAJCOM), after the appropriate forms submission, will monitor status and ensure compliance. For Class A mishaps, if recommended changes are disapproved by flight manual or technical order review boards, the MAJCOM Safety office will ensure the appropriate directorate (DO/LG) is aware of the disapproval and concurs with the review boards action. Forward copies of the completed changes to AFSC/SEFM for AF/SE review.

5.10.3.3. In all cases, sanitize the "reason for recommended change" section of AFTO Form 22 or AF Form 847 according to paragraph **2.3.6.** The SIB will place copies of the AFTO Form 22 or AF Form 847 as attachments to Tab T of formal reports upon completion of the MAJCOM briefing. The SIB will submit original AFTO Form 22s or AF Form 847s to MAJCOM DOV/LGM as appropriate. Additionally include the suspect pages of the checklist, flight manual, or technical order, current on the date of the mishap, in Tab T of the formal report.

5.10.4. Reporting Minority Opinions.

5.10.4.1. The primary members determine findings, causes, and recommendations. Primary members that disagree with the results may submit individual minority reports. Minority reports must include reasons for disagreeing, and will include suggested findings and causes, and recommendations if different from those contained in the report. Sign the minority report and place it immediately after the authentication page, and include it as part of the final mishap message.

5.10.5. Notifying Person(s) Found Causal in Privileged SIB Reports.

5.10.5.1. When Air Force personnel are found causal, use **Figure 5.1.** to notify them. The SIB/Investigator will send a copy of the causal letter to the mishap unit (wing or equivalent) safety office and include a copy in Tab V of the final report. Once the convening authority accepts the report and the MAJCOM/SE releases the final message, the mishap unit (wing or equivalent)

Chief of Safety will give the causal individual(s) the letter from the SIB and allow them to use the final message to make additional comments. The individual(s) will not be allowed access to the formal report. The individual(s) may not remove the final message from the safety office. The individual(s) must submit a statement, though the statement may simply acknowledge the opportunity to comment and decline to do so. The individual(s) has 30 days to submit the statement back to the mishap unit (wing or equivalent) safety office. The unit (wing or equivalent) Chief of Safety will forward any statements to the convening authority Director of Safety and a copy to HQ AFSC/SEFM or HQ AFSC/SEG for inclusion in the MOFE process and the final report, Tab V. These procedures ensure the convening authority has accepted the report before individual(s) are informed that they were causal..

5.10.6. Notifying Military and Civilian Personnel Under Air Force Jurisdiction:

5.10.6.1. If attached or assigned to the organization having the mishap, the investigator will show the person the relevant findings and offer the person a chance to submit a Witness Statement.

5.10.6.2. If attached or assigned to another MAJCOM, the investigator sends a copy of the final message to the person's immediate commander with a cover memorandum. Provide an information copy to the individual's MAJCOM/SE. The cover memorandum should caution the commander against taking any disciplinary or other adverse action based upon the safety investigation and instruct the commander to:

5.10.6.2.1. Notify the person of their opportunity to provide a Witness Statement and provide that individual a chance to review relevant findings.

5.10.6.2.2. Obtain the Witness Statement and send one copy with the message through channels to the assigned MAJCOM commander. Forward the original Witness Statement to HQ AFSC/JA (AFSC/SEFM for aircraft mishaps), with a copy to the convening authority.

5.10.6.3. Convening authorities send these statements to all Air Force addressees receiving the final report within 30 days of formal report completion, if the statements were not already included in the basic report. Send copies for non-Air Force agencies to HQ AFSC/JA for forwarding. Do not delay the command review process or the HQ AFSC MOFE, for statements not received within 30 days after the individual is given a chance to review relevant findings and submit a witness statement. HQ AFSC holds the MOFE as necessary to allow any individual 30 days to submit a statement if the findings or causes about that person are changed during the review process.

5.10.6.4. If a person is added to the findings or a person's role in the mishap is significantly changed in the findings during the review process, the safety staff of the commander changing the finding ensures the member is informed of this action using the procedures in paragraph **5.10.** If this change occurs during the MOFE process, HQ AFSC will notify the individual's MAJCOM and unit safety office and will provide the individual an opportunity to submit a witness statement, following the procedures of paragraph **5.10.**

5.10.6.5. If a participant in a mishap is physically or mentally incapacitated at the time of the investigation, the immediate commander notifies that individual as soon as medically possible. Make sure the person has the chance to review relevant findings and submit a Witness Statement.

5.10.7. Notifying Non-Air Force Military Personnel and Civilians Outside Air Force Jurisdiction.

5.10.7.1. Non-Air Force personnel are not offered the opportunity to review Air Force safety investigation messages or formal reports, nor to submit Witness Statements in these cases. This includes Air Force personnel serving outside the Air Force, such as with the Defense Logistics Agency or NATO.

Figure 5.1. Sample Memorandum of Transmittal.

MEMORANDUM FOR _____Individual's Rank and Name_____

FROM:(Name)_____, SIB President

SUBJ: Opportunity to Submit Witness Statement

1. The SIB investigating the mishap involving (Aircraft Type and Tail Number), which occurred on (Date)_____, named you in its safety investigation report.

2. A copy of the final message is available for your review at (Location)___. You cannot remove the message from that office nor reproduce any portion of it. The message is for official use only, and information contained therein is privileged, not releasable in whole or in part to persons or agencies outside the US Air Force without the express approval of the disclosure authorities specified in AFI 91-204.

3. You are required to indorse the original of this memorandum indicating receipt and your intention to either decline commenting on the findings or provide a Witness Statement. If you provide a Witness Statement, it is privileged and becomes part of the safety investigation report. It shall be used solely to determine all factors relating to the mishap and, in the interest of mishap prevention, to preclude recurrence. Your statement will be considered by the Air Force Safety Center during the Mishap Final Evaluation process.

4. If you decide to provide a Witness Statement, deliver one signed, reproducible copy to (Location)___, not later than (Date)___.

SIB President Signature Block

1st Ind, (Convening Authority)

Receipt acknowledged.

Intention:

a._____I decline commenting on the safety investigation report findings.

b._____I will submit a statement commenting on the safety investigation report findings and furnish it as instructed not later than _____.

Signature Block of Witness

This contains privileged safety information. Unauthorized use or disclosure can subject you to criminal prosecution, termination of employment, civil liability, or other adverse actions. See AFI 91-204, **Chapter 2** for restrictions. Destroy in accordance with AFMAN 37-139 when no longer needed for mishap prevention purposes.

Figure 5.2. Sample Memorandum of Transmittal.

MEMORANDUM FOR SEE DISTRIBUTION LIST

FROM: Safety Investigation Board

SUBJECT:Class A Mishap Final Report, (MDS), (Serial Number), (Mishap Date), (Involved Wing), and (Location).

1. The Safety Investigation Board (SIB) forwards this report IAW AFI 91-204.

2. The SIB provided the originals for the material found in Part 1 of the report to the AFI 51-503 Accident Investigation Board President.

3. I have retained one copy for briefing purposes and certify that these (Total Number) copies are the only copies produced by the SIB.

(SIB President), (Rank), USAF

Safety Investigation Board President

DISTRIBUTION:

See Attached

(Sample Attachment)

DISTRIBUTION LIST

HQ AFSC/SE 9700 G Avenue, Suite 278 Kirtland AFB NM 87117-5670	Copy 1-3 of x
MAJCOM/SE Organizational Address	Copy 4 of x
NAF/SE Organizational Address	Copy x of x
Mishap Unit/SE Organizational Address	Copy x of x

Table 5.1. Causal Finding Analysis.

CAUSAL AGENT (WHO/WHAT)					
AGENT		ORGANIZATIONAL LEVEL	FUNCTIONAL AREA		
CONTRACTOR		AFL	AQ	LGW	
DIRECTIVES		CENTER	CC	M/A	
ENVIRONMENTAL CONDITION		DET/OL	CE	N/A	
MATERIAL EQUIPMENT		DoD/USAF	DO	NOAF	
NON-AIR FORCE PERSON/PROPERTY		FOA/DRU	DP	OS	
PERSON		MAJCOM/NAF	FM	PRN	
SUPERVISION		N/A	LGC	SC	
UNKNOWN		OTHER	LGL	SG	
		SQDN/FLT	LGM	SF	
		WING/GROUP	LGS	SV	
			LGT		
CAUSAL FINDING AREA (WHERE)					
FOR ALL MISHAPS		FOR GROUND USE ONLY			
LOGISTICS		HOME/DOMESTIC			
MAINTENANCE		MEDICAL			
NATURAL PHENOMENA		MISCELLANEOUS			
OPERATIONS		PMV OPERATIONS			
SUPPORT		RECREATION			
UNKNOWN					
REASON (WHY)					
PEOPLE			PARTS/ PROCESS	NATURAL PHENOMENA	UNKN
PHYSICAL	PERSONNEL	PSYCHOLOGICAL			
ERGONOMIC	PROFICIENCY	ACCEPTED RISK	ATTRITION	ANIMAL	UNKN
SELF-INDUCED	MANNING	ATTENTION	DESIGN	ENVIRONMETAL	
STRESSORS	TRAINING	MANAGEMENT	FAULTY-PART	CONDITION	
PATHOLOGICAL	UNAUTHORIZED	COGNITIVE FUNCTION	MANUFACTURE		
PERCEPTIONS	MODIFICATION	DISCIPLINE	PUBLICATIONS		
PHYSIOLOGICAL		EMOTIONAL STATE			
		JUDGEMENT			
		PREPARATION			

CHAPTER 6

FOLLOW-UP ACTIONS

6.1. Review Process.

6.1.1. Guidelines.

6.1.1.1. After the safety report has been submitted, follow-up action is required to help prevent possible mishap recurrence.

6.1.1.2. Follow-up action starts with evaluating the formal report or final message. Reviewing authorities for safety report/messages include HQ AFSC, higher levels in the chain of command (i.e. Numbered Air Force and MAJCOM), and action agencies outside the command. For each report the reviewing authority is tasked to assess the final safety message or formal report and determine the adequacy of the overall safety report or message, investigation, findings, causes, and recommendations. If any reviewing authority deems an incomplete investigation or formal report was accomplished then send a message (e-mail is acceptable) to the reporting organization's MAJCOM safety office expressing concerns and providing any suggested corrective actions. The reporting organization's MAJCOM safety office has 30 days to respond back to the reviewing authority concerns and comments with an information copy to HQ AFSC. The post-report activities are the most important reasons for the management information system in this instruction. For mishaps and incidents without formal reports, see paragraph **6.4.** The remainder of this chapter explains the procedures and responsibilities for completing action on formal reports.

6.1.1.3. For aircraft mishaps, once the MAJCOM validates the SIB formal report and HQ AFSC has received this report, follow-up actions begin. HQ AFSC will send a message using the same message addressees as the SIB's final message report requesting comments and endorsements on the formal safety mishap report with a 30-day suspense. Wing level comments will be requested at this time. Commands or agencies with responsibility for corrective action will also use the same SIB addressees to inform all affected agencies of their comments and endorsements. Negative replies are only required from commands and agencies with required actions and the mishap wing. All other addressees are not required to respond to the HQ AFSC message, however, if they choose to respond their comments must also be transmitted using the SIB's AIG. All addressees may make comments and endorsements with regard to both the SIB final message report and the MAJCOM addendum. All comments and endorsements will be used in developing the MOFE. The above procedure will stimulate discussion on the causes and recommendations and keep all agencies involved as the MOFE progresses.

6.1.1.4. MAJCOMs, ALCs, and SPDs evaluate recommendations for which they are responsible. If the recommendations are appropriate and feasible, take the recommended action. Feedback to the reporting organization is necessary to promote confidence in the reporting system. Send documentation of the feedback to the appropriate HQ AFSC division for filing with the safety report.

6.1.1.5. MAJCOMs monitor the actions taken by other agencies on Class C, HATR, and HAP safety recommendations. This is particularly important for MAJCOMs on DRs, AFTO Form 22, and AF Forms 847. It includes advising the action agency of any disagreement with the recommended action. Document these actions and send a copy to the appropriate HQ AFSC division with the safety report.

6.1.1.6. Action agencies outside the command tell the reporting organization's safety office what actions they are taking in response to Class C, HATR, and HAP safety recommendations. These agencies evaluate the recommendations for appropriateness and feasibility, and document their decisions in their responses to HQ AFSC and the reporting organization.

6.1.1.7. The action ALC or other agencies with engineering responsibility send the appropriate HQ AFSC division a copy of each TDR. Include all supporting documents such as metallurgical analyses, photographs, test reports, and similar materials. MAJCOMs receiving safety reports from other agencies on shared materiel (aircraft, engines, equipment, weapons, vehicles, explosives, etc.) review findings, causes, and recommendations for adequacy and applicability to their subordinate units. They monitor follow-up preventive actions until completed. When necessary, communicate with the mishap agency and other common users (through HQ AFSC/JA for non-AF users) to ensure recommendations and preventive actions are sufficient for all users.

6.1.1.8. For all other mishap categories, HQ AFSC will work closely with the accountable command/convening authority to solicit comments and the command endorsement.

6.1.1.9. If during the review process the convening authority or higher authority learns facts that were not available to safety investigators or that shed new light on the published findings, causes, and recommendations, he or she may do one of the following:

6.1.1.9.1. Reopen the safety investigation.

6.1.1.9.2. Include the new facts in the command endorsement, if prepared.

6.1.1.9.3. Amend the final safety message with a status report if there is no formal report.

6.1.2. Who Reviews the Formal Report?

6.1.2.1. Mishap causes may require corrective actions by organizations both within and external to the chain of command of the mishap organization. Therefore, the following organizations review the formal report:

6.1.2.2. The investigating MAJCOM and subordinate elements specified by the investigating MAJCOM commander.

6.1.2.3. Agencies with technical or logistic support responsibility.

6.1.2.4. Air Force agencies outside the investigating command if their functions were involved in the mishap, (e.g., AFFSA/XV for air traffic services).

6.1.2.5. Each MAJCOM tasked for action in the mishap recommendations. For purposes of this chapter, the term "MAJCOM" includes FOA and direct reporting units (DRU) commanders, SPDs or equivalent, program executive offices (AFPEO), etc. The term also includes air component commanders of unified commands during contingency operations.

6.1.2.6. MAJCOMs, when appropriate for mishap prevention purposes, may brief mishaps to applicable unified command commanders and allow review and comment by appropriate unified command staff offices if they agree to safeguard the information according to rules contained in this instruction. Consult HQ AFSC if the unified command requests file copies of the message or formal report.

6.1.3. Command Review.

6.1.3.1. Commanders at each level must take preventive actions within their areas of responsibility. If an investigation is inadequate or poorly documented, the convening authority may return the report for additional work.

6.1.3.2. Findings and Causes. Evaluate each finding. If the reviewing authority does not concur with any finding or cause, explain why. If an alternative or additional finding or cause is proposed, provide the new finding along with rationale for proposed change (see **Figure 6.1.**).

6.1.3.3. Recommendations. The convening authority evaluates each recommendation, regardless of the designated action agency. These evaluations include validating the recommendations and verifying the correct action agencies are designated.

6.1.4. Action Agencies Review.

6.1.4.1. When formal report recommendations require action by agencies external to the convening MAJCOM, these agencies must review and comment on the report within the required 30 day limit established by HQ AFSC's comments and endorsement message.

6.1.4.2. The distribution tables for a formal report call for routine distribution to the agencies identified as action agencies and agencies required to review the formal report. If a formal report lists an Air Force action agency not in the distribution tables, determine the proper address, prepare and send a copy of the formal report for action. If a non-Air Force organization is an action agency, send a copy of the report to HQ AFSC/JA for forwarding to the additional responsible agency.

6.1.4.3. Action agency comments should provide the information needed to monitor corrective actions, such as the Materiel Improvement Project (MIP) number, Data Base 10 accession number, reference to Configuration Control Board (CCB) minutes, or Engineering Change Proposal (ECP) number.

6.1.4.4. Recommendations may concern proposed aircraft modifications. When commenting on such recommendations, AFPEOs or AFMC action agencies (SPDs) state whether or not the proposed modifications require a new development effort significantly beyond the scope of current direction and available funds. In such cases, specify the documents required of the operational commands according to AFI 10-601, *Mission Needs and Operational Requirements Guidance and Procedures*.

6.1.5. Final Message Review:

6.1.5.1. These procedures described below are used to ensure a complete final message is received by all that do not receive the formal report.

6.1.5.2. Ensure the investigators' conclusions are included as findings, causes, and recommendations in the final message. Many addressees do not receive the formal reports, so include enough information in the final message to reasonably lead to the conclusions presented. The following standards apply to all final messages; however, references to formal reports and command endorsements apply primarily to final reports of Class A and B mishaps:

6.1.5.2.1. Before the SIB or investigating officer sends the final message, the convening authority's safety staff ensures:

6.1.5.2.1.1. The message includes significant points of the investigation and analysis.

6.1.5.2.1.2. The SIB's or investigating officer's findings and causes meet the CAR format.

6.1.5.2.1.3. The message shows the correct action agencies.

6.1.5.2.2. The convening authority determines whether the final message fulfills the purposes, intent, and requirements of the mishap prevention program. If the final message is appropriate, the convening authority will attach written comments to the final report as part of the addendum or direct an additional investigation. For Class A mishaps, upon completion of the SIB briefing, the MAJCOM Commander has 10 working days to provide comments and attach them as an addendum to the SIB's final message report. The MAJCOM commander's options are (1) Concur with the report as written (2) Concur with comments, (3) Direct the SIB to complete further investigation.

6.1.5.3. Only the primary members of the safety board can make changes to the final report. Comments raised by the convening authority addendum will be worked during the MOFE process. If the final SIB message needs to be changed after it is completed and signed by the board, the primary members of the SIB shall be physically reconvened. For Class C, D, E, HAPs, and HATRs, convening authorities and MAJCOM safety staffs may make non-substantive changes to the reports in order to improve the quality of the reports. Feedback to the affected unit safety office will ensure continuous improvement.

6.1.6. Unsolicited Comments.

6.1.6.1. Agencies and organizations reviewing the final message report may desire to comment on the investigation, findings, causes, recommendations or preventive actions even though they are not in the chain of command nor a designated action agency. Send these to appropriate HQ AFSC division and to all SIB final message report addressees.

6.1.6.2. For Class C and HAP reports, agencies can submit comments to the convening MAJCOM safety office.

6.2. Memorandum of Final Evaluation (MOFE).

6.2.1. Guidelines.

6.2.1.1. HQ AFSC prepares a MOFE on each formal safety report regardless of Mishap Class A MOFE will also be prepared for Class A and B message reports when the formal report is waived. Based on the wide variety of ground mishaps and the varying degree of Air Force preventive actions, HQ USAF/SE has delegated HQ AFSC/SEG approval authority for ground MOFEs..

6.2.1.2. The MOFE will consider inputs from the convening MAJCOM, other action agencies, commander of the mishap wing, any unsolicited comments, and statements of person(s) cited in the SIB final report. Upon completing this review of each aircraft, missile, nuclear, space, ground, and explosive report, HQ AFSC prepares a final MOFE. This evaluation is an assessment of the SIB formal report, the reviews, and comments provided by the convening MAJCOMs and all other inputs. When HQ USAF/SE transmits the MOFE, via AUTODIN/Defense Message System, it becomes the official Air Force position on findings, causes, and recommendations.

6.2.1.3. The recommendations validated by HQ USAF/SE through the MOFE become directed actions. They are assigned to action agencies and given suspense dates. The suspense date is the date action agencies must report on completed actions or on progress toward completed actions. HQ AFSC will send the MOFE to all addressees on the SIB final message report.

6.2.1.4. Once recommendations are validated and assigned in the MOFE, they become a part of the system of record keeping mandated by public law and required of each service by DoDI 6055.7. Agencies and organizations may decline to take action on SIB or HQ USAF/SE recommendations; however, they remain a permanent part of the HQ AFSC database and must be subjected to periodic review.

6.2.1.5. The Air Force Surgeon General's consultant in Occupational Medicine (AL/OEMI) provides final evaluation of all formal reports concerning occupational illness.

6.2.2. Reviewing Commander Action Following Receipt of MOFE.

6.2.2.1. The convening MAJCOM commander ensures action is taken on all open recommendations on which the command is the action agency. When the MOFE directs recommendations, the action agency will give any identifying data to HQ AFSC to monitor progress of actions. For AFMC/ALC actions, current status of open recommendations is reported in the material safety database (DB-10). If a MAJCOM disagrees with actions proposed or taken by the ALC, advise the ALC and HQ AFSC/SEF.

6.2.2.2. All agencies and organizations review each MOFE, analyzing causes to determine whether any of the deficiencies leading to the mishap apply to their commands. Prompt corrective action can help to convert valuable lessons learned into mishap prevention.

6.2.2.3. HQ AFMC ensures all SPDs, or their equivalents, receive MOFEs appropriate to similar systems. These directors review the MOFEs for applicability to their systems and initiate publications or hardware changes as required. The goal is to maximize mishap prevention by transferring useful information from one weapon system to another.

6.3. Managing Preventive Action after the MOFE.

6.3.1. Guidelines.

6.3.1.1. After receipt of the SIB final message, all concerned agencies and organizations have a continuing responsibility for managing the preventive action process. HQ AFRC, ANG, and MAJCOM/DRU/FOAs will establish a Mishap Review Panel (MRP) or equivalent process to ensure mishap recommendations are methodically addressed. As a minimum, the MRP or similar process should meet once every six months. The semiannual status report of preventive actions is a way of ensuring these responsibilities are completed. It also advises all parties of the status of open recommendations.

6.3.1.2. HQ AFSC tracks each open recommendation until final action is completed. If a similar recommendation for that weapon system is already open and being tracked, HQ AFSC administratively closes the latest recommendation (referencing the original open recommendation), and updates the status of the original recommendation. The following examples are acceptable closing actions:

6.3.1.2.1. Recommended changes to all applicable publications were issued.

6.3.1.2.2. Recommended modifications to all applicable systems or items were completed.

6.3.1.2.3. Recommended studies or evaluations were completed, conclusions were validated, and actions on all validated requirements were completed.

6.3.1.2.4. Recommended actions were determined not feasible due to cost, operational constraints, or programmed removal of the system or item from service. HQ AFMC, the using lead command, and the Air Staff program element monitor (PEM) must concur with this determination and accept the resultant risks. Signature closure documentation of these items will be included in AFMC's DB-10 and AFSC databases.

6.3.2. Mishap Review Process.

6.3.2.1. HQ AFSC conducts a semiannual review starting 1 March and 1 September of each year. Agencies and organizations with responsibility for recommendations that are listed in the MOFE are required to report the status of those recommendations through an established process (e.g., MRP, MSTG, and DB-10). ANG, MAJCOMs, DRUs, FOAs, and other agencies not using DB-10 to update their recommendation status will send their updated recommendation status to the appropriate HQ AFSC division (SEF, SEG, SEW). Those organizations or agencies that do not have an established process will receive notice from HQ AFSC requesting the status of their open recommendations. As a minimum, recommendation status is due to HQ AFSC 45 days from semiannual review start date (1 Mar or 1 Sep) or receipt of request.

6.3.2.2. How to Report Semiannual Reviews. Attach a single memorandum of transmittal. Report one mishap per page (ground mishaps, if the reports are short, may be combined on one page). Each reply must contain the mishap event number. ANG, HQ AFRC, and MAJCOM/DRU/FOAs that conduct MRPs and publish formal minutes can use this format to satisfy the semiannual review. Include the following for each mishap:

6.3.2.2.1. Identification of Weapon (or Support) System. For aircraft and missiles, list the MDS. For explosives, give the normal description of the item (such as "Ammo, 20mm, HEI, M56A3"), not the national stock number.

6.3.2.2.2. Mishap Event Number.

6.3.2.2.3. Status of each open recommendation. Since the original SIB recommendations can be changed, the original numbers may not be valid for tracking. Identify each by the recommendation number assigned by HQ AFSC in the MOFE. Show the status of action in a separate paragraph immediately below each numbered recommendation, such as "Status: Open."

6.3.2.2.4. Action taken or planned for each recommendation. Include important points concerning non-concurrence by other agencies, delays, or other significant problems.

6.3.2.2.5. If action is transferred to other commands or agencies, coordinate the transfer in advance and mutually agree on the action. The last status update from the losing MAJCOM states the transfer effective date and includes the gaining command or agency point of contact or OPR.

6.3.2.2.6. In cases where no action is taken, agencies are required to reevaluate those recommendations during each semiannual reporting period and reaffirm their intent to defer action. A one-line reference to each deferred recommendation in the semiannual report's memorandum of transmittal is sufficient.

6.3.2.3. HQ AFMC reports the status of open recommendations in the DB-10 database of the Information Central (INFOCEN) system. If a MAJCOM disagrees with the status or action shown in DB-10, advise the ALC, HQ AFMC/SE, and HQ AFSC.

6.4. Managing Preventive Action for Mishaps w/o Formal Safety Reports.

6.4.1. **Guidelines.**

6.4.1.1. When message reports are used in lieu of formal reports, a MAJCOM endorsement is still required. A memorandum format may be used to complete the command endorsement when a MAJCOM concurs with the investigation documented in the final message. While Class C mishaps and HAP events are not catastrophic, they are serious enough to require reporting on an individual basis, and recommendations resulting from them require effective management. Since Class C mishaps, HAP, and HATR events are not tracked by the MOFE process, additional actions are required by the reporting organization.

6.4.2. Reporting Organization Responsibilities.

6.4.2.1. Local Actions. Briefly describe local actions in the final message. Each local action described should be directly related to a causal finding of the investigators. For all Class C mishaps, describe local corrective actions in the CMR. Explain the planned local actions not yet completed, and include an estimated completion date.

6.4.2.2. When preventive actions need the assistance of higher headquarters or a supporting agency, staff the recommendations using one of the following methods:

6.4.2.2.1. Use the Deficiency Reporting system (T.O. 00-35D-54) and the technical order deficiency reporting system to report deficiencies discovered. The appropriate action is to send a DR, AFTO Form 22, or AF Form 847. When these actions are taken, describe them in the final message. Include DR information in the CMR for Class C and ground (aircraft involvement) mishaps. The SIB or IO completes these forms and states for example, “AF Form 847 submitted” in the CMR report.

6.4.2.2.2. If existing reporting systems do not adequately communicate recommendations to action agencies, list recommendations in the final message. Base recommendations on the findings of the investigators, and identify action agencies. Therefore, use the following methods for all Class C mishaps:

6.4.2.2.2.1. If an action agency is on distribution for the CMR, place the recommendations in the report, and identify the action agencies.

6.4.2.2.2.2. If the action agency is outside the Air Force, send this correspondence to the appropriate HQ AFSC division (SEF, SEG, etc.) for forwarding.

6.4.2.2.2.3. The reporting organization continues to follow up on all open recommendations until they are closed. Report closure to the MAJCOM safety office.

Figure 6.1. Sample Command Endorsement.

Use this format when responding to HQ AFSC's request for comments and endorsement. Use SARAH LITE message format.

FROM: HQ AFMC WRIGHT-PATTERSON AFB OH//SE//

TO: HQ AFSC KIRTLAND AFB NM//SEF//

INFO: ALL REMAINING SIB ORIGINAL MESSAGE ADDRESSEES

SUBJ// HQ (MAJCOM) Endorsement of Class A Flight Mishap, F-16CJ, S/N#91-0327, 19980616, MSET,008A

Mishap Summary. (Brief narrative)

Command Evaluation.

SIB's (Investigator's) Findings and Causes: (If non-concur, or concur-in-part, then add the following):

Finding 1. (Text)

Position. (Position; "Non-concur" or "concur-in-part". Finding is then deleted, reworded, separated into two findings and renumbered, etc.).

Rationale. (Rationale for change).

Finding 2. Include remaining findings only if changed or deleted.

SIB's (Investigator's) Recommendations: (Only list recommendations that non-concur or concur in part.)

Recommendation 1. (Text)

Position. (Non-concur, or concur-in-part).

Rationale. (Rationale) (**NOTE:** All recommendations must state the position and rationale.)

Revised Recommendations. (If numerous changes were made to the recommendations, this subparagraph may be needed).

Added Recommendations. (For additional concerns, if applicable).

Other Findings of Significance

Other Recommendations of Significance

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CHAPTER 7

AIRCRAFT MISHAPS AND EVENTS

7.1. Aircraft Mishap and Event Categories.

7.1.1. Definitions.

7.1.1.1. Air Force Aircraft. All manned weight-carrying devices supported in flight by buoyancy or dynamic action that are owned or leased by Air Force components, including Reserve and National Guard forces. This does not normally include aircraft leased, on bailment, or loaned to non-Air Force agencies; civil aircraft accomplishing contract air missions; new production aircraft prior to successful acceptance flight; or flying club aircraft or privately owned aircraft hangared on an Air Force installation. See DoDI 6055.7 *Accident Investigating, Reporting, and Record-keeping*, for a more detailed definition.

7.1.1.2. Intent for Flight. Intent for Flight is considered to exist when aircraft brakes are released (if set) and/or when takeoff power/collective is applied (which ever occurs first), for commencing an authorized flight. Intent for flight continues until a fixed wing aircraft safely taxies clear of the runway. Application of takeoff power begins at the first movement of the throttle towards takeoff power. Clear of the runway means the entire aircraft is physically off the active runway. Intent for flight continues until a rotary wing aircraft has alighted and the aircraft weight is supported by the landing gear. Hover taxi is considered flight.

7.1.1.3. Aircraft Mishap. An unplanned event or series of events involving an Air Force Aircraft that: a) results in damage to an Air Force Aircraft; and/or b) if a flight crewmember is onboard for any reason, results in damage to any property, and/or injury, illness or death to any person. The term "onboard" includes all interior and exterior aircraft surfaces. See paragraph **1.15.** for non-reportable mishaps and paragraph **3.2.** for mishap classifications, which determine reporting requirements.

7.1.2. Aircraft Flight Mishap.

7.1.2.1. An Aircraft mishap in which there is Intent for Flight and there is reportable damage (i.e., above the minimum threshold) to an aircraft. Explosives, Chemical Agent, or Missile events which cause damage to an aircraft with Intent for Flight are categorized as Aircraft Flight mishaps to avoid dual reporting.

7.1.3. Aircraft Flight-Related Mishap**.**

7.1.3.1. An Aircraft mishap in which there is Intent for Flight and no reportable damage to the aircraft itself; but the mishap involves a reportable injury, fatality, or reportable property damage. These mishaps may involve non-aircrew fatality, injury, or collateral damage. They are not used in the calculation of flight mishap rates. A missile or UAV which is launched from an aircraft, departs without damaging the aircraft, and is subsequently involved in a mishap is reportable as a missile or UAV mishap.

7.1.3.2. Parachuting Injuries. When injuries to a parachutist result from in-flight collision with Air Force aircraft, the mishap is a Flight-related mishap (unless reportable damage to the aircraft results, in which case it is a Flight mishap). Report parachuting injuries to Air Force personnel performing official duties as Flight-related mishaps. Other military services report injuries to their

personnel during parachute jumps from Air Force aircraft, unless the injured persons are permanently assigned to an Air Force unit. The Air Force takes part in these investigations when requested by the other service. This normally occurs if the mishap involves Air Force equipment or techniques.

7.1.3.3. Airdropped Equipment Damage. Report unexpected damage to airdropped Air Force equipment as a Flight-related mishap. Other services experiencing damage to their airdropped equipment report their own losses. The Air Force takes part in these investigations when requested by the other service. Injury or damage occurring to persons or property on the ground caused by an air dropped load is an Air Force Flight–related mishap.

7.1.4. Aircraft Ground Operations Mishap.

7.1.4.1. An Aircraft mishap in which there is not Intent for Flight. This sub-category does not include mishaps in which: damage occurs to an unattended parked aircraft; damage caused by weather, natural phenomena (such as an earthquake), or a building fire, or damage occurs to an aircraft or aircraft engine while it is being handled as cargo. Mishaps with reportable injuries that involve an aircraft, but do not have a rated aircrew member onboard and do not involve reportable aircraft damage, are normally categorized as Ground & Industrial mishaps.

7.1.4.2. Aircraft Ground Ops, Flight-Ready mishaps. An Aircraft Ground Ops mishap which takes place from the time any rated aircrew member boards the aircraft (except solely as a passenger) with the intention of achieving flight in the aircraft, until the last rated aircrew member has disembarked the aircraft. (During Intent for Flight periods established as defined in paragraph **7.1.1.2.**, mishaps no longer fall under the Ground Ops sub-category.)

7.1.4.3. Aircraft Ground Ops, System-Involved mishaps. An Aircraft Ground Ops mishap in which: (1) the definition for the Flight-Ready sub-category is not met; and (2) aircraft system operations are integrally involved in the event (as determined by the investigator); and (3) damage to an aircraft is sustained from system operations, maintenance, handling, or servicing of an aircraft

7.1.4.4. Aircraft Ground Ops, Other mishaps. An Aircraft Ground Ops mishap which does not meet the definitions for Flight–Ready or System-Involved sub-categories.

7.1.5. Engine-confined mishaps.

7.1.5.1. "Engine-Confined" is an Air Force-only sub-category of the DoD mishap categories listed in paragraph **3.1.** Engine-confined mishaps are first categorized per **Chapter 3** instructions and the definitions in paragraph **7.1.** (i.e., Aircraft Flight, Aircraft Flight-Related or Aircraft Ground Operations). In the case of Aircraft Ground Operations mishaps, subcategories in paragraph **7.1.4.** are then assigned. The Engine-Confined subcategories are the last category applied. Engine-Confined mishaps are classified according to damage cost per paragraph **3.2.**, investigated per paragraph **7.3.** and reported using the formats specified in paragraph **7.4.**

7.1.5.2. The Engine-Confined mishap subcategories apply when an aircraft or UAV turbine engine experiences reportable damage ($20,000 or more), and all damage is confined to the engine and integral engine components. Damage is considered confined to the engine if there is less than $20,000 damage external to the engine. If the total cost of all damage external to the engine exceeds $20,000, the Engine-Confined subcategory does not apply, regardless of the comparative extent of engine damage cost. There are two Engine-Confined subcategories: Engine-Confined

FOD and Engine-Confined Non-FOD. When damage is caused by objects **external** to the engine, the mishap is placed in the Engine-Confined FOD subcategory. When the damage is caused by an internal engine failure (including liberation of internal engine components such as bolts, rivets, bonded coatings, blades, vanes, abradable coatings, honeycomb seals, etc.), the mishap is listed in the Engine-Confined Non-FOD subcategory.

7.1.5.2.1. Applicability. The Engine-Confined subcategories apply to all turbine engines used in aircraft or UAVs (except subscale RPVs) and intended to produce thrust for flight (including thrust provided via gearbox-driven propellers or rotors). They apply to such engines while mounted on aircraft or operating in a test cell. Engines are considered mounted on an aircraft until all connections to the aircraft have been separated and the engine is fully supported by a crane, dolly, engine maintenance stand, or other such device. The subcategories do not apply to engines being transported or handled as cargo, airframe mounted auxiliary power units, turbine engines in missiles or ground-based power turbines.

7.1.5.2.2. Integral Engine Components. For the purpose of determining damage external to the engine, certain components are considered integral engine components and damage to these components is considered confined to the engine. Integral engine components include engine controls, engine-mounted accessory gearboxes, afterburners, engine plumbing, and QEC kit components not otherwise excluded. Thrust reversers are not considered integral engine components, however thrust vectoring components on fighter aircraft are. For pylon-mounted engines, the engine cowlings but not the engine pylons are considered to be integral engine components.

7.1.5.3. FOD Discovery. Do not report FOD to turbine engines as a mishap if it is discovered during scheduled engine disassembly (e.g., a depot engine overhaul at a specified time). If the overhaul is conducted because of suspected FOD, and FOD is discovered, it is reportable as a mishap.

7.2. Classifying Aircraft Mishaps and Events.

7.2.1. Destruction of an Air Force aircraft.

7.2.1.1. Aircraft will be considered destroyed when the man-hours required to repair the aircraft exceed the maximum stated in the "major repair man-hours" column of T.O. 1-1-638, Repair and Disposal of Aerospace Vehicles. A damaged aircraft not repaired is not automatically a "destroyed" aircraft. The decision not to return a damaged aircraft to service is independent of the mishap class. When the aircraft will not be returned to service, classify the mishap damage according to the total estimated repair cost if it had been returned to service. The investigating board must submit detailed repair cost estimates through MAJCOM channels to HQ AFSC/SEF for validation if an aircraft will not be returned to service but is not considered destroyed.

7.2.2. Aircraft Class D Mishaps.

7.2.2.1. Aircraft Class D mishaps do not require reports for property damage. Reporting is not required for injuries within Class D limits in Flight or Flight-Related mishaps, unless reporting is required as a Class E event. For Class D Aircraft Ground Ops mishaps, involving injuries, follow the guidance in paragraphs 11.6.4.2. and **11.15.1.** Commands or bases may require local reporting for Class D Aircraft Flight or Flight-Related injuries or property damage by issuing supplemental instructions.

7.2.3. Aircraft Class E Events.

7.2.3.1. Certain events are deemed important enough to trend for mishap prevention despite the fact they do not meet mishap-reporting criteria. If reportable damage or injury occurs from an event listed below, the event must be reported as a mishap under the appropriate mishap class. If any of the following events occur and do not meet reportable mishap criteria, report them as Class E events per the instructions in paragraph **7.4.4.** Include all events whether "Intent for Flight" is established or not. **Exception:** Certain events below which cite this exception do not require reporting under this paragraph if they occur as described in aircraft flight manuals and are expected responses to crew actions or flight regime. For example, do not report loss of pitot-static instrument indications per paragraph **7.2.3.4.6.** if the loss is the result of crew failure to activate pitot heat.

7.2.3.2. Propulsion-related Events. Report the following propulsion related events:

7.2.3.2.1. Loss of thrust sufficient to prevent maintaining level flight at a safe altitude, or which requires the pilot to jettison stores.

7.2.3.2.2. Engines which do not restart normally after an intentional in-flight engine shutdown for training, functional check flight (FCF) or other non-emergency purposes. A normal restart is one that occurs at the planned and expected time and altitude using routine restart procedures.

7.2.3.2.3. Emergency or precautionary landing of a single engine aircraft, including helicopters, with imminent engine failure confirmed after landing.

7.2.3.2.4. Any unselected or inadvertent propeller or thrust reversal event.

7.2.3.2.5. Turbine engine flameout, failure, or emergency shutdown after completing normal engine start sequence until normal engine shutdown at mission conclusion. This applies to all single engine and multiple-engine aircraft. Do not report flameouts or emergency engine shutdown occurring during maintenance engine runs. Note: This does not apply if there is damage to the mishap engine greater than $20,000. See paragraphs **3.2.** and **7.1.5.**

7.2.3.2.6. All piston engine stoppages after initial successful engine start, if the engine oil temperature is at or above the minimum recommended for flight, and the pilot has not inadvertently performed any of the actions required for a normal engine shutdown (e.g., mixture control to cutoff, ignition to off, or fuel selector to off).

7.2.3.2.7. All F-16 engine stalls, except F100-PW-200 engine stalls when operating outside of Region 1. Do not report stalls occurring during maintenance engine runs. See exception at paragraph **7.2.3.1.**

7.2.3.2.8. All F-15 engine stalls, except F100-PW-100 engine stalls occurring during afterburner operation which involves maneuvering flight. Do not report stalls occurring during maintenance engine runs. See exception at paragraph **7.2.3.1.**

7.2.3.2.9. Emergency or precautionary landing of a rotary wing aircraft with imminent rotor drive system failure confirmed after landing.

7.2.3.3. Flight Control-related Events:

7.2.3.3.1. Unintentional departure from controlled flight for any reason. See exception at paragraph **7.2.3.1.**

7.2.3.3.2. Any malfunction (including helicopter flight control, stability augmentor, autopilot, or trim systems) resulting in an unexpected, hazardous change of flight attitude, altitude, or heading.

7.2.3.3.3. All uncommanded reversions to a backup mode for any safety critical control system.

7.2.3.3.4. Aircraft side stick controller interference from any source or for any reason.

7.2.3.3.5. All uncommanded inputs to the flight controls whether it results in a dangerous situation or not.

7.2.3.4. Miscellaneous Aircraft Events

7.2.3.4.1. In-flight fires.

7.2.3.4.2. Massive fuel leakage in an engine bay.

7.2.3.4.3. All gear up landings.

7.2.3.4.4. Unintended departure from takeoff or landing surfaces, (i.e.; runway, helipad, landing zone, etc.), not taxiways, onto adjacent surfaces.

7.2.3.4.5. Spillage or leakage of radioactive, toxic, corrosive, or flammable material from aircraft stores or cargo. Identify in the message which agency or unit prepared the shipment. If cargo is shipped under a waiver, tell which agency (MAJCOM, Numbered Air Force, etc.) granted the waiver. Send a copy of the message to HQ AMC SCOTT AFB IL//DONC//, DSN 576-2543.

7.2.3.4.6. In-flight loss of all pitot-static instrument indications. See exception at paragraph **7.2.3.1.**

7.2.3.4.7. In-flight loss of both primary and standby attitude indicators. See exception at paragraph **7.2.3.1.**

7.2.3.4.8. Simultaneous loss of more than one electronic display (i.e.; Multi-function Display/CRT) showing attitude, altitude, airspeed or heading. Report regardless of duration of event or ability to fly the aircraft on standby instruments. See exception at paragraph **7.2.3.1.**

7.2.3.4.9. Explosive/Missile releases impacting on or off the assigned/scheduled range involving a malfunction of the explosive/missile are reported as Explosive/Missile mishaps. All other off range impacts are Aircraft Flight/Aircraft Flight Related (Explosives/Missile Involvement).

7.2.3.4.10. Inflight damage to, or caused by, live or captive missiles or explosives are reported as Aircraft Flight (Explosives/Missile Involvement).

7.2.3.4.11. Any strike by fixed or rotary wing aircraft to a wire, tree, fence, lamppost, pole or other fixed object.

7.2.3.4.12. All events where a member of the crew deemed it necessary to execute any portion of an emergency checklist in response to smoke or fumes. The intent is to report those noxious fumes and/or visible particulate matter that the crew has decided constituted a safety hazard

versus an annoying "smell". If the event meets the reporting criteria in **7.2.3.5.** report as a "Physiological Event."

7.2.3.4.13. Structural failure of critical landing gear components. A critical landing gear component is defined as any component that could cause landing gear collapse upon failure.

7.2.3.5. Physiological Events. Report as a Class E Physiological event any episode that could potentially effect the physical or mental capabilities of any of the primary aircrew to safely perform the mission. Report as a Class E Physiological event any episode that produces abnormal physical, mental, or behavioral symptoms that are noticed by individual crewmembers or by others, during or after the flight. Do not report trapped gas disorders for students in non-pressurized aircraft. Do not report a physiological event in a DR. For example, loss of cabin pressure from materiel failure may be reported in a DR for a valve, but the pilot's symptoms must be reported through this instruction. For assistance in determining reportability of physiological events, contact HQ AFSC/SEF, DSN 246-0667, commercial (505) 846-0667.

7.2.3.5.1. Non-reportable loss of pressurization. Do not report on aircrew members or passengers who experience a loss of aircraft pressurization with no symptoms. However, the attending flight surgeon will brief all involved personnel on possible post-flight delayed complications, (such as decompression sickness), and procedures for obtaining medical treatment if those symptoms occur. If symptoms occur, submit the appropriate reports.

7.2.3.5.2. Report aircrew or passenger decompression sickness from evolved gas (skin, bends, chokes, or neurological or neurocirculatory involvement).

7.2.3.5.3. Report aircrew injuries or illnesses that result in loss of consciousness or incapacitation in-flight.

7.2.3.5.4. Report aircrew hypoxic (altitude) hypoxia (suspected, probable, or definite).

7.2.3.5.5. Report aircrew trapped gas disorders (ear, sinus, teeth, or abdominal).

7.2.3.5.6. Report aircrew or passenger symptoms or health effects caused by toxic, noxious, or irritating materials such as smoke, fumes (including carbon monoxide) or liquids.

7.2.3.5.7. Report aircrew G-induced loss of consciousness.

7.2.3.5.8. Report aircrew spatial disorientation of any type (including visual illusion) resulting in unusual aircraft attitude.

7.2.3.5.9. Report traumatic injuries that are the result of required mission demands or activities. Report all G-induced strains.

7.2.3.5.10. Report aircrew degraded operational capabilities or retinal damage caused by military or commercial lasers.

7.2.3.5.11. Report any other condition or event that a medical professional determines is significant to the health of the aircrew or that provides useful safety information.

7.2.4. HAP Events.

7.2.4.1. Report significant events involving aircraft with a high potential for causing injury, occupational illness, or damage if they recur as HAP events. This includes emergency conditions arising from aircraft operation or from the failure or malfunction of systems or components essential for safe flight.

7.3. Investigating Aircraft Mishaps.

7.3.1. Types of Investigating Groups.

7.3.1.1. Aircraft mishap investigations may be conducted by a SIB, a Tailored SIB or a Single Investigating Officer (IO). See paragraph **4.4.** for additional guidance regarding Safety Investigation Boards.

7.3.1.2. A full SIB is normally required for all Aircraft mishaps involving a destroyed aircraft or a fatality.

7.3.1.3. A Tailored SIB may be convened for Class A Aircraft mishaps that do not involve a fatality or a destroyed aircraft, when the convening authority determines a full SIB is not warranted. Upon convening authority request, AF/SE may also approve use of a Tailored SIB for a destroyed aircraft or fatality mishap in unusual cases when mishap prevention purposes can be adequately served. A Tailored SIB consists of only those full Aircraft SIB members the convening authority believes are needed to adequately investigate the event and prepare the necessary reports. Some SIB membership requirements in this Instruction are identified as CSAF-directed, and will not be waived for a Tailored SIB.

7.3.1.4. A Single Investigator may be used when the investigation is not technically complex and a formal report is not required under this Instruction or for unmanned full-scale UAV Class A mishaps where no collateral damage or injuries occur. A Single Investigator may, however, prepare a formal report when directed by the convening authority or MAJCOM beyond the requirements of this Instruction. A Single Investigator must meet the Investigating Officer qualifications in paragraph **7.3.3.** A Single Investigator may require additional technical assistance from persons otherwise qualified as SIB members, but these persons are not generally involved in preparing the final report.

7.3.1.5. Mishaps that meet the definition in paragraph **7.1.5.2.** for the Engine-Confined FOD subcategory are normally investigated by a Single Investigator. Engine-Confined Non-FOD mishaps are normally investigated by a Tailored SIB. Engine -Confined investigations do not normally have an SIB President, and are usually led by an Investigating Officer.

7.3.2. Aircraft SIB President Qualifications.

7.3.2.1. By CSAF direction, the SIB President for Class A Aircraft Flight mishaps must be a graduate of the HQ AFSC Board President Course prior to his or her appointment, and waivers will not be permitted. SIB Presidents for Class B Aircraft Flight mishaps should be a graduate of the HQ AFSC Board President Course. This is only desired, not required.

7.3.2.2. By CSAF direction, the Class A Aircraft SIB president will be appointed from outside the wing or equivalent organization having the mishap. The SIB President will not be attached to the mishap wing for flying purposes. Also, do not assign a SIB president to a mishap if he/she has or anticipates an assignment to the mishap wing in the next 6 months.

7.3.2.3. By CSAF direction, for Class A Aircraft Flight Mishaps involving a fatality, select a Brigadier General-select or higher-ranking officer as SIB President. For a Class A mishap not involving a fatality select a Colonel or higher-ranking officer although this is not CSAF mandated.

7.3.2.4. For Class A Aircraft Flight, Aircraft Flight-related and Aircraft Ground Ops, the SIB president must be a pilot or navigator.

7.3.3. Aircraft Mishap IO Qualifications and Selection.

7.3.3.1. The term Investigating Officer includes NCOs and civilians who are appointed to investigate mishaps.

7.3.3.2. IO Selection. Each Air Force wing, higher headquarters, and geographically separated unit (GSU) commander appoints one or more investigating officers. ARC unit commanders appoint one or more guardsmen or reservists to investigate mishaps. Select the investigating officer from the most qualified individuals available, using the criteria below. When a fully qualified individual is not available, the convening authority's safety staff must participate in the investigation and help with the details of compiling the formal report. Examples of non-qualified individuals are persons who do not have safety experience, formal safety training, an investigation background, or working knowledge of this instruction. For Class A mishaps, do not select an Investigating Officer from the same wing as the mishap aircraft or mishap aircrew. For other Aircraft mishaps, the IO should be selected from outside the mishap squadron whenever possible, and preferably from outside the mishap wing. During a safety investigation, relieve the investigating officer of all other duties.

7.3.3.3. IO Qualifications. By CSAF direction, the IO for Aviation mishaps must be a graduate of the USAF Flight Safety Officer Course or the USAF Aircraft Mishap Investigation Course, and waivers are not permitted. An IO must also meet MAJCOM-defined experience criteria. Current or previous qualification in the mishap aircraft is desirable. Safety NCOs and civilians may investigate Class C aircraft mishaps and HAP aircraft events when no operator factor is involved.

7.3.3.4. Deleted.

7.3.4. Core Required Primary SIB Members for Aircraft Mishaps.

7.3.4.1. A "primary member" is a person authorized to have an equal voice with all other primary members (except the board president) to determine findings, causes, recommendations, and is authorized to submit a minority report. The following core members are required on all full Aircraft SIBs (except as noted).

7.3.4.2. Board President. The board president is the final decision point for the findings, causes and recommendations in the board report. Other primary members may submit minority reports if they disagree. See qualification requirements in paragraph **7.3.2.**

7.3.4.3. HQ AFSC Representative. By CSAF direction, an AFSC representative is a required member on all Aircraft Flight Class A mishap boards. The convening authority may request an AFSC representative for other SIBs, and AFSC/SEF will determine availability and extent of participation.

7.3.4.4. Investigating Officer. See qualification requirements in paragraph **7.3.3.**

7.3.4.5. Pilot Member. A pilot, currently on flying status and qualified in the mishap aircraft. (For UAVs investigated under **Chapter 14** instructions, a UAV Air Vehicle Operator qualified in the mishap aircraft will substitute for the pilot member.)

7.3.4.6. Maintenance Member. A fully qualified maintenance officer, civilian equivalent, or senior NCO with at least two years maintenance experience in the mishap aircraft if available. The Maintenance Member must be a graduate of the HQ AFSC Aircraft Mishap Investigation

Course (officers only) or AETC Jet Engine Mishap Investigation Course (officers or enlisted may attend).

7.3.4.7. Medical Officer. An Air Force flight surgeon or physician qualified in aerospace medicine.

7.3.5. Conditional Required Primary SIB Members for Aircraft Mishaps.

7.3.5.1. The following members may be required on an Aircraft SIB, depending upon the circumstances of the mishap.

7.3.5.2. Air Traffic Control (ATC) Officer or senior NCO, if air traffic control is known or suspected to have been a factor in the mishap. The convening authority coordinates with Air Force Flight Standards Agency (HQ AFFSA/XV), DSN 858-2177, to select an air traffic control officer if not available within the command.

7.3.5.3. Weather Officer, if weather or meteorological service is known or suspected to have been a factor in the mishap.

7.3.5.4. Weapons Safety Manager, if a nuclear weapon or warhead is involved. Select a fully qualified maintenance officer with munitions experience, an EOD officer or NCO, or a nuclear safety officer.

7.3.5.5. Nuclear Expert, if nuclear reactors, nuclear power systems, or radioactive sources are involved.

7.3.5.6. Air Force Operational Test and Evaluation Center (AFOTEC) Representative, if AFOTEC-managed OT&E procedures or equipment are involved.

7.3.5.7. Life Support Officer or NCO if life support equipment is known or suspected to have been a factor in the mishap or may have contributed to injuries. Life Support members must be graduates of the HQ AETC Aircrew Life Support Officer's Course, S-V8G-A, or the one-week mishap investigation portion of that course.

7.3.5.8. Jumpmaster, if the mishap involved personnel airdrop operations.

7.3.5.9. Representatives from other services (USN, USA, and/or USCG) when their aircraft, facilities, materiel, or personnel are involved and they elect to participate. The non-Air Force members will actively participate in the investigation and aid in report preparation. The convening authority determines whether they will be primary or non-primary members. Depending upon the extent of involvement, other services may provide a qualified investigator to serve as a second IO on the SIB.

7.3.5.10. UAV Mission Commander, if UAV is involved. Select a fully qualified mission commander with experience with that model of UAV.

7.3.5.11. Crash Fire & Rescue (CFR) Specialist, if CFR response, actions or failures played a major role or contributed significantly to the extent of damage or injuries.

7.3.6. Required Non-primary SIB Members for Aircraft Mishaps.

7.3.6.1. Non-primary members assist primary members in mishap investigation and report preparation. A non-primary member is not authorized to submit a minority report. The SIB President determines the extent of their participation. The following non-primary members may be required on an Aircraft SIB, depending upon the circumstances of the mishap.

7.3.6.2. SIB Recorder. An officer or senior NCO familiar with administrative procedures. A Recorder is essential to any SIB.

7.3.6.3. Human Factors Consultant, if the SIB suspects human factors issues (psychology, physiology, etc.) were present in the mishap which are outside the scope or expertise of the SIB Medical Officer. The SIB President, Medical Officer, or the AFSC Representative will coordinate with AFSC/SEFL, DSN 246-0830/0840/0871 as early as possible in the investigation to assign a Human Factors Consultant to the SIB when needed.

7.3.6.4. Representatives of the involved aircraft SPD, Single Manager, or Item Manager or Air Force test organization, if these organizations participate. See paragraph **4.4.2.** for notification requirements.

7.3.6.5. Representatives from the FAA or NTSB, if appropriate. See paragraph **1.10.** and AFJI 91-206.

7.3.6.6. Commander's Representative, if requested by the commander whose aircraft or operator was involved in the mishap. The Commander's Representative's role is to provide information to the SIB regarding operational and organizational details and practices. They are strictly prohibited from providing any information regarding the SIB investigation to anyone outside the SIB, except as explicitly authorized by the SIB President. The SIB President normally assumes that responsibility directly, and must decline to disclose information if doing so may jeopardize any aspect of conducting the investigation.

7.3.6.7. Air Force Flight Standards Agency representative, if instrument flight procedures or publications are involved. The convening commander coordinates with AFFSA/XO, Andrews AFB MD 20331-7002, DSN 858-4702 for assistance.

7.3.6.8. Personnel determined by HQ AFSC/JA to be necessary and appropriate under cooperative agreements. (An example would be foreign government representatives.)

7.3.6.9. Safety Advisor, if a trained safety officer is not already a member of the SIB.

7.3.7. Discretionary Non-primary SIB Members for Aircraft Mishaps.

7.3.7.1. The following discretionary non-primary members may be appointed to an Aircraft SIB, at the discretion of the convening authority and/or the SIB President.

7.3.7.2. Additional crewmembers (navigator, loadmaster, etc.) qualified in the mishap aircraft.

7.3.7.3. Technical personnel with expertise in specific systems or other needed fields.

7.3.8. Aircraft SIB Observers.

7.3.8.1. Sometimes a mishap involves weapon systems or equipment common to another US military service or to civil aviation. In these cases, personnel from the other service or the NTSB may request to observe the Air Force investigation. Upon HQ AFSC approval, these requests are forwarded to the convening authority. An observer is not a member of the Air Force SIB. Consult HQ AFSC/JA on any disclosure issues regarding SIB observers.

7.3.9. Investigating Life Science Aspects of Major Aircraft Mishaps.

7.3.9.1. Interim Safety Board Actions. The ISB medical officer and mortuary officer assigned by the commander of the Air Force base nearest to the mishap initially collect life sciences evidence in a Class A or B Aircraft mishap (see **Chapter 1**). Together, they do the following:

7.3.9.1.1. Preserve perishable evidence, to include video and still photography at the mishap site, collecting laboratory samples, completing radiological studies, and obtaining initial witness statements.

7.3.9.1.2. Ensure nonperishable evidence associated with human remains (life support equipment, aircraft egress systems, etc.) is left undisturbed at the mishap site.

7.3.9.1.3. Contact the AFIP to coordinate forensic pathology assistance. AFIP can be reached via telephone at any time through DSN 285-0000 or commercial (301) 319-0000.

7.3.9.2. Contact HQ AFSC/SEFL for further assistance. Guidance for the interim board medical officer is also found in **Chapter 1** of this instruction, AFI 48-125, AFPAM 91-211, and *The Society of USAF Flight Surgeon's Checklist*.

7.3.9.3. Consider using technical specialists in aircraft egress systems and human performance factors early in the investigation.

7.4. Aircraft Mishap and Event Reporting Requirements.

7.4.1. Aircraft Mishap Reports. Aircraft mishaps are reported using three types of report. All Aircraft mishaps require message reporting using appropriate formats in **Figure 7.1.** through **Figure 7.5.** In addition to message reporting, an Abbreviated Formal Report prepared per **Figure 7.6.** or a Full Formal Report prepared per **Attachment 3** may be required. The NAF, MAJCOM or HQ AFSC may direct a higher level report for any mishap when high costs, mishap complexity or other factors indicate more extensive documentation of the investigation is required. When a formal report is prepared and endorsed by the MAJCOM, HQ AFSC will prepare a Memorandum of Final Evaluation per paragraph **6.2.** Regardless of the type of report, a thorough investigation is required, sufficient to identify the root causes of the mishap and corrective actions to prevent recurrence.

7.4.1.1. Deleted.

7.4.2. Reporting Class A and Class B Aircraft mishaps. All Class A and Class B Aircraft mishaps require message reports per **Table 7.1.** using the formats in **Figure 7.1.** and **Figure 7.2.** Class A and Class B mishaps in the Engine-Confined FOD subcategory only do not require formal reports unless otherwise directed, and will not have a Memorandum of Final Evaluation prepared unless a formal report is directed. All wildlife related Engine Confined FOD mishaps must be reported IAW paragraph **7.4.7.** When the individual who is the source of the FOD is identifiable, a thorough Human Factors investigation must be conducted, however. It is highly recommended that this be accomplished by a flight surgeon, aerospace physiologist or aviation psychologist. Standard tab Y information (as in **7.4.10.7.6.1.** through **7.4.10.7.6.3.** and **7.4.10.7.6.6.**) must be collected and incorporated into the message. A Life Science Report must be accomplished on the individual, saved on a 3.5 inch floppy disk and forwarded to HQ AFSC/SEFL. All other Class A and Class B Aircraft mishaps (including those in the Engine-Confined Non-FOD subcategory) require a formal report. If the mishap involves a fatality or destroyed aircraft (a UAV is not an aircraft under DoD definitions) a Full Formal Report prepared per **Attachment 3** is required. Other Class A and Class B Aircraft mishaps may use an Abbreviated Formal Report prepared per **Figure 7.6.**

7.4.2.1. Waiver of Tabs. **Figure 7.6.** provides guidance for tabs that may be waived for Abbreviated Formal Reports. After consultation with HQ AFSC/SEF, MAJCOM/SE may approve waiver of specific tabs in an Abbreviated Formal Report depending upon the circumstances of the mishap

and investigation. Tabs in a Full Formal Report may also be waived by MAJCOMs, but only if the Board President determines there is no information applicable for that tab.

7.4.2.2. Waiver of Formal Report. HQ USAF/SE is the approval authority for all waivers to formal report requirements unless otherwise provided for in this instruction. Formal reports will not normally be waived unless none of the ten waiveable tabs in the Abbreviated Formal Report are applicable.

7.4.3. Reporting Class C Aircraft Mishaps.

7.4.3.1. Class C Aircraft mishaps are normally reported only by message. Use the message format in **Figure 7.1.** and **Figure 7.2.** and the reporting schedule in **Table 7.1.** unless noted otherwise. Preliminary messages are encouraged when circumstances warrant, such as media interest or lessons of immediate importance to other activities.

7.4.3.1.1. Parachuting Injuries. Preliminary and final message reports are required.

7.4.3.1.2. Airdrop Operations Unexpected Damage. Preliminary and final message reports are required.

7.4.3.2. At MAJCOM or unit option, a formal report may be prepared by either a SIB or a single investigator. If so, use the two-part format. MAJCOMs may approve deletion of tabs or AF 711-series forms.

7.4.3.3. If the MAJCOM indorses a unit-level Class C formal report, or if the MAJCOM prepares a formal report, HQ AFSC will prepare a MOFE on the mishap.

7.4.4. Reporting Class E Aircraft Events.

7.4.4.1. Use the Aircraft CMR message format in **Figure 7.5.** to report Class E Aircraft events unless noted otherwise below.

7.4.4.1.1. Report propulsion-related Class E events using the reporting format in **Figure 7.3.** with the following exception: Report single-engine Class E propulsion events on aircraft with three or more engines in a quarterly summary, rather than filing individual reports for each event. Quarterly summaries should include the following information:

7.4.4.1.1.1. Aircraft MDS and tail number.

7.4.4.1.1.2. Engine type and serial number.

7.4.4.1.1.3. Date, Time, and Location.

7.4.4.1.1.4. Phase of flight: (e. g. climb, touch-and-go, low level, etc.)

7.4.4.1.1.5. Aircraft speed (KIAS) and maneuver.

7.4.4.1.1.6. Altitude (AGL and MSL).

7.4.4.1.1.7. Short mishap summary including throttle position and movement.

7.4.4.1.1.8. Event cause and corrective action.

7.4.4.1.2. Report Class E Physiological Events by message using the format in **Figure 7.4.** and on the AF Form 711GC, *Life Science Report of a Class C Physiological Mishap*. Standard reports must include TOX test results (when directed at the commander's option) and medically-indicated lab test results for each effected person. (The term "abbreviated report" is no

longer used.) For decompression sickness, trapped gas disorders and in-flight incapacitation, also include a 72-hour history with the standard report.

7.4.4.1.2.1. The Air Force flight surgeon responding to the physiological incident completes the AF Form 711GC. In situations where an Air Force physician does not initially treat the mishap individual, the Air Force flight surgeon with final medical disposition of the case completes the form. The flight surgeon forwards the completed form to local flight safety office for transmission to the required addresses within the specified time limit.

7.4.4.1.2.2. The life support officer must comment on any life support equipment failure or malfunction contributing to a physiological mishap, describing corrective action taken as appropriate.

7.4.4.1.2.3. Send unclassified or declassified original audiovisual tape or film (such as a head up display VTR) concerning a physiological mishap to AFSC/SEF within 30 calendar days. AFSC/SEF will make a copy of the product, return the original to the sender, produce an enhanced master recording for training, and distribute it to authorized requesters.

7.4.5. Reporting HAP Events.

7.4.5.1. Report HAP events using whatever message reports are warranted by the event. Regardless of whether preliminary or status reports are used, always transmit a final message. The convening authority or higher authority may decide a formal (AF Form 711-series) report is also required.

7.4.5.2. The action ALC, or other agency with engineering responsibility, must send AFSC/SEFM a copy of each TDR originating from a HAP event. Include all supporting documents, such as metallurgical analyses, photographs, and test reports.

7.4.6. Reporting Missing Aircraft.

7.4.6.1. Report missing aircraft according to AFI 13-202, *Overdue Aircraft*. Report a missing aircraft as a Class A mishap when major search efforts are terminated or after it has been missing for 10 days, whichever comes first. Submit a preliminary report for a Class A flight mishap and start the investigation. Send reports on the same schedule as for a Class A flight mishap. The 30-day time for safety reporting starts on the date the preliminary report was sent. If the aircraft is later found, update the formal report with a status report, change the AF Forms 711 if needed, change any other information based on the investigation, and distribute to the original addressees.

7.4.7. Reporting Bird / Wildlife Strikes.

7.4.7.1. Bird /wildlife strikes resulting in damage above reportable Class C thresholds are reported according to this instruction. In addition, all bird/wildlife strikes (damaging and non-damaging) are reported to the USAF BASH Team using the Safety Automated System (SAS) found on the Air Force Safety Center web page. When bird/wildlife strikes occur to captive or live munitions (explosive/missiles), these are reported as if the bird/wildlife hit the aircraft. Reporting all bird/wildlife strikes, damaging and non-damaging, is a necessary part of an effective BASH plan. An in-depth knowledge of the circumstances leading to a bird/wildlife strike is vital before realistic recommendations can be made.

7.4.7.1.1. Flight safety offices of the organization credited with the aircraft's flying hours will report all bird/wildlife strikes. Strikes occurring to non-USAF aircraft at Air Force bases should be reported by the host installation flight safety office if the strike information is available.

7.4.7.1.2. Bird/wildlife strikes should be reported as they occur using SAS but must be reported NLT the 15th of the following month. SAS requires a user profile (username and password). MAJCOM safety offices have designated SAS administrators to create BASH SAS accounts for each unit. Aircrews and maintenance personnel documenting the necessary data for reporting wildlife strikes through SAS can use AF Form 853.

7.4.7.1.3. Feather remains from **every** bird strike, if available, must be sent to the Smithsonian National Museum of Natural History for identification. Send as much material as possible to include feet, beak, wing, tail, breast and back feathers. Species identification can be made with the smallest of feather fragments found in blood smears on aircraft surfaces. If no other remains are apparent, spray blood smear with water and wipe with a clean paper towel. Fold towel and place into labeled zip-loc bag. Send feathers or feather fragments and a copy of the corresponding BASH SAS report to the Smithsonian Institution, Natural History Building; Division of Birds, Attn: Dr. Carla Dove; NHBE 610 MRC 116; 10th & Constitution Ave. NW; Washington, DC 20560. . If you collect a whole bird carcass, place it in a freezer and contact the Smithsonian at (202) 357-2334 to see if the museum can use the specimen in their collection. To ensure overnight delivery, time shipments to the Smithsonian to arrive Monday - Friday. Remains found on the runway as the result of a suspected aircraft strike, should also be sent to the Smithsonian for identification. Once the Smithsonian has entered the identification into the SAS report, SAS will automatically notify the reporting unit of the species identification through email.

7.4.7.1.4. For wildlife strikes other than birds, send samples of skin, fur, teeth or other non-fleshy remains, if possible, or a photograph of the remains along with the corresponding BASH SAS report to the Smithsonian for identification.

7.4.7.1.5. Deleted.

7.4.7.1.6. Deleted.

7.4.7.2. Technical Assistance. AFI 91-202, *The U.S. Air Force Mishap Prevention Progra*m, out-lines responsibilities for reducing bird/wildlife strike hazards. Obtain additional information on BASH management from AFPAM 91-212, *Bird Aircraft Strike Hazard (BASH) Management Techniques.* Technical assistance is available through the USAF BASH Team, HQ AFSC/SEFW, 9700 AVE G SE, Suite 266, Kirtland AFB, NM 87117-5671. DSN 246-5674/5679/5673 or Commercial (505) 846-xxxx, fax x0684, e-mail address; mailto:bash@kafb.saia.af.mil.

7.4.8. Reporting "Common Service" Failures.

7.4.8.1. When a mishap involves aircraft and engines common to other US military services or the US Coast Guard **(See Table 7.3.)** send the message reports to the agencies indicated in **Table 7.2.**

7.4.8.2. Only the respective safety centers exchange formal safety reports between services. Air Force commanders forward requests to AFSC/SEC when they need information from or receive requests from any non-Air Force agency or another service.

7.4.9. Reporting Ejection or Bailout.

7.4.9.1. Report every ejection or manual bailout from an aircraft with an electronic Life Sciences Report. When a safety investigation is not performed, such as in combat situations or when only a AIB investigation is conducted, report as much of the information on an electronic Life Sciences Report as possible.

7.4.10. Life Sciences Safety Reporting

7.4.10.1. Report the aeromedical, life support, egress and other human factors related to a mishap as life sciences safety information. Life sciences safety reports are required for Class A and B aircraft mishaps. Send these reports in accordance with **Table 7.4.**

7.4.10.2. For formal safety reports, use the electronic Life Sciences Report, which can be downloaded from the AFSC web site at (**http://www-afsc.saia.af.mil/AFSC/RDBMS/Flight/sefl/lifedown.html**). Life sciences information is reported in Tab Y of the formal Safety Investigation Board report. TOX results (drug screen and alcohol determination) are reported on the electronic Life Sciences Report (LSR), and if relevant to the mishap, discussed in detail in the narrative report of Tab Y. Significant life sciences and toxicological information, as well as related findings and recommendations, should be reported in Tab T as required by the Safety Investigation Board President.

7.4.10.3. For Class C mishaps (without a formal report) involving aeromedical, life support, egress and other human factors, use AF Form 711GC in conjunction with the required message reports.

7.4.10.4. For Class E physiological mishaps, use AF Form 711GC in conjunction with the modified Aircraft CMR as outlined in **Figure 7.4.**

7.4.10.5. Refer questions on form completion or reporting procedures to HQ AFSC/SEFL DSN 246-0830/0840 or commercial (505) 846-0830/0840.

7.4.10.6. Classifying Injuries:

7.4.10.6.1. Fatal Injury. Injuries resulting in death, either in the mishap or at any later time, due to complications arising from the mishap injuries.

7.4.10.6.2. Disability. Disabilities resulting from mishap injuries are divided into two categories, permanent total disability and permanent partial disability.

7.4.10.6.3. Lost Workday Injury. An injury not resulting in death or disability but with one or more lost workdays. Lost workday injuries are divided into major and minor categories.

7.4.10.6.3.1. A major lost workday injury is a nonfatal injury which does not result in disability but requires admission to hospital, restriction to quarters, or a combination of both, for 5 or more days. It also includes any of the following, regardless of hospital status:

7.4.10.6.3.1.1. Unconsciousness for more than 5 minutes due to head trauma.

7.4.10.6.3.1.2. Fracture of any bone, except simple fracture of the nose or phalanges.

7.4.10.6.3.1.3. Traumatic dislocation of major joints or internal derangement of a knee.

7.4.10.6.3.1.4. Moderate to severe lacerations resulting in severe hemorrhage or requiring extensive surgical repair.

7.4.10.6.3.1.5. Injury to any internal organ.

7.4.10.6.3.1.6. Any third degree burns, or any first or second degree burns (including sunburn) over 5 per-cent of the body surface.

7.4.10.6.3.2. A minor lost workday injury is an injury less than major which results in one or more lost workdays.

7.4.10.6.4. No Reportable Injury. No injuries occur or injuries are minimal and do not result in a lost workday, including first aid treatment or observation.

7.4.10.6.5. Missing. The location of the body is not known or the body is not recoverable and the degree of injury is unknown. These cases equate to a fatal injury for mishap classification purposes.

7.4.10.7. Preparing the Life Sciences Portion of Formal Safety Reports.

7.4.10.7.1. A primary medical member, assisted by a life support officer as necessary, normally accomplishes the life sciences portion of a formal safety report. If there is no medical or life support officer, the investigating officer prepares all required life sciences documentation.

7.4.10.7.2. Life Sciences Narrative. For those mishaps where a life sciences narrative is required, prepare a consolidated narrative. The narrative will be completed in two physically distinct parts. Part A will include a short history of flight and a thorough discussion of all human factors contributing to the mishap. Do not accomplish routine negative "rule out" reviews; indicate only those factors that have specific relevance to the mishap. Do not provide routine definitions of aeromedical or human factors terms. This discussion must also address significant ejection, life support, rescue, and survival factors. Findings and recommendations from Part A, determined to be significant must also be discussed and incorporated into the appropriate sections of Tab T and included in Tab T findings and recommendations as appropriate. Part B will include discussions of factors investigated and found not to be relevant in the mishap, and any other negative findings that the medical investigator determines should be discussed to show how they were logically ruled out. Also include factors discovered that potentially could have had consequences on this mishap or could lead to a mishap, injury, or delayed rescue in future operations, i.e., if investigations determine that a piece of survival equipment did not or would not function as required, even though it did not figure in the mishap sequence, that fact needs to be identified. Other findings and recommendations of significance, from Part B, must also be discussed and incorporated into the appropriate sections of Tab T and included in Tab T findings and recommendations of other significance as appropriate. Save both Part A and Part B of the narrative on a computer disk under different file names (e.g., "parta.doc" and "partb.doc"). Include the narrative information within Tab T.

7.4.10.7.3. Electronic Life Sciences Report. Use this form in formal reports of aircraft mishaps or ground (aircraft involvement) mishaps. Some persons may be covered by several rules in this paragraph, however, only one report is required on any one individual. Complete one form for:

7.4.10.7.3.1. Each primary crewmember, regardless of injury.

7.4.10.7.3.2. Each individual evacuating the aircraft in flight.

7.4.10.7.3.3. Each individual involved in a survival situation or requiring rescue.

7.4.10.7.3.4. Each individual suffering a fatal or permanently disabling injury or illness as a result of mishap.

7.4.10.7.4. In mishaps where there is the possibility of life support equipment failure, the life support officer must participate in the investigation and complete applicable sections of Tab Y.

7.4.10.7.5. A consolidated Part A and a consolidated Part B for the narratives are preferred over a Part A and a Part B for each individual involved in the mishap. Although consolidated, each individual's role in the mishap should be clearly delineated. If individual narratives are needed to effectively capture the mishap information then the medical investigator must first coordinate this with AFSC/SEFL before submitting the narratives in the final report.

7.4.10.7.6. A typical Tab Y will contain the following in this order:

7.4.10.7.6.1. Life Science Narratives, Part I and Part II (Save as PART1.DOC and PART2.DOC).

7.4.10.7.6.2. Electronic LSR (Save following direction in program instructions).

7.4.10.7.6.3. Life Science and Human Factors Consultant Reports when available (Save as HF.DOC).

7.4.10.7.6.4. For each rated individual: the latest two physicals if one is long, or else the latest three physicals; for other individuals involved in the mishap only include physicals if determined appropriate by the medical investigator, (include only in the report sent to HQ AFSC).

7.4.10.7.6.5. Any other reports obtained by the medical investigator, e.g., TOX tests, x-rays, autopsy reports, post mishap exam results, etc., that support findings or recommendations made by the medical investigator (include only in the report sent to HQ AFSC).

7.4.10.7.6.6. Send all saved files to AFSC/SEFL on a 3.5-inch disk when final. Label the diskettes with the name, location, and date of the mishap and the name, duty station and telephone number of the medical officer.

7.5. Disclosing Mishap Information to News Media and Next of Kin (NOK).

7.5.1. Release of Information.

7.5.1.1. The SIB President is the release authority for all information from the SIB Board. The SIB President will release factual information to the AIB President via the AFSC representative in accordance with AFI 34-1101. The SIB President will not release any mishap information directly to the news media, NOK, or the public.

7.6. Aircraft Safety Message Reports.

7.6.1. General Information.

7.6.1.1. Aircraft reporting includes message reports and formal reports.

7.6.1.2. SIB reports are privileged reports containing privileged and non-privileged safety information. SIB message reports (except the 8-hour preliminary message report) and Part II of formal reports are privileged portions of the reports. Class C and HAP reports for these categories are not prepared in two parts, but contain privileged information. ***NOTE:*** Aircraft reports include Flight, Flight-related, Ground Operations and Aircraft Involvement reports. See **Chapter 2** for a complete discussion of privilege.

7.6.1.3. List Causal Agent-Area-Reason (CAR) taxonomy after each cause in Aircraft message reports. The text of the finding should reflect any pertinent information that is in the CAR taxonomy. Do not rely upon the CAR to identify that a design deficiency is the cause; state that information in the finding.

7.6.2. Final Report Message.

7.6.2.1. Use the Aircraft CMR format in **Figure 7.2.** for all Class A, B, and C Aircraft mishaps and Class E and HAP Aircraft events, except as noted otherwise.

7.6.2.2. Complete the investigation and prepare the final message within the time limits of **Table 7.1.**

7.7. Preparing Message Reports for Aircraft Mishaps.

7.7.1. Addressees.

7.7.1.1. Prepare these message reports in the formats shown in **Figure 7.1.**, **Figure 7.2.**, **Figure 7.3.** or **Figure 7.4.**. Submit them according to the time requirements of **Table 7.1.** and provide to appropriate addressees in **Table 7.2.** and **Table 7.3.** The following instructions also apply to these messages:

7.7.1.2. **Table 7.2.** shows who receives the reports based on their need to know and prevents inadvertent release of privileged information outside the Air Force. **Table 7.3.** shows the aircraft, engines, ALC/SPD, and common service applicability for all USAF aircraft.

7.7.1.3. Commands may supplement this instruction to include internal organizations as addressees if they have a need to know.

7.7.1.4. Use AIGs to include addressees within the command as recipients of selected safety messages. List the addressees in **Table 7.2.** and **Table 7.3.**, followed by the appropriate weapon system AIG, when used. If base message center is not listed on the AIG, contact investigating MAJCOM to ensure they retransmit the message under the appropriate AIG. Do not place addressees outside the command on command AIG listings without HQ AFSC/JA approval.

7.7.1.5. For all preliminary, status and final message transmissions of non-nuclear Aircraft mishaps, use AIG 9391. This AIG may also be used for all final message reports under this instruction involving any aircraft involved mishaps. The highest classification of information that may be transmitted using this AIG is “Unclassified EFTO” (UNCLAS EFTO).

7.7.1.6. Ensure all agencies identified as OPRs for mishap recommendations are included in the addressee list, unless such agencies are outside the Department of the Air Force. For OPRs outside the Air Force, MAJCOM safety offices consult with HQ AFSC/JA on the appropriate means of conveying the tasking.

7.8. Preparing Aircraft Mishap Formal Reports.

7.8.1. Guidance.

7.8.1.1. See paragraph**5.5.1..** for general instructions on formal reports. The guidance below may be peculiar to Aircraft reports. Use CAR taxonomy after each cause in Aircraft formal reports. The text of the finding should reflect any pertinent information that is in the CAR taxonomy.

7.8.2. Assembling the Formal Report.

7.8.2.1. Deleted.

7.8.2.2. Privileged reports should include all tabs. If certain Tabs do not add to the report due to the mishap's circumstances, contact HQ AFSC/SEF with a request to omit them.

7.8.2.3. Tab Z is optional for both privileged and non-privileged reports.

7.8.2.4. Include a computer disk(s) containing the MS Word documents of the formal report in the copy sent to HQ AFSC/SEFM for Aircraft and Engine-Confined incidents, and HQ AFSC/JA for all other mishaps.

7.8.3. Marking Reports.

7.8.3.1. For classified pages, use the proper security classification markings from AFI 31-401.

7.8.3.2. Place a header on each page containing aircraft type, aircraft serial number and mishap control number (e.g. F-15C, 85-0001, 19970516ZQKL508A).

7.8.3.3. Do not place special handling markings on unclassified pages in Part I of two-part formal reports, for example do **not** use "FOR OFFICIAL USE ONLY" footers.

7.8.3.4. Place a footer on each page in Part II of formal reports using **Figure 2.5.**.

7.8.3.5. Privileged Report Covers. Mark the covers of privileged formal reports using **Figure 2.5.** and add the following statement:

COPYING OR RELEASING ANY PORTION OF THIS REPORT IS PROHIBITED WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE AIR FORCE CHIEF OF SAFETY.

7.8.3.6. Deleted.

7.8.4. Forwarding Aircraft Mishap Formal Reports.

7.8.4.1. The formal report or final message for Class A Aircraft mishaps will not be distributed prior to the briefing to the convening authority.

7.8.4.2. Send three copies of all Aircraft safety reports to HQ AFSC/SEF and appropriate copies to other Air Force agencies according to **Table 7.4.** via registered mail. Use a memorandum of transmittal (**Figure 5.2.**) for each report.

7.8.4.3. Send the complete text of all applicable tabs of the formal report in MS Word document format on an approved electronic recording media, to AFSC/SEF.

7.8.4.4. The SIB President or Investigating Officer must provide the originals of Part I to the AIB President. If an original document is not available, state in writing the location of the original document, the name and telephone number of the custodian of the document, and the reason for not obtaining the original document.

7.8.5. Briefing Aircraft Mishap Formal Reports.

7.8.5.1. Once the SIB or single investigator completes the investigation and finalizes the formal report and the final message, the board member(s) will brief the convening authority on the results of all Class A Aircraft mishap investigations, or any other investigation when directed by the convening authority.

7.8.5.2. With the approval of the convening authority, the SIB results may be briefed to the NAF/CC, for informational purposes only, prior to the briefing to the convening authority. All other briefings or disclosures of the report content, unless specifically authorized in this publication, are prohibited. The senior officer receiving the briefings will dictate attendance.

7.8.5.2.1. The NAF/CC may not direct changes to the SIB report or direct further investigation.

7.8.5.2.2. The only personnel authorized to attend the NAF/CC briefing are the NAF/CC and upon invitation from the NAF/CC, the mishap active component wing commander, as an observer, except as noted below. In the case of an ANG mishap, the NAF/CC may also invite the Director of the Air National Guard and the mishap unit's state Adjutant General. Upon invitation, the Director, Air National Guard and the state Adjutant General will determine whether they or their respective designated representative attends the briefing. All national guard personnel shall attend the briefing in a U.S.C. Title 10 or Title 32 military status. All attendees will be fully briefed on the privileged nature of the briefing and that the briefed information will not be disclosed outside AF safety channels. For AFRC mishaps, the NAF/CC may also invite the mishap wing commander and the mishap AFRC NAF/CC to the briefing.

7.8.5.3. HQ USAF/SE will be the focal point for all briefings to the CSAF and/or Air Force Secretary for those Aircraft mishaps involving fatalities or other mishaps when requested.

7.8.5.4. SIB briefings will be afforded the same protection given the formal report. The briefing format in **Attachment 3** will be used to build the briefing.

7.8.6. Convening Authority Actions.

7.8.6.1. Once briefed the convening authority has three options:

7.8.6.1.1. Accept the report as written.

7.8.6.1.2. Accept the report with comment. The convening authority will have 14 calendar days from the date of the briefing to prepare written comments and attach them to the formal report and final message as an addendum. This is not necessarily the complete command endorsement and the convening authority may add additional comments to the original endorsement during the MOFE process. Comments raised by the convening authority will be addressed during development of the MOFE.

7.8.6.1.3. Direct the SIB President and its members to conduct additional investigations. The convening authority will provide additional guidance to the board to ensure the report fulfills the purpose, intent, and requirements of the Air Force Mishap Prevention Program.

7.8.6.1.4. After the SIB re-examines the areas identified by the convening authority and completes their reinvestigation, the convening authority will be re-briefed and have the same three options outlined above. Once this sequence is completed, the MAJCOM Safety Office will

send the final message and distribute the formal report. The convening authority shall not hold the formal reports or final message report for staffing of addendum comments, beyond the required transmittal time frame. If staffing is not complete, send the reports and transmit a supplemental comment message.

7.9. Aircraft Mishap Rates and Accountability.

7.9.1. Mishap Rates.

7.9.1.1. Most Air Force Aircraft Flight mishaps are Air Force rate producing. Rates are calculated per AFI 91-202. Certain mishaps may be deemed non-rate producing by HQ USAF/SE. Examples of these are R&D flight mishaps where the contractor has assumed risk of loss as specified in contracts; certain "special access" flight mishaps as determined by HQ USAF/XO, HQ USAF/TE, and HQ USAF/SE; Flight-Related mishaps, Engine-confined Incidents, and non-powered glider/sail plane Flight mishaps.

7.9.2. Accountability.

7.9.2.1. HQ AFSC assigns a Flight mishap to the organization credited with the aircraft's flying hours at the time of the event. The following instructions amplify this basic rule for specific circumstances:

7.9.2.1.1. HQ AFSC assigns a mishap involving an aircraft for which no flying time is credited to the command possessing the aircraft. HQ AFSC includes such mishaps in overall Air Force mishap numbers, but they are not rate producing for the accountable command.

7.9.2.1.2. HQ AFSC assigns a mishap involving property damage resulting from propeller wash, rotor wash, or jet blast from Air Force aircraft to the owning command of the aircraft producing the damage.

7.9.2.1.3. HQ AFSC assigns accountability for mishaps occurring while aircraft are being transferred between organizations.

7.9.2.1.3.1. For aircraft being ferried by the gaining organization, transfer occurs when Intent for Flight has been established.

7.9.2.1.3.2. For aircraft being ferried by the losing organization, or by an organization other than the gaining organization, transfer occurs when the aircraft is accepted by the gaining organization or an aircrew of the gaining organization.

7.9.2.1.3.3. For Foreign Military Sales (FMS) aircraft being ferried by the Air Combat Command (ACC) Air Operations Squadron (AOS), transfer from the losing organization occurs when Intent for Flight begins. Continue safety reporting until delivery to the foreign nation or to the embarkation point for delivery as cargo. HQ AFSC does not assign mishaps occurring after transfer to any non-Air Force organization to any Air Force organization. In these cases, include the term "Non-Air Force Aircraft" in the subject line of the safety message.

7.9.2.2. For midair collision mishaps between Air Force aircraft of two different commands, HQ AFSC will determine accountability and assign the mishap to only one command based on the command that was more causal.

7.9.2.3. HQ AFSC assigns a mishap involving aircraft leased to manufacturers for demonstration purposes to the Air Force at large if the lessee does not assume the risk of loss. HQ AFSC does not assign mishaps involving an aircraft to any command while the aircraft is in the possession of the contractor. The leasing command is responsible for safety investigating and reporting.

Figure 7.1. Format for Preliminary and Initial Status (72 Hour) Message Reports for Aircraft Class A, B, or C Mishaps and Class E or HAP Events.

***NOTE*:** Use this format for Class A and B Aircraft mishap preliminary (8-hour) and initial status (72-hour) report messages required by **Table 7.1.** This format should also be used for Class C mishaps and Class E or HAP events when submission of a preliminary or status report message for such events is deemed appropriate by the investigator. For subsequent status reports, use the format in **Figure 7.2.**

***NOTE*:** Preliminary (8-hour) messages must not contain privileged information.

***NOTE*:** Include the privileged markings from **Figure 5.2.**, if appropriate, in initial status (72-hour) reports.

FROM: (Originator)

TO: (see **Table 7.2.** and **Table 7.3.**)

UNCLAS

SUBJECT: Type aircraft (MDS), Mishap Class, Category, Subcategory, and Cross-Category Involvement, Status Report Type, and Mishap Event Number (see paragraph **5.2.** If base code is unknown, use clear text of base name.) [*Example: F-16CG Class A, Aircraft, Ground Ops Flight-ready, Missile Involvement, Preliminary Report, 19980627ZQKL001A*]

***NOTE*:** For category, subcategory and cross category involvement, see **Attachment 5**.

PRIVILEGE MARKINGS (**Figure 2.5.**) If Needed For Initial Status (72 Hour) Report

1. Date and time of mishap. Give date (YYYYMMDD), local time (using 24 hour clock and L-suffix), and whether day or night. [*Example: 19980627, 1743L, night.*]

2. Nearest base to mishap. Name base and indicate if mishap was on-base or off-base. If base submitting report is different from nearest base, also state reporting base name. [*Example: NAF Sigonella (Italy), On-base, Reporting base: Aviano AB, Italy.*]

3. Location of mishap. Give best known latitude and longitude of mishap in degrees and minutes to within 2 decimal places. Radial and distance measuring equipment (DME) (e.g., CZI 252/27) are acceptable in an 8-hour preliminary report when coordinates are not available. Also describe location as specifically as possible and describe terrain or activity in region (e.g., light industrial, residential, etc.). If on a military base, give runway, building, or area numbers/designators and distance from such involved features (e.g., 300 meters short of approach threshold to runway 23; in bay 3 of hangar 7; etc.). If mishap occurred off base, use magnetic heading direction and distance (with units) from nearest town and from

nearest military base, as well as street and highway references. If an item is dropped from an aircraft and not recovered, list location as in-flight and describe approximation of location. For bird strike reporting, include estimated latitude and longitude of bird strike. [*Example: Aircraft impact is at N3234.67, W10738.45, Desert B MOA, 23 statute miles W of Alston, New Mexico; rugged, rocky area at 7300 foot level of Capotosti Peak, 17 statute miles W of US 285 on Forest Road F23; 108 nautical miles SSE of Kirtland AFB.*

4. Narrative of circumstances. Give brief description of mishap and pertinent preceding events. Provide abbreviated, strictly factual information. Include mission information, such as mission type, formation size and position, ordnance, and area weather. Do not include information implying cause. In preliminary reports, do not include information gained through interviews with crewmembers or involved witnesses if provided under a promise of confidentiality.

5. Damage and Injuries. Describe extent of all consequential damage. Summarize injury and fatality information. Describe damage to non-Air Force property and collateral damage and injury costs to the extent they can be determined.

6. Current status. Include status of on-going rescue and recovery operations, hazard containment, and security. Provide information on the level of media interest.

7. Object information. List the following details on involved Air Force equipment or facilities to the extent information can be obtained. If air refueling was involved, also include information on other involved aircraft. For any mishap involving LANTIRN navigation and targeting pods, missiles, vehicles and other equipment, include information on that equipment. Replace x in paragraph number with sequential unique numbers for each involved item.

7.x.1. Nomenclature and identifiers. For aircraft, include the mission-design-series (MDS) designator, weapon system serial number and engine type and serial number(s). For involved explosives, give complete nomenclature of item, (e.g., M8A1 parachute flare, MK4 Mod 3 impulse cartridge, or FMU 56/B fuse). For facilities, list building number and principal purpose.

7.x.2. State how involved (e.g., mishap aircraft, refueler aircraft, destroyed power unit, burned building, etc.).

7.x.3. Accountable MAJCOM/Wing/Squadron for the equipment or facility.

7.x.4. State if object destroyed, or summarize damage assessment.

7.x.5. For Aircraft involved in a Class A or B Flight or Flight-Related mishap, list call sign(s) and transponder modes and codes (required for RADES Support, see para **1.1.11.**).

8. Personnel Information. Describe known details of personnel fatalities and injuries by crew position or other identifier (e.g., refueling truck driver, civilian contractor #4, farmhouse resident, etc). Do not include names. Do not include SSAN on preliminary messages. Include information on crewmembers, passengers, and other involved parties. List crewmember information described below. Replace x in paragraph number with sequential unique numbers for each involved party. If information is unknown, state what is unknown, e.g., age unknown, degree of injury unknown, etc.

8.x.1. Crew position or identifier.

8.x.2. Grade and AFSC.

8.x.3. Fatality or degree of injury. (**Attachment 5** may be used for injury terms; do not use abbreviations.)

8.x.4. Information on ejection or egress attempt and results.

8.x.5. For crewmembers include qualifications when available: total flying time, time in mishap aircraft type, 30/60/90 times and sortie counts, and Air Force component (Active, ANG, or AFRC).

9. Contacts. Name Interim Board President, and cognizant official with e-mail address and telephone number (DSN and commercial). Name SIB President and core members if appointed.

Figure 7.2. Format for Aircraft Mishap and Event Consolidated Message Report.

***NOTE*:** Use this format for most Aircraft Class A, B and C mishap and HAP event report messages required by **Table 7.1.** For preliminary (8-hour) and initial status (72-hour) reports, use **Figure 7.1.** For Class E Propulsion-related events, use the summary format at **Figure 7.3.** For Class E Physiological events, use the summary format at **Figure 7.4.** For all other Class E events, use the summary format at **Figure 7.5.**

***NOTE*:** Use the look-up table at **Attachment 5** for items followed by an asterisk (*).

FROM: (Originator)

TO: (see **Table 7.2.** and **Table 7.3.**)

CLASSIFICATION

***NOTE*:** For classified reports, see AFI 31-401, *Information Security Program Management*.

SUBJECT: Type aircraft (MDS), Mishap Class, Category, Sub-category, and Cross-Category Involvement, Status Report Type, and Mishap Event Number (see paragraph **5.2.**) [*Example: F-16CG Class A, Aircraft, Ground Ops Flight-ready, Missile Involvement, 15 Day Status Report, 19980627ZQKL001A*]

***NOTE*:** For category, sub-category and cross category involvement, see **Attachment 5**.

NOTE: Include Privacy Act Statement when Social Security Numbers are included in the message.

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C., CHAPTER 40; 37 U.S.C., CHAPTER 9; EO 9397, NOVEMBER 1943. PRINCIPAL PURPOSES: SAFETY MISHAP REPORTING ONLY. ROUTINE USES: SAFETY MISHAP REPORTING ONLY. DISCLOSURE: DISCLOSURE OF SSN IS VOLUNTARY.

***NOTE*:** The following Privileged marking applies to most aircraft mishaps. Use the phrase "For Official Use Only" on non-privileged reports, but do not use the remainder of the Privileged advisory. If a security classification is used, "For Official Use Only" does not apply.

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the northern township limits of Swoboda, Minnesota; impact was in the back yard 80 feet from the residence at 812 Saladana Road.]

3. Narrative. Give a concise, chronological description of the facts and circumstances leading to the mishap. For areas not factors in the mishap, give details in narrative not included elsewhere in the report. Include enough information in the final message to show SIB or investigating officer reasoning in reaching findings, causes, and recommendations. In all cases, continue the sequence through point of occurrence (or discovery) for all damage and injury or until the event ends. Discuss ejection, egress, life support, survival and crashworthiness features affecting damage or injury. Include crashworthiness and life support features that mitigated damage or injury, features that did not work as designed, and features not incorporated into the design but that might have mitigated damage or injury. If the mishap involves a bird strike resulting in reportable damage, include the data from paragraph **7.4.7.**

4. Findings and causes. See **paragraphs 5.8.** and **5.9.** for general information on determining findings and causes. List as Finding 1, Finding 2, etc. Do not list Other Findings of Significance in this paragraph. Number entries 4.1. through 4.x. as necessary. Findings must not address new information not previously discussed in the narrative.

5. Recommendations. See **paragraph 5.10.** for general information on determining recommendations. List as Recommendation 1, Recommendation 2, etc. Do not list Other Recommendations Of Significance in this paragraph. Number entries 5.1. through 5.x. as necessary.

6. Other Findings and Recommendations of Significance (OF&RS). List any OFS as OFS 1, OFS 2, etc., and ORS as ORS 1, ORS 2, etc. Place any ORS immediately after the OFS to which it is related. Number entries 6.1. through 6.x. as necessary.

7. Asset Ownership:

7.1. MAJCOM/DRU/FOA.*

7.2. NAF.

7.3. Center/Wing (Wing-equivalent Group).

7.4. Group.

7.5. Squadron.

7.6. Unit.

7.7. Base code. (Use the four letter Home Location Code from SORTS)

8. Environmental factors:

8.1. State if weather was or was not a factor.

8.2. State meteorological conditions at time of occurrence (if Intent for Flight): VMC or IMC.

8.3. Describe weather at time of event occurrence. Also describe weather prior to occurrence if pertinent.

8.4. Specify if occurrence was during day or night.

8.5. Describe lighting conditions at time of event occurrence. Also describe lighting conditions prior to occurrence if pertinent.

9. Special Interest Factors:

9.1. State whether or not any Night Vision Devices (NVD) were involved. If so, state what type, who was using it, and describe the aircraft NVD compatibility. (See **Attachment 5**)

9.2. State whether or not fire or explosion was involved. If so, state combustible or explosive materials involved.

9.3. State the type of fuel used in the aircraft. If fuel was involved from other sources, state type.

10. Damage and injury cost estimates: List costs in dollars. Include item title (e.g., "AF damage cost") in front of cost figure.

10.1. AF damage cost: Cost of damage to Air Force property, including labor and materiel. (See paragraphs **3.4.** and **3.5.**)

10.2. AF injury cost: Cost of injuries to Air Force personnel, including military and civilian. **(See paragraph 3.7.)**

10.3. Non-AF damage cost: Estimate of damage to non-Air Force property, including other DoD and non-DoD property. (See paragraphs **3.4.** and **3.6.**)

10.4. Total mishap cost: Sum of costs in items 10.1. through 10.3.

10.5. State number of fatalities, both military and civilian, number of persons with major injuries (requiring admission to a hospital or medical facility for treatment) and number of persons with minor injuries. Include all persons injured as a result of the mishap or event, regardless of military affiliation.

11. Personnel involved: Give the following data on each person involved. Repeat entry 11.x. through 11.x.21. for each person involved in the mishap. Replace x in paragraph number with a sequential unique number for each involved party. Complete all items (11.1. through 11.1.21.) for the first party before entering information for the second party (11.2. through 11.2.21.), etc.

***NOTE* 1:** Use the look-up table at **Attachment 5** for items followed by an asterisk (*).

***NOTE* 2:** Some personnel items noted below are not required for events involving materiel failure if it is determined that individual's actions had no role in the failure or consequences.

11.x. Identifier. Assign a unique identifying name (and abbreviation if desired for correlation with the narrative) for the involved person. Use the persons activity or position to assign the identifier. [*Examples: Mishap pilot #2 (MP2), Event Navigator (Nav), Spectator #4 (Spec4), etc.*] Do not include the individual's name.

11.x.1. SSAN. **SSAN is mandatory** for persons involved in aircraft mishaps. Do not omit or substitute required information with ìavailable upon requestî or similar wording.

11.x.2. Gender. **(See Note 2 above.)**

11.x.3. Age. **(See Note 2 above.)**

11.x.4. Grade.*

11.x.5. Duty AFSC or job series. List both code and text title.

11.x.6. Time on duty prior to mishap. Give time to nearest 10th of the hour from the time the individual reported to work until he or she was involved in the mishap. (See Note 2 above.)

11.x.7. Role in event (Actual duty performed at time of mishap.)*.

11.x.8. Component.*

11.x.9. Organization assigned.

11.x.9.1. MAJCOM/DRU/FOA.*

11.x.9.2. NAF.

11.x.9.3. Center/Wing (Wing-equivalent Group).

11.x.9.4. Group

11.x.9.5. Squadron

11.x.9.6. Unit.

11.x.9.7. Assigned base. Also state if deployed, and to what base.

11.x.10. If deployed, number of days since start of current deployment. Also state number of days deployed in previous 365 days. **(See Note 2 above.)**

11.x.11. Toxicological (TOX) testing (positive, negative, pending, not suspected or not accomplished.) If positive or not accomplished, explain. TOX test information must be identified in all mishaps.

11.x.11.1. Substance type.* (If applicable)

11.x.11.2. Substance level. (If applicable)

11.x.12. Injury class.* Use both abbreviation from **Attachment 5** and text. If injury was involved, answer the following three questions.

11.x.12.1. Part of body injured.*

11.x.12.2. Type injury.*

11.x.12.3. If fatal, state official cause of death.

11.x.13. State if individual training or written instructions were or were not a factor in the mishap. Types of training include flight training, crew resource management, life support, etc. If training or written instructions were a factor, complete the following items:

11.x.13.1. State if individual was or was not trained and, if required, certified to perform task.

11.x.13.2. State if training program, as designed, was or was not adequate to perform task.

11.x.13.3. State if written instructions (checklist, T.O., etc.) were or were not available.

11.x.13.4. State if written instructions were or were not used.

11.x.13.5. State if written instructions were or were not satisfactory.

11.x.14. Safety equipment.* From **Attachment 5**, select safety equipment available that was either involved or should have been used, and state if it was used (used/not used) and how well it performed (failed/inadequate/partially successful/fully successful). Use the following format: seat restraint/used/ fully successful; helmet/used/partially successful; parachute/not used.

11.x.15. Crew position.* (May be different from 11.x.7.)

11.x.16. RPI code.* **(See Note 2 above.)**

11.x.17. State if specialized cockpit management training was completed. (See Note under 11 above.)

11.x.18. Flying time. Complete the following information when applicable: (See Note 2 above.)

11.x.18.1. Total flying time.

11.x.18.2. Total qualified flying time and Instructor time in this type aircraft.

11.x.18.3. Last 30/60/90 day qualified flying time and Instructor time in this type aircraft.

11.x.18.4. Last 30/60/90 day sorties in this type aircraft.

11.x.19. Ejection or bailout attempt.*

11.x.20. Mishap cabin altitude and duration (physiological mishaps only).

11.x.21. Length of unconsciousness (physiological mishaps only).

12. Aircraft involved. Give the following data on each aircraft damaged or integrally involved in the mishap or event. Repeat entry 12.x. through 12.x.9. for each aircraft involved in the mishap. Replace x in the paragraph number with a sequential unique number for each aircraft. Complete all items (12.1. through 12.1.9.) for the first aircraft before entering information for the second aircraft (12.2. through 12.2.9.), etc.

12.x Aircraft mission-design-series (MDS) designator and type. [*Examples: F-16CJ; EC-135A*]

12.x.1 Aircraft tail number, serial number, and other unique identifiers.

12.x.2. Organization assigned.

12.x.2.1. MAJCOM/DRU/FOA.*

12.x.2.2. NAF.

12.x.2.3. Center/Wing (Wing-equivalent Group).

12.x.2.4. Group.

12.x.2.5. Squadron.

12.x.2.6. Unit.

12.x.2.7. Base.

12.x.3. Aircraft activity at time of mishap or event.*

12.x.4. Mission symbol.*

12.x.5. Phase of flight.*

12.x.6. Duration of flight (to nearest 10th of an hour.)

12.x.7. State whether or not a barrier or cable was engaged, and if so, what type.

12.x.8. Describe runway type and condition, including runway condition rating (RCR).

12.x.9. State whether aircraft is destroyed, repairable or undamaged. Briefly describe damage.

12.x.10. Briefly describe how repairs will be accomplished. [*Example: Contractor field team will replace vertical stabilizer and put temporary repair on horizontals; local maintenance will repair wing damage; aircraft will be flown to depot for replacement of horizontal stabilizer.*]

12.x.11. Major system failing.*

13.x Engine Information. Give the following data for each engine involved in the mishap or event. Repeat entry 13.x. through 13.x.5. for each engine. Replace x in the paragraph number with a sequential unique number for each engine. Complete all items (13.1. through 13.1.5.) for the first engine before entering information for the second engine (13.2. through 13.2.5.), etc. Report failed engine parts in item 14.

13.x.1. Engine installed position number. Enter as "Engine number x"

13.x.2. Engine manufacturer.

13.x.3. Engine model designator, including series. [*Example: F110-GE-129*]

13.x.4. Engine serial number.

13.x.5. Cost to repair or replace. State whether cost is for replacement or repair and

source of data. [*Example: Repair cost $234,567 per OC-ALC/LP message 230835Z JUL 98.*]

14.x. Failed Parts Information. State descriptive name of failed component parts, including parts of engines or airframes. [*Examples: 1st stage turbine air sealing ring; Left main landing gear strut; Dorsal longeron; Center wing tank fuel boost pump; etc.*] Do not list parts which failed due to damage as a direct result of the failure of another component part. Replace x in the paragraph number with a sequential unique number for each failed part. Repeat entries 14.x. through 14.x.8. as required for all failed parts.

14.x.1. Failed part complete nomenclature.

14.x.2. Failed part number and (if applicable) serial number.

14.x.3. Failed part manufacturer.

14.x.4. Major system, subsystem and/or engine module for failed part. State nomenclature, manufacturer, model and serial numbers. [*Example: Auxiliary Power Unit, Allison Model TR7, S/N 23-567*]

14.x.5. Brief description of failure.

14.x.6. How malfunction code (see dash-6 tech order.)

14.x.7. Work unit code (see dash-6 tech order.)

14.x.8. Report control number from deficiency report (DR).

15.x. Pod Information. List the type of any damaged pod, e.g., navigation pod, targeting pod, jamming pod, etc. Replace x in the paragraph number with a sequential unique number for each pod. Repeat entries 15.x. through 15.x.3. as required for all pods.

15.x.1. List equipment designator of pod, e.g., LANTIRN, Pave Penny, etc.

15.x.1. Serial number of pod.

15.x.2. Cost to repair or replace.

16. Accident Investigation Board (AIB). Specify if an AIB investigation was or was not convened under AFI 51-503, and identify the AIB President and the specific MAJCOM conducting the AIB investigation.

17. Cognizant official. Provide name, unit, office symbol, e-mail address and telephone number (DSN and commercial).

Figure 7.3. Aircraft Class E Propulsion--Related Event Summary Report.

***NOTE*:** Use this format for Class E Propulsion-related events which require reporting per **paragraph 7.2.3.1.** This format may be used for both status reports (when needed) and final reports.

***NOTE*:** Use the look-up table at **Attachment 5** for items followed by an asterisk (*).

FROM: (ORIGINATOR)

TO: (See **Table 7.2.** and **Table 7.3.**)

CLASSIFICATION

***NOTE*:** For classified reports, see AFI 31-401, *Information Security Program Management*.

SUBJECT: Type Aircraft (MDS), Class E Propulsion-Related Event, Category and Sub-category, Report Type, and Mishap Event Number (**see paragraph 5.2.**). [*Example: F-16B Class E Propulsion-related, Aircraft, Flight, Final Report, 19980627ZQKL001E*]

***NOTE*:** For category, sub-category and cross category involvement, see **Attachment 5**.

***NOTE*:** The following Privileged marking applies to most aircraft mishaps. Use the phrase "For Official Use Only" on non-privileged reports, but do not use the remainder of the Privileged advisory. If a security classification is used, "For Official Use Only" does not apply.

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4.x. List the installed position and engine serial number for each engine involved. Replace x in the paragraph number with a sequential unique number for each involved engine.

5. Narrative. Give a concise, chronological description of the facts and circumstances leading to the event. Include a discussion of throttle position and movement, phase of flight or operation (e.g., climb, combat maneuvering, low level, taxi, etc.), airspeed, altitude, type of maneuver, weather, etc. Continue the sequence until the event ends. Describe any damage, which occurred.

6. Findings and causes. See **paragraphs 5.8.** and **5.9.** for general information on determining findings and causes. List as Finding 1, Finding 2, etc. Do not list Other Findings of Significance in this paragraph. Number entries 6.1. through 6.x. as necessary. Findings must not address new information not previously discussed in the narrative.

7. Recommendations. Give preventive actions taken or recommended. See paragraph **5.10.** for general information on determining recommendations. List as Recommendation 1, Recommendation 2, etc. Do not list other Recommendations of Significance in paragraph 7. Number entries 7.1. through 7.x. as necessary.

8. Other Findings and Recommendations of Significance. List any OFS as OFS 1, OFS 2, etc. And any ORS as ORS 1, ORS 2, etc. Place any ORS immediately after the OFS to which it is related. Number entries 8.1.1. through 8.1.x. as necessary.

9. Asset Ownership:

9.1. MAJCOM/DRU/FOA.*

9.2. NAF.

9.3. Center/Wing (Wing-equivalent Group).

9.4. Group.

9.5. Squadron.

9.6. Unit.

9.7. Base code. (Use the four letter Home Location Code from SORTS)

10.x. Failed Parts Information. State descriptive name of failed component parts. [*Examples: 1st stage turbine air sealing ring; Main fuel pump; Engine oil tank drain plug o-ring; etc.*] Do not list parts which failed due to damage as a direct result of the failure of another component part. Replace x in the paragraph number with a sequential unique number for each failed part. Repeat entries 10.x. through 10.x.4. as required for all failed parts.

10.x.1. Failed part number and (if applicable) serial number.

10.x.2. Failed part manufacturer.

10.x.3. Brief description of failure.

10.x.4. Report control number from deficiency report (DR).

11. Cognizant official. Provide name, unit, office symbol, e-mail address and telephone number (DSN and commercial).

Figure 7.4. Aircraft Class E Physiological Event Summary Report.

***NOTE*:** Use this format for Class E Physiological events which require reporting per paragraph **7.2.3.4.** See paragraph **7.4.4.1.2.** for other Physiological event reporting requirements. The format may be used for both status reports (when needed) and final reports.

***NOTE*:** Use the look-up table at **Attachment 5** for items followed by an asterisk (*).

FROM: (Originator)

TO: (see **Table 7.2.** and **Table 7.3.**)

CLASSIFICATION

***NOTE*:** For classified reports, see AFI 31-401, *Information Security Program Management*.

SUBJECT: Type Aircraft (MDS), Class E Physiological Event, Aircraft, Sub-category, And Cross-Category Involvement, Report Type, And Mishap Event Number (see paragraph **5.2.**). [*Example: F-16CG Class E Physiological, Aircraft, Flight, UAV Involvement, 72 Hour Status Report, 19980627ZQKL001E*]

NOTE: For category, sub-category and cross category involvement, see **Attachment 5**.

NOTE: Include Privacy Act Statement if Social Security Numbers are included in the message.

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C., CHAPTER 40; 37 U.S.C., CHAPTER 9; EO 9397, NOVEMBER 1943. PRINCIPAL PURPOSES: SAFETY MISHAP REPORTING ONLY. ROUTINE USES: SAFETY MISHAP REPORTING ONLY. DISCLOSURE: DISCLOSURE OF SSN IS VOLUNTARY.

NOTE: The following Privileged marking applies to most aircraft mishaps. Use the phrase "For Official Use Only" on non-privileged reports, but do not use the remainder of the Privileged advisory. If a security classification is used, "For Official Use Only" does not apply.

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1. Date and time of event. Give date in format YYYYMMDD, followed by local time (L) using 24-hour clock.

2. Location. Provide location of the event. State name of base or military property (e.g., Utah Test and Training Range) on which the event occurred. If on-base, state "on base." If event occurred off base, state "off military property" and provide magnetic heading direction and distance from the nearest base, or use an alternate description of location. If event occurred in-flight, list location as "in-flight" and describe approximate location. If the event involves multiple locations, give the general area, and provide details of locations in the narrative as needed.

2.1. State and country of mishap.

3. Aircraft Information. State mission-design-series (MDS) designator and serial number for aircraft.

4. Narrative. Give a concise, chronological description of the facts and circumstances leading to the event. For areas not factors in the event, give details in narrative not included elsewhere in the report, including the AF 711GC. Include enough information in final reports to show SIB or investigating officer reasoning in reaching findings and recommendations. In all cases, continue the sequence through point of occurrence. For technical assistance on this item, contact HQ AFSC/SEFL, DSN 246-0830/0840/0871, commercial (505) 846-0830/0840/0871.

5. Findings and causes. See **paragraphs 5.8.** and **5.9.** for general information on determining findings and causes. List as Finding 1, Finding 2, etc. Number entries 5.1. through 5.x. as necessary. Findings must not address new information not previously discussed in the narrative.

6. Recommendations. Give preventive actions taken or recommended. See paragraph **5.10.** for general information on determining recommendations. List as Recommendation 1, Recommendation 2, etc. Number entries 6.1. through 6.x. as necessary.

7. Other Findings and Recommendations of Significance. List any OFS as OFS 1, OFS 2, etc; and any ORS as ORS 1, ORS 2, etc. Place any ORS immediately after the OFS to which it is related. Number entries 7.1.1. through 7.1.x. as necessary.

8. Accountability:

8.1. MAJCOM/DRU/FOA.*

8.2. NAF.

8.3. Center/Wing (Wing-equivalent Group).

8.4. Group.

8.5. Squadron

8.6. Unit.

8.7. Base code. (Use the four letter Home Location Code from SORTS)

9. Personnel involved: Give the following data on each person involved. Repeat entry 9.x. through 9.x.22. for each person involved in the event. Replace x in paragraph number with a sequential unique number for each involved party. Complete all items (9.1. through 9.1.22.) for the first party before entering information for the second party (9.2. through 9.2.22.), etc.

9.x. Identifier. Assign a unique identifying name (and abbreviation if desired for correlation with the narrative) for the involved person. Use the persons activity or position to assign the identifier. [*Examples:*

Event copilot #2 (CP2), Event Navigator (Nav), Passenger #4 (Psgr4), Person #1; etc.] Do not include the individual's name.

9.x.1. SSAN. **SSAN is mandatory** for persons involved. Do not omit or substitute required information with ìavailable upon requestî or similar wording.

9.x.2. Gender.

9.x.3. Age.

9.x.4. Grade.*

9.x.5. Duty AFSC or job series. List both code and text title.

9.x.6. Crew position.*

9.x.7. Flying time. Complete the following information when applicable:

9.x.7.1. Total flying time.

9.x.7.2 Total qualified flying time and Instructor time in this type aircraft.

9.x.7.3 Last 30/60/90 day qualified flying time and Instructor time in this type aircraft.

9.x.7.4 Last 30/60/90 day sorties in this type aircraft.

9.x.8. Length of unconsciousness.

10. Reporting Flight Surgeon. Provide the name, unit, office symbol, e-mail address and telephone number (DSN and commercial) for the Flight Surgeon who will complete the AF Form 711GC.

11. Cognizant official. **Provide name, unit, office symbol, e-mail address and telephone number (DSN and commercial).**

Figure 7.5. Aircraft Class E Event Summary Report

***NOTE*:** Use this format for Class E events which require reporting per paragraph **7.2.3.1.** and which do not use the Class E Propulsion or Physiological formats. This format may be used for both status reports (when needed) and final reports.

FROM: (ORIGINATOR)

TO: (See **Table 7.2.** and **Table 7.3.**)

CLASSIFICATION

***NOTE*:** For classified reports, see AFI 31-401, *Information Security Program Management*.

SUBJECT: Type Aircraft (MDS), Class E, Category and Sub-category, Report Type, and Mishap Event Number (see paragraph **5.2.**). [*Example: F-16B Class E, Aircraft, Flight, Final Report, 19980627ZQKL001E*]

***NOTE*:** For category, sub-category, and cross category involvement see **Attachment 5**.

***NOTE*:** The following Privileged marking applies to most aircraft mishaps. Use the phrase "For Official Use Only" on non-privileged reports, but do not use the remainder of the Privileged advisory. If a security classification is used, "For Official Use Only" does not apply.

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FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, Chapter 2 FOR RESTRICTIONS.

DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

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1. Date and time of event. Give date in format YYYYMMDD, followed by local time (L) using 24-hour clock.

2. Nature of Event. State the event under **paragraph 7.2.3.** which requires this report (e.g., in-flight fire, or unintentional departure from controlled flight).

3. Aircraft Information. State mission-design-series (MDS) designator and serial number for aircraft.

4. Location. Provide location of the event. State name of base or military property (e.g., Utah Test and Training Range) on which the event occurred. If on-base, state "on base." If event occurred off base, state "off military property" and provide magnetic heading direction and distance from the nearest base, or use an alternate description of location. If event occurred in-flight, list location as "in-flight" and describe approximate location. If the event involves multiple locations, give the general area, and provide details of locations in the narrative as needed.

5. Narrative. Give a concise, chronological description of the facts and circumstances leading to the event. Include a discussion of any pertinent flight control position and movement, phase of flight or operation (e.g., climb, combat maneuvering, low level, taxi, etc.), airspeed, altitude, maneuver involved, weather, etc. Continue the sequence until the event ends. Describe any damage, which occurred.

6. Conclusions. Describe any investigation conducted and state any conclusions regarding the causes of the event. The Findings and Causes format described in paragraphs **5.8.** and **5.9.** may be used if desired.

7. Recommendations. Give preventive actions taken or recommended. See **paragraph 5.10.** for general guidance on determining recommendations. List as Recommendation 1, Recommendation 2, etc. Number entries 7.1 through 7.x as necessary.

8. Asset Ownership:

8.1. MAJCOM.*

8.2. NAF.

8.3. Center/Wing (Wing-equivalent Group).

8.4. Group.

8.5. Squadron

8.6. Unit.

8.7. Base code. (Use the four letter Home Location Code from SORTS)

9.x. Failed Parts Information. State descriptive name of failed component parts. [*Examples: UHF Radio, landing gear downlock pin, actuator o-ring; etc*.] Do not list parts which failed or were damaged as a result of the failure of another component part. Replace x in the paragraph number with a sequential unique number for each failed part. Repeat entries 10.x through 10.x.4 as required for all failed parts.

9.x.1. Failed part number and (if applicable) serial number.

9.x.2. Failed part manufacturer.

9.x.3. Brief description of failure.

9.x.4. Report control number from deficiency report (DR).

10. Cognizant official. Provide name, unit, office symbol, e-mail address and telephone number (DSN and commercial).

Figure 7.6. Abbreviated Formal Report.

This format is normally used for Class A & Class B Aircraft mishaps that do not involve destroyed aircraft or fatalities. This format is also normally used when MAJCOM or HQ AFSC directs a formal mishap report for Aircraft Class C, E, and HAP mishaps/events; however, the Full Formal Report format may be directed when more extensive documentation is needed. See paragraph **7.4.** for additional instructions.

Tab	**Part I Factual Information and Releasable Exhibits**
1	Orders Appointing Safety Investigation Board or Single Investigator
2	Preliminary Message Report
3	AF Form 711 series (AF Forms 711, 711B and/or 711C) as applicable
4	Damage Cost Estimates
5*	Personnel, Flying and/or Aircraft and Engine Maintenance Records
6*	Flight Plan and Weight & Balance Forms
7*	Material Deficiency Reports
8*	Technical Reports and Engineering Evaluations of Factual Evidence
9*	Non-Privileged Statements and List of Persons Interviewed by Investigators
10*	Other Releasable Supporting Documents, Photographs, Diagrams and Reports

Tab	**Part II Conclusions, Protected and Privileged Exhibits**
11*	Life Sciences Report
12*	AFTO Form 22 and 847 Prepared by Safety Board
13*	Privileged Engineering Evaluations and Technical Reports

14*	Other Protected Documents, Statements & Reports Supporting Board Deliberations
15	SIB Analysis and Conclusions

Tab	**Part II Reserved Tabs for Privileged Follow-up Documents**
16	Rebuttals from Involved Parties
17	Comment and Endorsement Messages
18	Additional Analysis Prepared after Safety Board Completion
19	Message of Final Evaluation (MOFE)

*These Tabs may be waived, depending upon the circumstances of the mishap and investigation. Per paragraph **7.4.2.1.**, MAJCOM/SE can approve tab waivers after consultation with AFSC using the guidance below.

Tab 1 The orders must contain the full name, rank/grade, SSAN, organization, and complete official mailing address for each person appointed to the SIB. Purposes: Documents the formal appointment of SIB members by the convening authority and provides information to permit later contact with SIB members.

Tab 2 Include a copy of the fully releasable preliminary message report. Purpose: Captures the releasable report if needed for future disclosure.

Tab 3 Complete all of the applicable forms in the AF Form 711 series following the detailed instructions in **Attachment 3**, paragraphs **A3.5.1.**, **A3.5.3.**, and **A3.5.4.** Purposes: Captures releasable data for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries, and for other purposes requiring releasable data. (The need for such subsequent investigations is not always apparent at the time of the SIB.) Used to populate safety database for mishap trending and analyses.

Tab 4 Include a worksheet detailing damage cost estimates and showing how damage costs were calculated under paragraphs **3.4.** through **3.7.** for the major items involved, and list sources for cost data. Include a general description of injuries. Include a Statement of Damage to Private Property from the claims officer if such damage occurred. Purposes: Captures data needed to fulfill DoD reporting requirements and documents methods used for audit purposes.

Tab 5* Required when personnel and/or maintenance is a factor in the mishap. May be waived if the investigation determines there was no personnel or maintenance involvement that initiated, contributed to or sustained the mishap sequence. When such factors are involved, include pertinent training records, flying records and/or AFTO 781 series Forms for the mishap aircraft, as needed to document the background. See **Attachment 3**, paragraphs **A3.5.5.** and **A3.5.6.** for additional instructions on these documents. Purposes: To record the background of involved personnel and the history of aircraft maintenance. Captures releasable data for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries. (The need for such subsequent investigations is not always apparent at the time of the SIB.)

Tab 6* Required when relevant to the mishap. May be waived if the investigation determines flight planning, flight plans and/or aircraft weight and balance were not factors in the mishap. Purposes: Captures releasable data for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries. (The need for such subsequent investigations is not always apparent at the time of the SIB.)

Tab 7* Required if T.O. 00-35D-54, Chapter 3 requires a DR. Include a copy of all PQDRs submitted in conjunction with the mishap investigation. Reports must include Report Control Number (RCN), cognizant official, part name and part number. Purpose: Provides a record of information needed to link the safety report to other reports in the AFMC system.

Tab 8* Required when technical evaluations, laboratory or teardown investigations were conducted. Include reports prepared by DoD personnel or contractors that document observed conditions, and/or provide analyses of physical evidence or factual information. Use the format in **Figure 4.1.** (or equivalent) for these reports. Include copies of any letters prepared per **Figure 2.2.** when applicable. Do not include reports that were prepared under a promise of confidentiality or that contain SIB deliberations or speculation related to mishap cause. Purposes: Provides a record of important technical details used for follow-up investigations conducted by AFSC, AFMC, and contractors. Often used by future SIBs to determine similarity of mishaps. Used for mishap trending and analysis. Captures releasable data for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries, and for other purposes requiring releasable technical data. (The need for such subsequent investigations is not always apparent at the time of the SIB.)

Tab 9* Required if interviews were conducted. Include any non-privileged statements obtained or summaries of testimony when the content is important to the investigation, along with signed copies of the Non-Privileged Witness statement in **Figure 2.4.**. Include a list of **all** persons interviewed (even if only privileged testimony was provided), the role of each person in the mishap (e.g., mishap pilot, maintenance crew chief, observer, etc.), and contact information for each interviewee. If the SIB determines there is no non-privileged testimony important to the investigation, include only the list of interviewed persons. May be waived for Class B mishaps if no substantive non-privileged testimony was obtained and information from interviews is expressed in the SIB analysis and conclusions. Purposes: Documents testimony when needed to support SIB conclusions or to describe conditions. Provides non-privileged testimony to any subsequent Accident Investigation Board or other inquiries so interviews will not have to be re-accomplished. Provides witness and involved party contact information for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries.

Tab 10* Required when the SIB believes additional supporting data is needed to adequately document mishap conditions or related factual information. Include releasable data not defined as belonging in other tabs and an index to all documents in this tab. Items that belong in this tab include transcripts of recorded broadcast communications (see paragraph **A3.5.12.**), impact, wreckage, flight path or other such diagrams (see paragraph **A3.5.16.**), non-privileged photographs (see paragraph **A3.5.17.**), tabular and graphical data from onboard recorders, transcripts or audio recordings from cockpit voice recorders, copies of local operating instructions or directives (do not include SIB annotations), videotapes showing the mishap or related events, approach plates, maps, etc. Consider whether such items would likely be needed by any subsequent Accident Investigation Board or other inquiries, and include items needed for that purpose. Purposes: Documents releasable information needed to support SIB analysis and conclusions. Captures releasable data for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries. (The need for such subsequent investigations is not always apparent at the time of the SIB.)

Tab 11* Required when human factors are involved in the mishap, when life support equipment was used or involved in the mishap, when toxicology testing was accomplished on involved persons, and/or when other relevant medical records exist. Follow the guidance in paragraphs **7.4.10.** and **A3.6.6.**. Purposes: Captures aeromedical data regarding involved persons and life support information for involved equip-

ment. Used for historical analysis and trending, to support follow-up investigations of equipment, and to provide data for new life support equipment designs.

Tab 12* Required if the SIB recommends changes to flight manuals or other tech data. Include a copy of any AFTO Forms 22 or AF Forms 847 submitted by the SIB. Purpose: Documents SIB compliance with responsibility to submit requests for changes to tech orders, flight manuals and Air Force publications when the investigation concludes changes are warranted.

Tab 13* Required if technical analyses were conducted involving privileged information or under a Promise of Confidentiality. Include any technical report that provides analyses based upon SIB deliberation or other privileged information (such as testimony provided under a Promise of Confidentiality), or that includes analysis directly regarding the cause of the mishap. Persons writing such reports should be instructed to provide a separate report in Tab 7 containing a summary of observed conditions, and analyses of physical evidence and factual and non-privileged information. Also include in this tab any technical reports provided under a Promise of Confidentiality granted to a contractor involved in the design, manufacture or maintenance of the mishap aircraft or system. Include a copy of any letters prepared per **Figure 2.2.** when applicable. Purposes: Provides a record of important technical details used for follow-up investigations conducted by AFSC and AFMC. Often used by future SIBs to determine similarity of mishaps. Used for mishap trending and analysis.

Tab 14* Required when the SIB believes additional privileged data is needed to adequately support its analyses and conclusions or to better convey information related to the mishap. Include privileged data not defined as belonging in other tabs and an index to all documents in this tab. Items that belong in this tab include video animations of data recorder information (if an animation was used to brief the mishap to the convening authority, a copy should be included in the report), transcripts or summaries of testimony provided under a Promise of Confidentiality, staged photographs, speculative drawings, SIB-conducted survey results, etc. Purposes: Documents privileged information needed to support SIB conclusions. Documents information needed to better communicate important elements of the mishap or investigation.

Tab 15 Include a copy of the Final Message prepared per **Figure 7.3.**. If the SIB analysis and conclusions can be adequately documented in the Final Message, no additional report is required in this tab. If embedded figures or photos are needed to clearly present the investigation, or if the SIB believes their work will be best presented in a different format, a separate report may also be included using the guidance in paragraph **A3.6.1.1.**, or any other format preferred by the SIB. If a minority report is prepared by a Primary SIB member, include it in this tab. Purpose: Records the opinion of the SIB as to mishap findings, causes and recommendations to prevent future mishaps. (See paragraphs **5.8.**, **5.9.** and **5.10.** for guidance on determining findings, causes and recommendations.) This is the most important part of the report, and it should include a thorough analysis of all evidence and rationale for acceptance or rejection of all mishap scenarios or theories.

Tab 16 Persons found causal must be notified per paragraph **5.10.5.**. Include rebuttal statements in this tab.

Tab 17 The Air Force conducts an open comment and endorsement process for Class A and Class B Aircraft mishaps as described in **Chapter 6**. Include copies of comment and endorsement messages in this tab.

Tab 18 Primarily for use by AFSC and other offices that conduct follow-up investigations or analyses. If the SIB knows of analyses that are pending but cannot be completed prior to dissemination of the formal report, include a list of expected reports with contact information for cognizant officials in this tab.

Tab 19 Reserved for the Memorandum of Final Evaluation.

General Instructions for Assembling an Abbreviated Formal Report

Assemble the report in a standard white three-ring binder (usually 1 or 1.5 inch thick) with dividers with tabs labeled 1 through 19. (Commonly available standard dividers are available numbered 1 through 31; simply discard the extra dividers.)

Print the report on both sides of 8.5 x 11 inch paper using Times New Roman 12 point as the preferred font. Standard margins are 1.5 inch inside and 1.0 inch outside, and 0.5 inch header and footer. Header should appear on each page with aircraft type, aircraft serial number, and mishap control number (e.g., F-16CG, 89-1234, 20010115QABC901A). Footer should appear on each page in Part II only with the privileged statement from **Figure 2.5.**.

Reports in electronic format are optional for all reports except those sent to HQ AFSC and the Convening Authority. If electronic reports are disseminated, use Microsoft Office (preferred) or Adobe Acrobat software for all files, and place on CD ROM media. CD must be labeled with (as a minimum) aircraft type, mishap control number and the privilege statement from **Figure 2.5.**.

Table 7.1. Reporting Schedule for Aircraft Mishaps and Events.

Reports required by this Table are in addition to OPREP-3 reports required by AFMAN 10-206 (note 1).

A	B	C	D
If the event is a:	**then submit:**	**not later than:**	**sent using:**
Class A or B mishap	Preliminary message	within 8 hours	**Figure 7.1.** format, priority message (notes 2 and 3)
	Initial Status message (note 4)	within 72 hours	**Figure 7.1.** format Routine message
	Status messages (note 5)	15 calendar days, then as required.	**Figure 7.2.** CMR format Routine message
	Final message	within 30 calendar days (notes 6 and 7)	**Figure 7.2.** CMR format Routine message
	Formal Report	within 30 calendar days (note 7)	AF Form 711-series, priority mail
Class C mishap	Preliminary message (optional)	within 72 hours	**Figure 7.1.** format Routine message (note 2)
	Status message (note 5)	as required	**Figure 7.2.** CMR format Routine message
	Final message	within 30 calendar days (note 7)	**Figure 7.2.** CMR format Routine message
	Formal Report (if required)	within 30 calendar days (notes 6 and 7)	AF Form 711-series, priority mail
Class E event	Preliminary message (optional)	within 72 hours	**Figure 7.1.** format Routine message (note 2)

	Final Message	within 30 calendar days	**Figure 7.5.** CMR format Routine message
Class E Propulsion-related event	Final Message	within 30 calendar days (note 6)	**Figure 7.3.** format Routine message
Class E Physiological event	Final Message	within 30 calendar days	**Figure 7.4.** format Routine message
	Life sciences message	within 30 calendar days (note 7)	AF Form 711GC (note 8)
Class E event – Quarterly Report	Quarterly Message (note 9)	By the 15th of Jan, Apr, Jul, and Oct	Routine message
HAP event	Preliminary message (note 2)	As soon as possible	**Figure 7.1.** format Routine message
	Status message (note 5)	as required	**Figure 7.2.** CMR format Routine message
HAP event	Final message	within 45 calendar days (notes 6 and 7)	
	Formal report (if required)	within 30 calendar days (note 7)	AF Form 711-series, priority mail

NOTES:

1. See paragraph **5.2.** for instructions on MINIMIZE.

2. Use non-privileged, unclassified **Figure 7.1.** format for Preliminary report.

3. Overseas commands use IMMEDIATE precedence.

4. Include new information discovered since the Preliminary message and identify SIB members. Remember to place the safety privilege statement at the beginning of the message if needed.

5. Include information not previously reported. It is not necessary to use the entire **Figure 7.2.** format for status messages.

6. Do not delay final messages awaiting testing results. If the results from testing significantly change the outcome of final message, send a status report describing the changes.

7. For extension of due date, send request to the investigating MAJCOM/DRU/FOA with information copy to HQ AFSC/SEF.

8. Transmit electronically or by mail. Send copies to HQ AFSC/SEF and MAJCOM/DRU/FOA, and ANG/AFRC if applicable. Do not send extra forms to HQ AFSC, MAJCOM/DRU/FOAs, ANG, or AFRC if they are contained in formal reports.

9. Negative reply messages (stating no events have occurred) are required unless waived.

Table 7.2. Addresses for Aircraft Mishap and Event Message Reports.

	A	B	C
	Organization (See note 1)	**Office Symbol**	**For**
1	HQ USAF KIRTLAND AFB NM	SE/SEF	All mishaps and events
2	HQ USAF WASHINGTON DC	XO/SEI/IL	Class A and B mishaps
3	HQ AFSOC HURLBURT FLD FL	SE	All Mishaps
4	HQ AETC RANDOLPH AFB TX	SE	
5	HQ ACC LANGLEY AFB VA	SE	
6	HQ AFMC WRIGHT PATTERSON AFB OH	SE	
7	HQ AMC SCOTT AFB IL	SE	
8	HQ PACAF HICKAM AFB HI	SE	
9	HQ AFSPC PETERSON AFB CO	SE	
10	HQ USAFA USAF ACADEMY CO	SE	
11	HQ USAFE RAMSTEIN AB GE	SE	
12	ANGRC ANDREWS AFB MD	DOS	
13	ANG WASHINGTON DC	DOS	
14	HQ AFRC ROBINS AFB GA	SE	
15	ASC WRIGHT PATTERSON AFB OH	SE/ENVS	
16	MAJCOM concerned (gaining MAJCOM for ANG/AFRC) (see note 4)	As Required	
17	Intermediate commands		
18	Home base of operator or crew (if other than the organization submitting the report)		
19	Home base of aircraft or command assignment (if other than that of the operator or crew)		
20	Military base of departure		
21	344 TRS LACKLAND AFB TX	TTEB	
22	ANGRC ANDREWS AFB MD (see note 3)	DOS	ANG mishaps
23	HQ AFRC ROBINS AFB GA	SE	AFRC mishaps and mishaps involving aircraft MDSs assigned to Associate Reserve Programs
24	HQ USAF WASHINGTON DC	RE/REO	
25	HQ AFMOA BOLLING AFB DC	SGO	Class A and all physiological mishaps and events

26	HQ AFOTEC KIRTLAND AFB NM	SE	Class A aircraft, missile, and space mishaps and all OT&E mishaps
27	HQ AFFSA ANDREWS AFB MD	XV	Mishaps involving air traffic control services
28	MAJCOM concerned	DOF	
29	Intermediate commands	DOF	
30	AFWA OFFUTT AFB NE	SE	Mishaps involving weather events or services
31	HQ USAF WASHINGTON DC	XOW	
32	OO-ALC HILL AFB UT	WM/SE	Mishaps involving explosives or egress (CAD/PAD) items required for an ejection
33	AAC EGLIN AFB FL	WM	
34	HQ AFMC WRIGHT PATTERSON AFB OH	SE/DR	ALC Safety and Materiel Safety Offices: (See Note 2) All class A and B aircraft mishaps and all Class C mishaps and Class E and HAP events involving TO, materiel, vehicle, or equipment deficiencies or that recommend T.O or AF acquisition or logistics policy changes.
35	OO-ALC HILL AFB UT	SE/SES/YP-S	
36	SA-ALC KELLY AFB TX	SE/LDE	
37	WR-ALC ROBINS AFB GA	SE/SEM	
38	OC-ALC TINKER AFB OK	SE/LARB	
39	OC-ALC TINKER AFB OK	LP	Appropriate ALC engine manager (See note 2).
40	ASC WRIGHT PATTERSON AFB OH	LP/ENVS	
41	361 TRS SHEPPARD AFB TX	TSRJ	Class A/B power plant and FOD Mishaps

42	AAC EGLIN AFB FL	SES/SEOW	Mishaps involving conventional air-launched missiles and explosives
43	311HSW BROOKS AFB TX	YACL	Mishaps involving life support systems
44	COMNAVSAFECEN NORFOLK VA	10/11/13/14	Mishaps involving US Navy personnel or facilities and mishaps involving aircraft or missiles common to USAF and USN See **Table 7.3.**
45	COMNAVAIRSYSCOM WASHINGTON DC		Mishaps involving missiles common to USAF and USN. See **Table 7.3.**
46	CDRUSASC FT RUCKER AL	CSSC-SE	Mishaps involving US Army personnel or facilities and mishaps involving aircraft or missiles common to USAF and USA. See **Table 7.3.**
47	COMDT COGARD WASHINGTON DC		Mishaps involving US Coast Guard personnel or facilities and mishaps involving aircraft common to USAF and USCG. See **Table 7.3.**
48	SECDEF WASHINGTON DC	USD (A&T) (ES) SH	Preliminary report for mishaps involving fatality, in-patient hospitalization of three or more persons, or property damage of $1,000,000 or more
49	SAF WASHINGTON DC	MIQ	Preliminary and final report for Class A and B mishaps
50	AFIP WASHINGTON DC	OAFME	Preliminary and final report for Class A and B mishaps involving injury or death.

51	HQ AFCESA TYNDALL AFB FL	CC	Preliminary and final report for mishaps involving fire suppression, crash/rescue operations, or any airfield marking, airfield lighting, and/or airfield structural issues.
52	SA-ALC KELLY AFB TX	SF	Mishaps involving fuels or related products.
53	DET 63 ASC INDIAN HEAD MD	CC	Mishaps involving EOD operations or activities.
54	AFRL WRIGHT PATTERSON AFB OH	HEPA	Aircraft mishaps involving ejection, crew module separations, or life support issues/ problems.
55	AFFSA ANDREWS AFB MD	XO	Aircraft mishaps involving instrument procedures or systems or flight in actual or simulated IMC
56	HQ ACC LANGLEY AFB VA	SE	Aircraft mishaps involving boom air refueling
57	HQ AMC SCOTT AFB IL	SE	
58	HQ PACAF HICKAM AFB HI	SE	
59	HQ USAFE RAMSTEIN AB GE	SE	
60	ANGRC ANDREWS AFB MD	DOS	
61	ANG WASHINGTON DC	DOS	
62	HQ AFRC ROBINS AFB GA	SE	
63	OC-ALC TINKER AFB OK	SE/LARB	Aircraft mishaps involving either boom or probe and drogue refueling
64	WR-ALC ROBINS AFB GA	SE	
65	HQ AFSOC HURLBURT FLD FL	SE	
66	AFFTC EDWARDS AFB CA	SE/TE	
67	COMNAVSAFECEN NORFOLK VA	10/11/13/14	Aircraft mishaps involving only probe and drogue refueling
68	CSAF WASHINGTON DC	CC	Final report for Class A aircraft mishaps

69	HQ ACC LANGLEY AFB VA	SGM	Aircraft physiological mishaps and final report for Class A and B aircraft mishaps
70	DEPT OF DEFENSE EXPLOSIVES SAFETY BOARD ALEXANDRIA VA	IK/KT	Mishap involving missile, explosives, or space
71	9TH CAPS BEALE AFB CA	CC	Explosives-involved mishaps
72	DCMC-AF FORT BELVIOR VA		Aircraft mishaps involving USAF contractors under DLA contract management
73	HQ USAF WASHINGTON DC	ILMW	Class A and B explosives involved mishaps
74	HQ AETC RANDOLPH AFB TX	TTO	
75	84RADES HILL AFB UT	CC/TO	Preliminary and Status messages for all Class A and B Flight and Flight-Related mishaps
76	HQ ACC LANGLEY AFB VA	SE	All RPV reports
77	325 FW TYNDALL AFB FL	SE	
78	53 WG EGLIN AFB FL	SE	
79	475 WEG EGLIN AFB FL	SE	
80	HQ AFMC WRIGHT-PATTERSON AFB OH	SEG	All mishaps involving AFMC managed systems, vehicles, and equipment
81	ARMSTRONG LAB LUKE AFB AZ	HRA	All mishaps involving Night Vision Devises (NVD)
82	ASC WRIGHT PATTERSON AFB OH	ENVS/RA	Missions involving Big Safari program, Reconnaissance or UAV aircraft
83	USSTRATCOM OFFUTT AFB NE	J416	Mishaps involving strategic assets (KC-135, B-52, RC-135, U-2/TR-1, B-2, E-4B)

NOTES:

1. Reference **http://www.nctc.navy.mil/** for current message addresses.

2. Include the appropriate SPD and item manager (IM) as addressees when mishaps involve Air Force materiel deficiencies. Include the appropriate SPD and Engine Manager (EM) for power plant and FOD incidents. Send messages only to appropriate ALC SPDs, IMs or EMs not indiscriminately to all SPDs, IMs or EMs.

3. ANG units will send copy of all messages to appropriate ANG State Headquarters and the Adjutant General (TAG). ANG units will send all Class A and B Mishap preliminary, status, and final reports to

AIG 7301//CC/SE//.

4. Use the Address Indicator Group (AIG) for the weapons system if one exists. MAJCOMs may add AIGs specific to their command.

AIG 9380	A-10
AIG 9381	C-17
AIG 9382	Night vision devices
AIG 9383	C-5
AIG 9384	F-111
AIG 9385	Ground Safety
AIG 9386	Helicopter
AIG 9387	C-130
AIG 9388	C-12
AIG 9389	F-4
AIG 9390	B-52
AIG 9391	All flight mishap messages (Preliminary, status, and final)
AIG 9392	Air Refueling

AIG 9392	KC-135
AIG 9393	F-22
AIG 9394	T-1
AIG 9395	T-38/F-5
AIG 9397	T-37
AIG 9398	C-141
AIG 9399	F-16
AIG 9401	T-39/C-21
AIG 9404	Worldwide SE/SEW
AIG 9405	Aero Clubs
AIG 9406	B-1
AIG 9407	F-15
AIG 9409	Safety Crosstell

***Note: If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG.*

Table 7.3. Aircraft, Engine, SPD, SSM, Contractor Logistics Support (CLS) and Common Service Information Lists.

1 A-10 OO-ALC/LC

2 B-1 ASC/YD, OC-ALC/LAB

3 B-2 ASC/YS,OC-ALC/LAL

4 B-52 OC-ALC/LH

5 C-5 WR-ALC/LA

6 C-9 OC-ALC/LK, (CLS)USN
7 C-12 OC-ALC/LK, (CLS) USA, USN
8 C-17 ASC/YC, (CLS)
9 C-18 EC-18B OC-ALC/LK, (CLS) (NOTE: There is also a UV-18B - See below)
10 C-20 OC-ALC/LK, (CLS) USA, USN
11 C-21 OC-ALC/LK, (CLS) USA
12 C-22 OC-ALC/LK, (CLS)
14 VC-25A OC-ALC/LK, (CLS)
15 C-26 OC-ALC/LK, (CLS)
16 C-27 OC-ALC/LK, (CLS)
17 C-29 OC-ALC/LK, (CLS)
18 C-32 ASC/GR, OC-ALC/LK, (CLS)
19 C-37 ASC/GR, OC-ALC/LK, (CLS)
20 C-130 WR-ALC/LB USCG, USN,
21 C-135 OC-ALC/LC
22 C-141 WR-ALC/LJ
23 E-3 ESC/AW, OC-ALC/LAK
24 E-4 OC-ALC/LK, (CLS)
25 E-8 (J-STARS) ESC/JS, WR-ALC/LK
26 F-15 WR-ALC/LF
27 F-16 ASC/YP and OO-ALC/YP
28 F-22 ASC/YF, (CLS)
29 F-117 ASC/YN, (CLS)
30 H-1 WR-ALC/LU USA, USN
31 H-53 WR-ALC/LU USN
32 H-60 ASC/LU, WR-ALC/LU USA, USCG, USN
33 KC-10 OC-ALC/LK, (CLS)
34 /T-1/T-6 (JPATS) ASC/YT
36 T -37 OO-ALC/LC
37 T-38 OO-ALC/LC USN
38 T-43 OC-ALC/LK
39 UV-18B OC-ALC/LK
40 U-2 ASC/RA
41 UAVs ASC/RA

42 Reconnaissance ASC/RA

48 X-32/X-35 (Joint Strike Fighter) ASC/FBJ

49 Airborne Laser Lab ASC/FBX-L

50 CV-22 ASC/LU

ENGINES and corresponding ALC/SPD (see notes 1 and 2)

1 F110 OC-ALC/LP USN

2 45 TF34 OC-ALC/LP USCG, USN

3 F404-F1D2 ASC/YN/LP, USN

4 F100 OC-ALC/LP

5 F101 OC-ALC/LP

6 F118 ASC/LP

7 TF33 OC-ALC/LP

8 F108 OC-ALC/LP USN

9 T-56 OC-ALC/LP USN

10 T64 OC-ALC/LP USN

11 TF39 OC-ALC/LP

12.J85 OC-ALC/LP

13 J69 OC-ALC/LP

14 J79 OC-ALC/LP

15 T700 OC-ALC/LP

16 F117-PW-100 ASC/YC/LP

17 T701 OC-ALC/LP

NOTES:

1. PROPULSION (AIRCRAFT GAS TURBINE ENGINES) PGM IS OC-ALC/LR

2. CONTRACTOR LOGISTICS SUPPORT (CLS) AIRCRAFT ENGINES ARE MANAGED THROUGH THE AIRCRAFT SPD. OTHER ENGINES ARE MANAGED BY OC-ALC/LP.

Table 7.4. Routing of Aircraft Formal Reports.

	Forward	To (See Notes 2 and 6)	For

1	Three copies of formal report by priority mail	HQ AFSC/SEF 9700 G Avenue, S.E. Kirtland AFB, NM 87117-5670	Review, appropriate corrective action, and permanent file
2	One copy of formal report by priority mail	HQ USAF/SEI 1400 Air Force Pentagon Washington, DC 20330	Review, appropriate action.
3	One copy of formal report	MAJCOMs concerned (See Note 1)	Review, appropriate corrective action. (MAJCOMs specify Endorsement requirements and suspense dates and may grant extensions when warranted.) All recipients except MAJCOM must destroy reports upon receipt of MOFE. MAJCOM/DRU/FOAs destroy their copies upon closeout of all recommendations.
4	One copy of formal report	Wing or equivalent level organization to which pilot is attached for flying	
5	One copy of formal report	Wing or equivalent level organization that possessed the aircraft if other than unit in line 4	
6	One copy of formal report	Wing or equivalent level organization to which pilot is assigned for duty if other than unit in line 4	
7	One copy of formal report	Ferrying unit with operational control over pilot if the pilot is borrowed from a MAJCOM not included in line 3	
8	One copy of formal report	Unit where rated officer is assigned for duty if not on flying status	
9	One copy of formal report	Intermediate commands of units specified in lines 4 through 8	
10	One copy of formal report	ANG/DOS or HQ AFRC/SE if ANG or AFRC aircraft or crews are involved	

11	One copy of formal report	Gaining MAJCOM if ANG or AFRC is the convening authority and gaining MAJCOM is not included in line 3	
12	One copy of formal report	Each agency or organization tasked in the primary recommendations (see notes 2 and 3)	Review, appropriate corrective action, and destroy upon closeout of these actions.
13	One copy of formal report	ASC/ENVS 1801 10th ST Bldg 8, AREA B Wright Patterson AFB OH 45433-7626	Review and take appropriate corrective action. Forward action memorandum or Endorsement with a copy of TDR, photos, test results, and when established, MIP interim or closing action to HQ AFSC/SEF with a copy to AFMC/SE within 90 days of mishap.
14	One copy of formal report	Air Logistics/Product Center item/engine manager (see notes 3 and 4)	
15	One copy of formal report	System Program Director, Air Logistics/ Product for aircraft, missiles, and explosives involved (see notes 3 and 4).	
16	One copy of formal report	HQ AFMC/SE Wright Patterson AFB OH 45433	Review and take appropriate corrective action. Concurrence will be in DB-10.
17	One copy of formal report	AFFSA/XV Andrews AFB MD 20331, MAJCOM/DOF and, if different, MAJCOM/DOF responsible for operating and maintaining applicable air traffic control, air communication, or NAVAID if deficiencies in air traffic control, air communications, or NAVAIDS involved	Review and appropriate corrective action. Indorse through command channels to responsible MAJCOM/ DOF. DOF takes corrective action or withdraws report(s).
18	One copy of formal report	HQ ACC/SE Langley AFB VA 23665 if deficiencies in rescue helicopter response noted in investigation	Review, appropriate corrective action, and destroy upon closeout of all corrective actions.
19	One copy of formal report	AWS/SE Scott AFB IL 62225 if deficiencies in weather services involved	
20	One copy of formal report	HQ AFOTEC/SE Kirtland AFB NM 87117 if OT&E involved or upon written request	Review, appropriate corrective action, and destroy upon closeout of all corrective actions.
21	One copy of formal report	Defense Logistics Agency /AQOI, Fort Belvoir VA if USAF contractor under DLA contract management is involved (see note 2)	

22	One copy of formal report	AFFSA/XO Andrew AFB MD 20331 if instrument flight involved	
23	One copy of formal report	311HSW/YACL 7909 Lindbergh Drive, Bldg 578 Brooks AFB, TX 78235-5352	Review analysis and appropriate corrective action.
24	One copy of formal report	HQ AFRL/HEA Mesa AZ 85206-0904 If Night Vision Devices are involved	
25	One copy of formal report	USAFSAM/FP 2610 Gillingham Dr. Brooks AFB TX 78235 if human factors are involved	Review and use in aircrew human factors education
26	One copy of TAB Y	HQ AFMOA/SGPA Bolling AFB DC 20332-6188 if fatal or disabling injury or illness occurred	Review, appropriate corrective action, and destroy upon completion of corrective actions.
27	One copy of TAB Y	MAJCOM, ANG (if possessing same/ similar aircraft), and AFRC (if possessing same/similar aircraft), if fatal or disabling injury or illness occurred (see note 5)	
28	One copy of TAB Y	412 TW/TSSH Edwards AFB CA 93523 for each person involved in emergency exit or bailout	
29	One copy of TAB Y	Armed Forces Institute of Pathology Washington DC 20305 Attn: Air Force Medical Examiner if fatality occurred	Review, appropriate corrective action, and destroy upon completion of corrective actions.

NOTES:

1. This includes owning MAJCOM and all MAJCOMs operating the same MDS.

2. Do not send a report to an agency outside the USAF. Prepare those copies of the report and send them to HQ AFSC/JA for forwarding.

3. For all mishaps requiring an action by an AFMC organization, send one copy to HQ AFMC/SE, Wright Patterson AFB OH 45433-5006, as well as the tasked agency.

4. When routing formal reports to Air Logistics Centers, SPD, or product center send the reports to the Materiel Safety Offices at the applicable ALC for internal distribution and tracking (if applicable). Use the following addresses:

a. OC-ALC/LARB Tinker AFB OK 73145-3024

b. OO-ALC/SES Hill AFB UT 84056-5003

c. SA-ALC/LDE Kelly AFB TX 78241-6426

d. WR-ALC/SEM Robins AFB GA 31098-1864

NOTE: SPD and ALC support may not be collocated. Check **Table 7.3.** for applicability.

5. Do not send extra copies to HQ USAF, MAJCOMs, ANG or AFRC if they are included in formal report distribution.

6. Reference **http://www.nctc.navy.mil/** for current message addresses. See AFDIR 37-135, *Air Force Address Directory* for mail addresses.

CHAPTER 8

MISSILE MISHAPS

8.1. General Information.

8.1.1. This chapter defines and provides guidance for reporting missile mishaps. The guidance for determining classification of missile mishaps is also applicable in determining classification of other types of mishaps that involve missiles.

8.1.1.1. Deleted.

8.1.2. Definitions.

8.1.2.1. Missile. Systems that are propelled through the air that are unmanned, guided by internal or external systems, self-propelled, and designed to deliver ordnance to a target or act as a target. This definition includes training missiles and sub-scale remotely piloted vehicles (RPVs).

8.1.2.2. Missile Support Equipment. (Not applicable to air-launched missiles). Any component of ground launched missile systems used to handle or transport missiles or missile components. MSE also includes all equipment below grade in the launcher. MSE includes, but is not limited to, system unique vehicles such as reentry vehicle or guidance and control vans, payload transporters, transporter-erectors, support trucks, emplacers, equipment racks, motor generators, etc.

8.1.2.3. 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.

8.1.2.4. Missile Mishap.

8.1.2.4.1. Mishaps, which involve missiles that occur:

8.1.2.4.1.1. During ground operations (use, maintenance, handling, transportation, and storage).

8.1.2.4.1.2. After launch, when the missile does not complete its intended mission and/or, due to a missile system malfunction, the missile impacts off range (See paragraph **7.2.3.4.9.** of this instruction).

8.1.2.4.2. In the case of ground launched missiles, report mishaps involving missile support equipment as missile mishaps.

8.1.2.4.3. Mishaps, which occur during test and evaluation, are reportable, however see paragraph **8.8.** of this instruction to see if alternate reporting is applicable.

8.1.2.4.4. Mishaps which involve missiles that are damaged by explosives external to the missile are reported as explosives (missile involvement) mishaps.

8.1.2.4.5. For subscale RPV mishaps see paragraph **8.7.2.** of this instruction

8.1.2.4.6. Unplanned events during aging and surveillance test firing of rocket motors are not mishaps, unless collateral damage occurs to items other than the rocket motor. See paragraph **8.4.1.7.**

8.1.2.4.7. Added. For missile mishaps involving non-US assets or personnel see paragraph **1.8.** of this instruction.

8.1.2.4.8. EXCEPTIONS:

8.1.2.4.8.1. In-flight damage to live and captive missiles are aircraft flight-related mishaps. See paragraph **7.2.3.4.10.** of this instruction.

8.1.2.4.8.2. Aircraft damage (greater than $10,000) as a result of the mishap is reported as Aircraft Flight/Ground Ops (Explosives Involvement).

8.2. Determining Missile Mishap Accountability.

8.2.1. Guidelines.

8.2.1.1. HQ AFSC assigns a missile mishap to the organization possessing the missile at the time of the mishap. If the missile is in a state of transfer and possession is in doubt, HQ AFSC assigns the mishap to the organization responsible for the operation or area at the time of the mishap. For ARC missile mishaps ARC units should contact the appropriate ARC safety office if possession of a missile is in doubt. The ARC safety office will contact HQ AFSC for determination.

8.3. Determining Missile Mishap Category.

8.3.1. See **Table 8.5.**

8.3.2. When reporting multiple categories refer to appropriate chapters of this instruction to provide all required information and include necessary addressees in the reports.

8.4. Determining Classification of Missile Mishaps.

8.4.1. Estimating Cost of Mishap.

8.4.1.1. Use the following paragraphs with paragraph **3.4.** and **3.5.** to determine missile costs only. Add other property damage, injury, or illness costs to the missile costs to classify the mishap.

8.4.1.2. If the intended mission objectives are not met due to the failure of a non-recoverable missile and damage results, report the acquisition cost of the launch vehicle and the acquisition cost of the payload.

8.4.1.3. Missile Support Equipment. Calculate MSE damage at the full cost of repair or replacement of the property, not counting normal launch residual damage.

8.4.1.4. Prelaunch Damage. Compute all ground-launch missile pre-launch damage occurring without the missile being launched, to include transportation and storage, at the full cost to replace or repair. These costs will include the direct labor and materials for the repair.

8.4.1.5. Drop Criteria. For missiles or all-up-round components dropped a distance that exceeds the drop criteria in the specific item technical order, estimate the mishap cost at 15 percent of the item replacement cost in the current stock catalog. After initial mishap class determination, upgrade or downgrade the mishap class only if actual cost can be determined. Upgrade or downgrade can be accomplished after completion of final evaluation. See paragraph **8.5.1.2.**.

8.4.1.6. Parachute-recovered Missiles. Include the repair costs or loss involved related to abnormal events or clearly excessive damage. Abnormal events include torn parachutes, late recovery initiation, failure of a parachute to blossom or release, high winds, etc. Excessive damage

includes buckling of the main fuselage, fire at impact, destruction of the payload section, etc. Do not include the cost of expected damage to parachute-recovered missiles resulting solely from surface impact during an otherwise normal recovery sequence is an operational expense and not reportable. Do not include cost of recovery since recovery is normally a mission objective for recoverable missiles.

8.4.1.7. Aging and Surveillance Test Firing of Rocket Motors. Do not include the cost of the rocket motor.

8.4.2. Mishap Classifications.

8.4.2.1. Class A Mishap. A mishap resulting in one or more of the following:

8.4.2.1.1. Reportable damage of $1,000,000 or more.

8.4.2.1.2. A fatality or permanent total disability.

8.4.2.2. Class B Mishap. A mishap resulting in one or more of the following:

8.4.2.2.1. Reportable damage of $200,000 or more but less than $1,000,000.

8.4.2.2.2. A permanent partial disability.

8.4.2.2.3. Inpatient hospitalization of three or more personnel.

8.4.2.3. Class C Mishap. A mishap resulting in one or more of the following:

8.4.2.3.1. Reportable damage between $20,000 and $200,000.

8.4.2.3.2. An injury resulting in a lost workday case involving 8 hours or more away from work beyond the day or shift on which it occurred; or occupational illness that causes loss of time from work at any time. For military personnel, do not count the day of injury or the day returned to duty. Do not count days when military personnel were not scheduled to work.

8.4.2.4. Class D Mishaps. A mishap resulting in one or more of the following:

8.4.2.4.1. Applies to air-launched missiles only.

8.4.2.4.2. Total cost of $2,000 or more for property damage but less than $20,000. Property damage includes all government equipment, vehicles, or munitions.

8.4.2.4.3. A nonfatal injury that does not meet the definition of a Class C and results in less than eight hours lost time (military lost work hour cases are not included).

8.4.2.5. HAP Events. Significant aircraft, missile, space, explosives, miscellaneous air operations, or ground occurrences with a high potential for causing injury, occupational illness, or damage if they recur. These events do not have reportable mishap costs. If the event meets reportable mishap criteria do not designate it as HAP. Do not use the HAP designation in conjunction with classes of mishap.

8.5. Change in Mishap Class.

8.5.1. Changing Classes.

8.5.1.1. Changes in damage costs or degree of injury/illness that result in a change in the mishap class requires additional reporting. Thus, the investigating command will track mishaps that have damage estimates close to a threshold limit and injuries/illness that have the potential for improv-

ing or worsening. This is especially significant for injuries/illness that could result in the injured person being medically discharged or separated, resulting in an upgrade to a Class A mishap. If the mishap classification changes after the final report was submitted, a status report will be sent to change the mishap class. The MAJCOM will track those mishaps until issuance of the memorandum of final evaluation.

8.5.1.2. When drop criteria damage cost estimates change, upgrade or downgrade of classification can be accomplished after completion of final evaluation. SIB or MAJCOM will send a message with justification for class change to the same addresses as previous messages for the mishap. Do not delay final mishap message for cost determination.

8.6. Investigating Missile Mishaps.

8.6.1. SIB or Single IO for Class A missile mishaps:

(NOTE: See para **15.4.3.** for Sub-Scale RPV mishaps.)

8.6.1.1. SIB President or Single IO Qualifications.

8.6.1.1.1. Colonel (0-6) for Class A mishaps.

8.6.1.1.2. Appoint from outside the wing or equivalent organization having the mishap.

8.6.1.1.3. The SIB President will be a graduate of the HQ AFSC Board President Course prior to his or her appointment.

8.6.1.1.4. The SIB president is the final point of release for all information from the board. The SIB president will release factual information to the AIB president via the AFSC representative in accordance with AFI 34-1101.

8.6.1.2. Required Primary SIB Members:

8.6.1.2.1. IO trained in mishap investigative techniques

8.6.1.2.2. HQ AFSC Representative (Class A only)

8.6.1.2.3. Medical Officer, an Air Force flight surgeon or physician.

8.6.1.2.4. Select additional members as necessary.

8.6.1.3. Additional Primary SIB Members:

8.6.1.3.1. Missile Operations Officer qualified in the operational use of the missile system.

8.6.1.3.2. Missile Materiel Officer qualified in missile maintenance, engineering, or munitions.

8.6.1.3.3. Weather Officer, if weather or weather service is known or suspected to have been a factor in the mishap.

8.6.1.3.4. Weapons Safety Manager, if a nuclear weapon or warhead is involved. Select a fully qualified maintenance officer with munitions experience, EOD officer or NCO, or nuclear safety officer.

8.6.1.3.5. Nuclear Expert, if nuclear reactors, nuclear power systems, or radioactive sources are involved.

8.6.1.3.6. AFOTEC Representative, if AFOTEC managed OT&E procedures or equipment are involved.

8.6.1.4. Required Non-primary SIB Members:

8.6.1.4.1. SIB Recorder, an officer or senior NCO familiar with administrative procedures.

8.6.1.4.2. Representatives of the missile system manager, IM, or Air Force test organization, if these organizations decide to participate.

8.6.1.5. Additional Non-primary SIB Members at the convening authority's Option.

8.6.1.5.1. Representatives from other federal agencies, as advisors or consultants.

8.6.1.5.2. Technical personnel with expertise in specific systems or human factors.

8.6.1.5.3. Additional members as desired.

8.6.2. SIB President or Single IO Qualifications For Class B missile mishaps:

8.6.2.1. Major or higher

8.6.2.2. Not from the same squadron/organization having the mishap

8.6.2.3. Formal training on mishap investigations or experience is preferred

8.6.2.4. Additional SIB members as necessary.

8.6.3. Single IO Qualifications For Class C missile mishaps:

8.6.3.1. Weapons Safety Manger or higher.

8.6.3.2. Not from the same squadron

8.6.3.3. Formal training on mishap investigations or experience is preferred.

8.6.3.4. Additional SIB members as necessary.

8.7. Reporting Missile Mishaps.

8.7.1. Guidelines.

8.7.1.1. Class A and B mishaps require both message and formal reports except when using alternate reporting IAW paragraph **8.7.3.**

8.7.1.2. Report Class C missile mishaps by message.

8.7.1.3. Addressing Missile Safety Reports. Report missile mishaps to the addressees in **Table 8.2.** Route formal reports according to **Table 8.4.**

8.7.1.4. Class D Reporting. For all air launched missile mishaps with damage costs between $2000 and $20,000 report as a Class D Mishap via message in accordance with **Table 8.1.** using the format found in **Figure 8.2.** and **Figure 8.3.** Do not report flight-related (missile involvement) mishaps under this paragraph.

8.7.2. Reporting Subscale RPV Mishaps.

8.7.2.1. Report subscale RPV mishaps according to Class C reporting procedures, regardless of class, when there is no injury or collateral damage (**Table 8.1.**). Normally, formal reports, memorandums of endorsement, and MOFEs are not required for these mishaps when there is no collat-

eral damage or injury. However, the investigating command or HQ AFSC may request them on a case-by-case basis. The investigating MAJCOM will track recommendations until all actions are complete. See paragraph **14.4.3.** for further guidance on Subscale RPV's mishap Board composition.

8.7.3. Reporting Test and Evaluation Missile Mishaps

8.7.3.1. Missile mishaps that occur during test and evaluation (T&E) launches will be reported.

8.7.3.1.1. The missile or its debris does not impact outside the predicted impact limit parameters.

8.7.3.1.2. The loss does not result in collateral damage or injury to personnel.

8.7.3.1.3. The responsible agency fully investigates the mishap to determine causes and recommended corrective actions.

8.7.3.2. When determining the classification of T&E missile mishaps, do not count the cost of the missile or its payload if the mission objectives were achieved (see **8.4.1.2.**).

8.7.3.2.1. MAJCOMs report these mishaps according to **Table 8.1.** Send message reports, using the preliminary 8-hour message format in **Figure 8.2.**, as soon as possible but no later than 24 hours after the event.

8.7.3.2.2. When the investigation is concluded, MAJCOMs provide a report, which will include a comprehensive executive summary of the investigation, findings, causes, and recommended corrective actions, to AFSC/SEW. If the Launch Analysis Group (LAG) or Air-Launched Missile Analysis Groups (ALMAG) report definitively identifies the causes of the mishap, their engineering analysis can be summarized and used as the executive summary. Include a reference list of message and reports, on which the report is based, include the originating agency or office of primary responsibility for each entry). These reports are FOUO and will be handled IAW AFI 37-131. Some circumstances may necessitate their designation as privileged reports.

8.7.3.2.3. For Class A and B mishaps, follow the review and tracking procedures in **Chapter 6**. For alternate reporting, a Letter of Administrative Closure will be accomplished to add the report's recommendations to the safety database.

8.7.3.3. Alternate Reporting

8.7.3.3.1. MAJCOMs may develop alternate reporting procedures for Class A and B test and evaluation missile mishaps if the following conditions are met:

8.7.3.3.1.1. The missile or its debris does not impact outside the predicted impact limit parameters.

8.7.3.3.1.2. The loss does not result in collateral damage or injury to personnel.

8.7.3.3.1.3. The responsible agency fully investigates the mishap to determine causes and recommended corrective actions.

8.7.3.3.2. MAJCOMs will determine if alternate reporting is authorized and report these mishaps according to **Table 8.1.** Send the preliminary message report, using **Figure 8.2.**, as soon as possible but no later than 24 hours after the event occurs. Submit status reports every

30-days using **Figure 8.3.**. The final message report will be submitted no later than 75 days after the event occurs using **Figure 8.3.**.

8.7.3.3.3. Follow the review and tracking procedures in **Chapter 6**

8.8. Message Reports.

8.8.1. Addressees.

8.8.1.1. Prepare these non-nuclear message reports in the formats shown in **Figure 8.2.** or **Figure 8.3.** Submit them according to the time requirements of **Table 8.1.** and provide to appropriate addressees in **Table 8.2.** The following instructions also apply to these messages.

8.8.1.2. **Table 8.2.** shows who receives the reports based on the need to know and to prevent inadvertent release of privileged information outside the Air Force.

8.8.1.3. Commands may supplement this instruction to include internal organizations as addressees if they have a need to know.

8.8.1.4. Use AIGs to include addressees within the command as recipients of selected safety messages. List the addressees in **Table 8.2.** followed by the appropriate weapon system AIG, when used. If base message center is not listed on the AIG, contact investigating MAJCOM to ensure they retransmit the message under the appropriate AIG. Do not place addressees outside the command on command AIG listings without HQ AFSC/JA approval.

8.8.1.4.1. Use AIGs for safety reports with information of critical and immediate importance to other users of the equipment. Only send those reports conveying significant safety information peculiar to the weapon system or its mission by worldwide AIG. Do not use these AIGs for other information. When using the worldwide AIG for other than flight safety reports, list all MAJCOMs as addressees, including ANG and AFRC that possess similar equipment. Do not use an AIG for reports that contain little or no information of worldwide mishap prevention potential. Use routine handling procedures for AIG addressees.

8.8.1.4.2. For non-nuclear air launched missiles, missile systems mishaps or safety-related information, use AIG 9404//SE/SEW//. This AIG may also be used for all reports under this instruction involving flight and ground mishaps if missiles or missile systems are involved. The highest classification of information that may be transmitted using this AIG is “Unclassified” (UNCLAS).

8.8.1.5. Ensure all agencies identified as OPRs for mishap recommendations are included in the addressee list, unless such agencies are outside the Department of the Air Force. For OPRs outside the Air Force, MAJCOM safety offices consult with HQ AFSC/JA on the appropriate means of conveying the tasking.

8.9. Determining Mishap Event Number.

8.9.1. Steps in Identifying the Mishap Number.

8.9.1.1. Because it is the single common worldwide identifier of a mishap, include the mishap event number in the subject lines of all non-nuclear message reports. Refer to the mishap event number in all related correspondence, DRs, TDRs, and endorsements. For all non-nuclear mis-

haps, the mishap event number consists of sixteen characters, such as "19980307ZQKL005A" as follows:

8.9.1.2. Date of Mishap. This is the local date, not the Zulu or Coordinated Universal Time (CUT) day. Use eight digits (YYYYMMDD).

8.9.1.3. Installation Code. Use the four letter Home Location Code from SORTS. GSUs for ARC forces need to use local base code. Note: GSU and tenant units may not have the same codes as the reporting unit.

8.9.1.4. Unit Control Number. Use separate sets of four-character combinations (three digits and one letter) for unit control numbers. ("Unit" means group equivalent or higher.) Assign the digits in order for each mishap. Host base safety staffs will assign blocks of numbers to their tenants. The last space designates the mishap class (A, B, C, or D). HAP events have no reportable costs and are designated by the letter "H," e.g., "19990307ZQKL406H."

8.10. Formal Reports.

8.10.1. Writing the Narrative Report.

8.10.1.1. The principles for writing the narrative portion of the final message report are the same as for the formal report. See **Chapter 5** for guidance.

8.10.2. Guidelines.

8.10.2.1. Marking Messages, Reports, Documents, and Other Safety Materials. Air Force mishap messages are subject to limited distribution. Moreover, aircraft, missile, space, nuclear, and certain ground and explosive safety reports contain privileged safety information. NOTE: For classified messages add the proper security classification marking from AFI 31-401, *Information Security Program Management*, and omit the notation "FOR OFFICIAL USE ONLY."

8.10.2.2. Marking Privileged Messages: Place the following warning between rows of slashes immediately before the subject line of all privileged messages. ***EXCEPTION:*** Preliminary Class A and B aircraft and missile mishap messages ("8-hour" reports) are factual only and fully releasable unless controlled for other reasons, such as information security. Example:

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proper security clearance marking from AFI 31-401 and omit the notation "FOR OFFICIAL USE ONLY."

8.10.2.5. Marking Other Safety Documents Containing Privileged Safety Information. Each page of other safety documents containing privileged safety information must be marked with the Privilege Warning. Examples are MAJCOM endorsements of mishap reports and semiannual updates of open recommendations. For classified documents, add the proper security classification marking from AFI 31-401 and omit the notation "FOR OFFICIAL USE ONLY."

8.10.2.6. Marking Audio and Video Tapes and Other Electronic Media Containing Privileged Safety Material. Material derived from privileged SIB analysis, witness testimony, simulator reenactments, computer generated flight profiles, and similar sources is used for mishap prevention in safety briefings and training. Place the Privilege Warning on the outer surface of all media containing privileged material and on outer wrappings, containers or cases. Privileged tapes and products will contain the Privilege Warning at the beginning and the end of the tape, program, or recording.

8.10.2.7. Marking Reports Submitted on AF Form 739. Do not mark this report or log for limited distribution.

8.10.3. General Composition of Formal Reports.

8.10.3.1. All formal privileged safety reports must have two parts: Part I, Facts; and Part II, Privileged Documents. Part I contains factual information that may be disclosed outside the Air Force; Part II contains the privileged portions of the formal safety report and will not be disclosed.

8.10.4. What to Include in Formal Reports.

8.10.4.1. Privileged missile reports should include Tabs A, B, J, M, Q, R, and S in Part 1 and Tab T in Part 2. Other tabs may be used. Most commonly used additional tabs include, but not limited to Tabs H, G, N, O in Part 1 and Tabs U, W and Y in Part 2. Tab Z is optional for all reports. Include a computer disk(s) containing the ASCII text or MS Word documents of the formal report in the copy sent to HQ AFSC/JA.

8.10.5. Authenticating Formal Reports.

8.10.5.1. Type each primary SIB member's name, grade, and position, as listed on the Board's appointment orders, on the last page of Tab T. Have each concurring member sign above it for authentication of the report or for any changes to the report. If the formal SIB report needs to be changed after it is completed and signed by the board, the primary members of the SIB shall be physically reconvened.

8.10.6. Controlling the Formal Report.

8.10.6.1. Once the SIB completes the investigation and finalizes the hard copy report, the SIB recorder or local safety office will control the hard copy report until the convening authority is briefed on the results of the investigation. Upon approval for release, the formal report will be distributed.

8.11. Review of Final Report.

8.11.1. Findings, Causes, and Recommendations.

8.11.1.1. Include the investigators' conclusions as findings, causes, and recommendations in the final report. The following standards apply to all final reports; however, references to formal reports and command endorsements apply primarily to final reports of Class A and B mishaps:

8.11.2. Convening Authority.

8.11.2.1. Before the SIB or investigating officer sends the final report, the convening authority's safety staff ensures:

8.11.2.2. The report includes significant points of the investigation and analysis.

8.11.2.3. The SIB's or investigating officer's findings and causes meet the CAR format.

8.11.2.4. The report shows the correct action agencies.

8.11.2.5. The convening authority determines whether the final report fulfills the purposes, intent, and requirements of the mishap prevention program. If it does not, the convening authority will attach written comments to the final report as an addendum or direct an additional investigation. At this stage of the investigation and reporting process, the intent is to ensure each report is technically correct.

8.11.2.6. Only the primary members of the safety board can make changes to the final report. Comments raised by the convening authority addendum will be worked during the Memorandum of Final Evaluation process. If the final SIB message needs to be changed after it is completed and signed by the board, the primary members of the SIB shall be physically reconvened.

8.12. Follow-up Actions.

8.12.1. Briefing Formal Reports.

8.12.1.1. Once the SIB completes the investigation and finalizes the hard copy report and the final SIB message, the board members will brief the MAJCOM/CC (convening authority) on the results of all Class A mishaps or as directed by the convening authority. There will be no intermediate briefings prior to the MAJCOM/CC briefing. HQ USAF/SE will be the focal point for all briefings to the CSAF for those mishaps involving fatalities or other mishaps when requested.

8.12.1.2. Safety investigation briefings will be afforded the same protection given the formal report. The senior officer receiving the briefing will dictate attendance. For basic briefing format see **Attachment 3**. Also contact MAJCOM safety office for command format.

Figure 8.1. Privileged Warning.

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Figure 8.2. Format for Preliminary Class A, B, C, D, or HAP Missile Mishaps.

Use this format for preliminary missile mishap messages required by **Table 8.1.**. This format can be used for 72-hour status reports. Preliminary (8-hour) messages must not contain privileged information. If this format is used for a 72-hour status report, include the Privileged markings from **Figure 8.1.**.

FROM: (Originator)

TO: (see **Table 8.2.**)

CLASSIFICATION

SUBJECT: TYPE MISSILE, CLASS, CATEGORY, CROSS CATEGORY, REPORT TYPE, AND MISHAP EVENT NUMBER [*Example: AGM-86, Class A, Missile, Ground Involvement, Preliminary Report, XVMU19991029001A*] (see paragraph **8.9.1.**)

NOTE: For "*" entries, see **Attachment 5**

1. Date and time of mishap. Give date (YYYYMMDD), local time (24 hour clock), and whether (day or night).

2. Base submitting report (Use the four letter location code from SORTS). Was mishap on base? (Y or N).

NOTE: If base code is unknown, use clear text of base name.

3. Duty Status.

4. Name of nearest base to mishap.

5. Location of mishap. If on a military base, give specific location, e.g., departure end of runway 23, building 555, or munitions storage area. If mishap occurred off base, use street and highway references, as well as distance and direction from nearest military base. For missiles impacting off base or off range, give location by magnetic direction and distance in nautical miles from nearest military base, e.g., 25 NM ESE of Nellis AFB NV. If an item is dropped from an aircraft and not recovered, list location as in flight with an approximation of location.

6. Give latitude and longitude of mishap in minutes and degrees to 2 decimal places (if available)

7. Object information.

7.1. *Nomenclature: Air Force equipment or facilities identification. For missiles, include the mission-design-series (MDS) and weapon system serial number. For vehicles and equipment, list nomenclature and serial numbers. For facilities, list building number and principal purpose.

Accountable MAJCOM/DRU/FOA.

7.2.1. NAF.

7.2.3. Center/Wing (Wing-equivalent Groups).

7.2.4. Group.

7.2.5. Squadron.

Unit.

Base Code.

7.3. Was mishap within 10 NM of base? (Y or N)

7.4. Was object destroyed? (Y or N) (If No, summarize damage assessment)

8. Personnel Information. Include known information about personnel fatalities and injuries. Do not include names due to next of kin notification considerations. Do not include SSANs on preliminary messages. Include information on crewmembers, and bystanders.

8.1. *Grade: Age: AFSC:

8.2. *Injury Class and Type:

8.4. For crewmembers include qualifications.

9. Narrative of circumstances. Give brief description of mishap. Provide strictly abbreviated, factual information. Do not include information implying cause or containing material gained through testimony from crewmembers or other witnesses. Describe extent of damage, e.g., "Building destroyed by fire or explosion," "Missile destroyed," etc. Include mission information, including mission type and mishap weather.

10. Initial estimates of collateral damage and injury costs. Give estimates of damage to non-Air Force property and non-Air Force injury costs if applicable. Include status of on-going rescue and recovery operations, hazard containment, and security. Provide information on the level of media interest.

11. Interim Safety Board President and cognizant official and telephone number (DSN and commercial) and e-mail address.

Figure 8.3. Format for Missile Consolidated Mishap Report (CMR).

FROM (ORIGINATOR)

TO: (See **Table 8.2.**)

CLASSIFICATION

SUBJECT: TYPE MISSILE, CLASS, CATEGORY, CROSS CATEGORY, REPORT TYPE, MISHAP EVENT NUMBER [*Example: AIM-120C, Class A, Missile, Flight Related, Final Report, CPRL19990401001A*] (see paragraph **8.9.1.**)

***NOTE*:** For category and cross category involvement, see **Attachment 5**.

***NOTE*:** For classified reports, see AFI 31-401, *Information Security Program Management*.

***NOTE**:* Include Privacy Act Statement if Social Security Numbers are included in the message.

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THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, Chapter 2 FOR RESTRICTIONS.

DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

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4.1. Mishap cost NONAF: Estimate of damage to non-Air Force property, including other DoD and non-DoD property.

4.2. AF cost damage: Cost of damage to Air Force property, including labor and materiel.

4.3. Cost total injury: Cost of injuries to Air Force personnel, including military and civilian.

4.4. Total mishap cost (sum of costs in items 4.1. through 4.3.).

5. Personnel involved: Give the following data on each person involved. If more than one person is involved, provide information in subparagraphs entitled "Person 1," "Person 2," etc. Repeat entry 5.1 through 5.12 for each person involved in the mishap. Number as 5.X through 5.X.13.

5.1. SSAN. **Mandatory** for military and DoD civilians involved.

5.1.1. Gender

5.1.2. Age

5.1.3. Grade*

5.1.4. Duty AFSC or job series.

5.2. Time on duty prior to mishap. Give time to nearest 10th of the hour from the time the individual reported to work until he or she was involved in the mishap.

5.3. Activity at time of mishap.*

5.4. Role in event.*

5.5. Functional area.*

5.6. Organization assigned.

5.7. MAJCOM/DRU/FOA*.

5.7.1. NAF.

5.7.2. Center/Wing (Wing-equivalent Group).

5.7.3. Group.

5.7.4. Squadron.

5.7.5. Unit.

5.7.6. Base.

5.8. Component.*

5.9. TOX testing (positive, negative, pending, not suspected or not accomplished). If positive or not accomplished, explain in narrative. TOX test information must be identified in all mishaps.

5.9.1. Substance type.*

5.9.2. Substance level.

5.10. Injury class.*

5.10.1. Part of body injured.*

5.10.2. Type injury.*

5.11. Was individual training a factor in the mishap (Y or N)? Types of training include traffic safety, job task, life support, etc. If training was factor, answer following six questions:

5.11.1. Was individual trained and, if required, certified to perform task (Y or N)?

5.11.2. Was training program, as designed, adequate to perform task (Y or N)?

5.11.3. Did training, as administered, comply with established training program (Y or N)?

5.11.4. Were written instructions available (checklist, TO, etc.) (Y or N)?

5.11.5. Were written instructions used (Y or N)?

5.11.6. Were written instructions satisfactory (Y or N)?

5.12. Safety equipment. Select available safety equipment (maximum of three) from **Attachment 5**, and state if it was used (Y or N) and if it worked (Y or N). Use following format: seat belts/yes/yes; parachute/yes/no/; helmet/no/(blank).*

6. Property data. Give following data on each piece of property involved. If more than one piece of property is involved, provide information in subparagraphs entitled "Object 1," "Object 2," etc.

6.1. Property identification.* Repeat all of entry 6.1 for each item if more than one item or property type is involved. Number as 6.X.1 through 6.X.8.

6.1.1. *Organization assigned. If the organization is same as paragraph 2, state "same as paragraph 2."

6.1.1.1 MAJCOM/DRU/FOA*.

6.1.1.2 NAF.

6.1.1.3 Center/Wing (Wing-equivalent Group).

6.1.1.4 Group.

6.1.1.5. Squadron.

6.1.1.6. Unit.

6.1.1.7. Base.

6.1.2. Vehicle or equipment serial number.

6.1.3. Object or vehicle activity at time of mishap.*

6.1.4. Was object destroyed (Y or N)?

6.1.5. Cost to repair or replace.

6.1.6. Mission-design-series (MDS).

6.1.7. Mishap within 10 miles of base (Y or N)?

6.1.8. Major system failing.*

6.1.9. Parts information. Repeat entries 6.1.9.1 through 6.1.10 as required for all failed parts. Number as 6.1.9.X through 6.1.10.X.

6.1.9.1. Failed part:

6.1.9.1.1. Failed part description.

6.1.9.1.2. Failed part number.

6.1.9.1.3. Failed part manufacturer.

6.1.9.1.4. Report control number from DR report.

6.1.10. Lot number (if applicable)

7. Narrative. Give a concise, chronological description of the facts and circumstances leading to the mishap. For areas not factors in the mishap, give details in narrative not included elsewhere in the report. Include enough information in final reports to show SIB or investigating officer reasoning in reaching findings and recommendations. In all cases, continue the sequence through point of occurrence (or discovery) for all damage and injury or until the event ends. For technical assistance on this item, contact HQ AFSC/SEW, DSN 246-0390, commercial (505) 846-0390. Specify in the narrative if an accident investigation was/was not convened and is being conducted.

8. Findings and causes. Repeat entries 8.1 through 8.X for the required number of findings and causes. Findings must not address new information that was not been previously discussed in the narrative. Use the CAR methodology from **Attachment 4**.

9. Preventive action recommended or taken. Repeat entries 9.1 through 9.X as necessary.

10. Cognizant official, unit, office symbol, telephone number (DSN and commercial) and e-mail address.

Table 8.1. Reporting/Recording Schedule for Class A, B, C, D, and HAP Events.

Reports required by this table are in addition to OPREP-3 reports required by AFMAN 10-206 (see note 1).				
	A	B	C	D
	If the mishap is a	then submit	not later than	By
1	Class A or B mishaps	Preliminary (see note 2)	within 8 hours. (See Note 10)	Priority message (see note 3)
2		Status report (see note 4)	within 72 hours (See Note 11)	Routine message**Figure 8.3.**
3		Status report (see note 5)	15 calendar days, then as required.	CMR format **Figure 8.3.**
4		Final report (see note 6)	within 30 calendar days (See Note 12)	
5		Formal report (see note 8)	within 30 calendar days (see notes 7 and 9)	AF Form 711-series
6	Class C mishaps	Preliminary report	within 5 work days	Routine message **Figure 8.2.**

7		Status report (see note 5)	as required	CMR format**Figure 8.3.**
8		Final report (see note 6)	within 30 calendar days (see note 7)	CMR format**Figure 8.3.**
9		Formal report (when directed by MAJCOM or HQ USAF/SE)	within 30 calendar days (see note 7)	AF Form 711-series
10	Class D mishaps and HAP events	Final report (see note 6)	within 30 calendar days (see note 7)	CMR format **Figure 8.3.**
11		Formal report (when directed by MAJCOM or HQ USAF/SE)	within 30 calendar days (see note 7)	AF Form 711-series

NOTES:

1. See paragraph 5.2.5. for instructions on MINIMIZE.

2. Use non-privileged, unclassified **Figure 8.2.** format for preliminary report.

3. Overseas commands use IMMEDIATE precedence.

4. Use **Figure 8.3.** format for 72-hour status reports. Include new information discovered since the preliminary report and identify SIB members. Remember to place the safety privilege statement at the beginning of the message.

5. Include information not previously reported in the 72-hour or preliminary report. It is not necessary to use the entire **Figure 8.3.** format for subsequent status reports. Only add information not previously reported. Use the **Figure 8.3.** format when modifying a previously transmitted CMR or final report.

6. Do not delay final reports awaiting testing results. If the results from testing significantly change the outcome of final report, reconvene the SIB (if necessary) and send a status report describing the changes.

7. For extension of due date, send request to the investigating MAJCOM/DRU/FOA with information copy to HQ AFSC/SEW.

8. Not required when using alternate reporting IAW paragraph 8.8.

9. Mishaps reported in Class C CMR format that are later upgraded to Class A or B will require status reports using message format in **Figure 8.3.**.

10. Submit ASAP but NLT 24 hours after incident when using Alternate Reporting IAW paragraph 8.8.

11. Submit every 30 days when using Alternate Reporting IAW paragraph 8.8.

12. Submit within 75 days when using Alternate Reporting IAW paragraph 8.8.

Table 8.2. Addressees for Missile Mishap Message Reports (see note 9)

	A	B	C
	Organization (see note 4)	Office Symbol	For
1	HQ AFSC KIRTLAND AFB NM	CC/SEW	All missile mishaps
2	HQ USAF WASHINGTON DC	SEI	Class A, B, C, and D missile mishaps and HAP (see notes 1 and 4)
3	HQ AFSOC HURLBURT FLD FL	SE	
4	HQ AETC RANDOLPH AFB TX	SE	
5	HQ AMC SCOTT AFB IL	SE	
6	HQ PACAF HICKAM AFB HI	SE	
7	HQ AFMC WRIGHT PATTERSON AFB OH	SE	
8	HQ ACC LANGLEY AFB VA	SE	
9	HQ AFSPC PETERSON AFB CO	SE	
10	HQ USAFA USAF ACADEMY CO	SE	
11	HQ USAFE RAMSTEIN AB GE	SE	
12	ANG ANDREWS AFB MD	DOSW	
13	HQ AFRC ROBINS AFB GA	SE	
14	USSTRATCOM OFFUTT AFB NE	J416	Ballistic and cruise missile mishaps including systems and/or components
15	MAJCOM concerned (gaining MAJCOM for ANG/AFRC) (see note 4)	as required	All mishaps
16	Intermediate commands		
17	Home base of operator (if other than the organization submitting the report)		
18	Military base of departure		
19	344 TRS LACKLAND AFB TX	TTEB	
20	ANG ANDREWS AFB MD (see note 5)	DOSW/XOOO	ANG mishaps
21	HQ AFRC ROBINS AFB GA	SE	AFRC mishaps
22	HQ AFMC WRIGHT-PATTERSON AFB OH	SE/DR	All mishaps involving material deficiencies, Tech Order changes, or AF Policy changes
23	AWS SCOTT AFB IL	SE	Mishaps involving weather events or services
24	ASC WRIGHT-PATTERSON AFB OH	CC/ENVS	Mishaps involving non-ballistic missiles support systems; ballistic missile systems and/or components
25	OO-ALC HILL AFB UT	SEW/LMES	

26	HQ AFSPC PETERSON AFB CO	SE	
27	ALC Safety and Materiel Safety Offices: OO-ALC HILL AFB UT SA-ALC KELLY AFB TX WR-ALC ROBINS AFB GA OC-ALC TINKER AFB OK	SE/LMES/YP-S SE/LDE SE/SEM SE/LARM	Missile mishaps involving TO, materiel, vehicle, or equipment deficiency; and other mishaps involving deficiencies in these areas (see note 2)
28	AAC EGLIN AFB FL	SES	Mishaps involving conventional air-launched missiles
29	HQ AFOTEC KIRTLAND AFB NM	SE	Class A missile and all OT&E mishaps
30	COMNAVSAFECEN NORFOLK NAS VA		Mishaps involving US Navy personnel or facilities and mishaps involving missiles common to USAF and USN (**Table 8.3.** and notes 3 and 4)
31	COMNAVAIRSYSCOM WASHINGTON DC		Mishaps involving missiles common to USAF and USN (**Table 8.3.** and notes 3 and 4)
32	CDRUSASC FT RUCKER AL	CSSC-SE	Mishaps involving US Army personnel or facilities and mishaps involving missiles common to USAF and USA (**Table 8.3.**)
33	SECDEF WASHINGTON DC	USD (A&T) (ES) SH	Preliminary report for mishaps involving fatality, in-patient hospitalization of three or more persons, or property damage of $1,000,000 or more
34	SAF WASHINGTON DC	MIQ	Preliminary and final report for Class A and B mishaps
35	AFIP WASHINGTON DC	OAFME	Preliminary and final report for Class A and B mishaps involving injury or death.
36	HQ AFCESA TYNDALL AFB FL	CEXF	Preliminary and final report for mishaps involving fire suppression or crash and rescue operations
37	DET 63 ASC INDIAN HEAD MD	CC	Mishaps involving EOD operations or activities
38	DEPT OF DEFENSE EXPLOSIVES SAFETY BOARD ALEXANDRIA VA	KT/IT	Class A, B and C Missile, Explosives, and Space launch vehicle mishaps
39	OC-ALC TINKER AFB OK	SE	All Class A and B aircraft factors mishaps (whether or not materiel were involved) and all Class C and H mishaps that identify material deficiencies or recommend TO or AF acquisition or logistics policy changes.
40	OO-ALC HILL AFB UT	SES	

41	SA-ALC KELLY AFB TX	SE	
42	SM-ALC MCCLELLAN AFB CA	SE	
43	WR-ALC ROBINS AFB GA	SE	
44	HQ ACC LANGLEY AFB VA	SE	All RPV reports
45	325FW TYNDALL AFB FL	SE	
46	53WG EGLIN AFB FL	SE	
47	475WEG EGLIN AFB FL	SE	
48	AAC EGLIN AFB FL	YOT	
49	AAC (APGM) EGLIN AFB FL	WM	All mishaps
50	HQ AFMC WRIGHT PATTERSON AFB OH	SEG	All mishaps involving AFMC managed systems, vehicles, and equipment

NOTES:

1. Include the aircraft system program director (SPD) or equivalent as an addressee when explosives or missile mishaps involve aircraft armament systems.

2. Include the appropriate SPD and item manager (IM) as addressees when mishaps involve Air Force materiel deficiencies.

3. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference **http://www.nctc.navy.mil/** for current message addresses.

4. Include MAJCOM/DRU/FOAs that are common users of the mishap missile materiel as message addressees when exchange of information would enhance mishap prevention efforts. Also use the Address Indicator Group (AIG) for the weapon system if one exists. MAJCOM/DRU/FOAs may also add AIGs specific to their command.

*** *NOTE*:** If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG(s).

5. ANG units will send copy of all messages to appropriate ANG State Headquarters and the Adjutant General (TAG).

6. Use the Address Indicator Group (AIG) for the weapons system if one exists. MAJCOM/DRU/FOAs may add AIGs specific to their command.

AIG 9380	A-10
AIG 9381	C-17
AIG 9383	C-5
AIG 9384	F-111
AIG 9385	Ground Safety
AIG 9386	Helicopters
AIG 9387	C-130

AIG 9392	KC-135
AIG 9393	F-22
AIG 9394	T-1
AIG 9395	T-38/F-5
AIG 9397	T-37
AIG 9398	C-141
AIG 9399	F-16

AIG 9388	C-12
AIG 9389	F-4
AIG 9390	B-52
AIG 9391	All flight mishap messages (Preliminary, status, and final)
AIG 9392	Air Refueling

AIG 9401	T-39/C-21
AIG 9404	Worldwide SE/SEW
AIG 9405	Aero Clubs
AIG 9406	B-1
AIG 9407	F-15

***Note: If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG.*

Table 8.3. Missile Common to Other Services.

	A	B	C
	MISSILES	**ALC**	**COMMON TO**
1	AIM-7 (Sparrow)	WR-ALC	USN
2	AIM-9 (Sidewinder)	WR-ALC	USN
3	BQM-34 A/E/F	WR-ALC	USA, USN
4	MQM-107 B/D/E	WR-ALC	USA
5	AIM-120 (AMRAAM)	WR-ALC	USN
6	AGM-88 (HARM)	WR-ALC	USN

Table 8.4. Routing of Missile Formal Safety Reports (see note 4).

	A	B	C
	Forward	To (see note 6)	For
1	Two copies of formal report by priority mail	HQ AFSC/SEW	Review, appropriate corrective action, and file.
2	One copy of formal report by priority mail	HQ USAF/SEI	Review appropriate action.
3	One copy of formal report	Organization to which person who had mishap is assigned (see note 5)	Review, appropriate corrective action, and return to MAJCOM safety office or convening authority for disposition within 90 days of mishap. MAJCOMs specify endorsement requirements and their suspense dates. They may grant extensions when warranted.
4		Organization that possessed missile if different from organization in line 2	
5		Intermediate commands of units specified in lines 2 and 3	
6		MAJCOM concerned	Review, appropriate corrective action, and

7		ANGRC/DOS or HQ AFRC/SE if ANG or AFRC asset involved	file. Forward proposed and completed actions to HQ AFSC/SEW within 90 days of mishap.
8		Gaining MAJCOM if ANG or AFRC asset involved	Provide copies of endorsement to each formal report addressee.
9		Appropriate State Headquarters and the Adjutant General (TAG) if ANG aircraft involved	
10		ASC/ENVS Wright Patterson AFB OH 45433 if AGM-69, AGM-86, AGM-129, PQM-102, or QF-106 involved.	Review, appropriate corrective action, and file. Forward proposed and completed actions to HQ AFSC/SEW within 90 days of mishap. Provide copies of endorsement to each formal report addressee and HQ AFMC/SE.
11		OC-ALC/LAH Tinker AFB OK 73145 if AGM-65 involved.	
12		AAC/SES Eglin AFB FL 32544 if AGM-88, AIM-4, AIM-7, AIM-9, AIM-120.	
13		Air Logistics or Product Center system program director as specified in TO 00-25-115 for aircraft, missiles and explosives involved (notes 1, 2, and 4 apply)	Review and take appropriate corrective action. Forward action memorandum or Endorsement with a copy of TDR, photos, test results, and when established, MIP interim or closing action to HQ AFSC/SEW and a copy to AFMC/SE within 90 days of the mishap. See note 1.
14		Each agency or organization tasked in the primary recommendations (see note 5)	Review, appropriate corrective action, and file.
15		HQ AFMC/SE 4375 Chidlaw Rd Rm S154 Wright Patterson AFB OH 45433	Review and take appropriate action. Endorsement concurrence will be in DB10. If AFMC disagrees with ALC or non-concurs, Endorsement will be provided to each formal report addressee and HQ AFSC/SEW.
16		AFFSA/XV Andrews AFB MD 20331, MAJCOM/DOF and, if different, MAJCOM/DOF responsible for operating and maintaining applicable air traffic control, air communication, or NAVAID if deficiencies in air traffic control, air communications, or NAVAIDS involved.	Review and appropriate corrective action. Indorse through command channels to responsible MAJCOM/DOF. DOF takes corrective action, withdraws reports, indorses transmittal correspondence to HQ AFSC/SEW within 90 days of mishap, and provide copies of endorsement to each formal report addressee.

17		AWS/SE Scott AFB IL 62225 if deficiencies in weather services involved	Review, appropriate corrective action, and file. Endorse transmittal correspondence to HQ AFSC/SEW within 90 days of mishap, and provide copies of endorsement to each formal report addressee.
18		HQ AFOTEC/SE Kirtland AFB NM 87117 if OT&E involved or upon written request	
19		OO-ALC/SES/WMCS Hill AFB UT 84406 if non-nuclear ammunition are involved	
20		SMC/AXZ 160 Skynet St, Ste 2315 Los Angeles AFB CA 90245-4683 if system or component of space system or space launch vehicle involved or if lift system or component of ballistic missile system or ballistic missile booster involved	
21		HQ AFSPC/SE Peterson AFB CO 80914 if system or component of space system or space launch vehicle involved or if lift system or component of ballistic missile system or ballistic missile booster involved.	Review, appropriate corrective action, and file.
22		ESC/SE Hanscom AFB MA 01731 if ground electronics subsystem involved	
23		AAC/WM 207 West D Ave, Ste 308 Eglin AFB, FL 32542-6844	
24		HQ AFMOA/SGPA Bolling AFB DC 20332-6188 (See note 3)	
25		HQ USAF/IL 1030 Air Force Pentagon Washington DC 20330-5006 All weapon mishaps	

26		WR-ALC/SE 245 Cochran Street, Ste C9 Robins AFB, GA 31098-1623 All tactical missile mishaps	
27		Armed Forces Institute of Pathology Washington DC 20305 If fatality occurred (see note 5)	

NOTES:

1. ALC action correspondence is not required unless the safety report contains findings or recommendations involving materiel failure or malfunction, depot-level maintenance, design deficiencies, or technical order deficiencies.

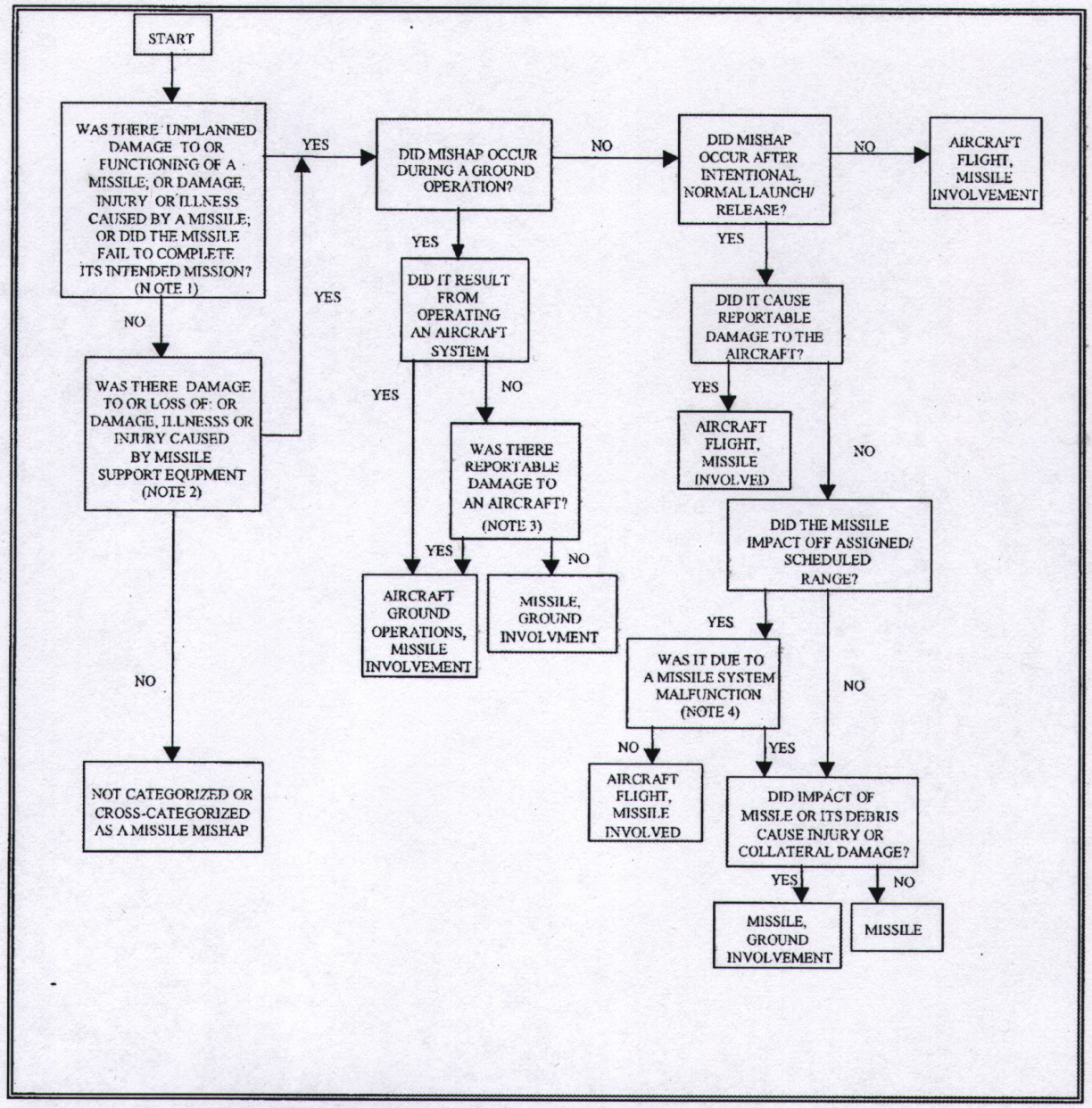
2. For all mishaps requiring an action by an AFMC organization, send one copy to HQ AFMC/SE, as well as the tasked agency.

3. In mishaps with significant medical contribution or resulting in a medical condition or physical injury, send a copy of the formal report.

4. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

5. Do not send a report to an agency outside the USAF. Prepare those copies of the report and send them to HQ AFSC/JA for forwarding.

Table 8.5. Added. Missile Mishap Category Flow Chart.



NOTE 1: Includes simulators, training missiles, and captive carry missiles
NOTE 2: Not applicable to air-launched missiles.
NOTE 3: Reportable damage: $\geq$ \$10,000
NOTE 4: See paragraph 8.1.2.5.1.2

CHAPTER 9

SPACE MISHAPS

9.1. General Information.

9.1.1. Classifying Reports.

9.1.1.1. This chapter instructs on how to classify and report space mishaps. Space mishaps involve space systems or unique space support systems that are limited to components or equipment not commonly used outside the space industry. Space-related mishaps involving space systems or unique space support systems that may be used in other applications can be classified as Ground and Industrial (Space involvement). Responsibility for space systems continues until all normal expected space flight operations have ended (satellite is finally deorbited, achieves an earth-escape trajectory, etc.). Intercontinental Ballistic Missile (ICBM) mishaps are not considered space mishaps. Report them according to **Chapter 8**.

9.2. Assigning Space Mishap Accountability.

9.2.1. Responsibility.

9.2.1.1. HQ AFSC assigns a space mishap to the organization or developmental agency responsible for the system at the time of the mishap. For satellites, the MAJCOM with control authority has mishap accountability. For launch vehicles, including upper stages, the launch agency has mishap accountability unless a Memorandum of Agreement (MOA) is in place specifying transfer of accountability to another agency. For satellites that are no longer functional, the last organization with control authority is still accountable.

9.3. Classifying Space Mishaps.

9.3.1. Mishap Classification.

9.3.1.1. Class A Mishap. A mishap resulting in one or more of the following:

9.3.1.1.1. Reportable damage of $1,000,000 or more.

9.3.1.1.2. A fatality or permanent total disability.

9.3.1.2. Class B Mishap. A mishap resulting in one or more of the following:

9.3.1.2.1. Reportable damage of $200,000 or more but less than $1,000,000.

9.3.1.2.2. A permanent partial disability.

9.3.1.2.3. Inpatient hospitalization of three or more personnel.

9.3.1.3. Class C Mishap. A mishap resulting in one or more of the following:

9.3.1.3.1. Reportable damage between $20,000 and $200,000.

9.3.1.3.2. An injury resulting in a lost workday case involving 8 hours or more away from work beyond the day or shift on which it occurred; or occupational illness that causes loss of time from work at any time. For military personnel, do not count the day of injury or the day returned to duty. Do not count days when military personnel were not scheduled to work.

9.3.1.4. Class D Mishaps. A mishap resulting in one or more of the following:

9.3.1.4.1. Total cost of $2,000 or more for property damage but less than $20,000. Property damage includes all government equipment, vehicles, or munitions.

9.3.1.4.2. A nonfatal injury that does not meet the definition of a Class C and results in less than eight hours lost time (military lost work hour cases are not included).

9.3.2. Orbital Mishaps.

9.3.2.1. If an Air Force space system, or debris associated with the system, contributes to the death, injury, or illness of a person on-orbit, use paragraph **9.3.1.** to determine the mishap class.

9.3.2.2. If an Air Force space system or debris associated with the system destroys or damages a non-Air Force space system, the convening authority will use the level of damage to the non-Air Force system to determine the classification of the mishap.

9.3.2.3. Due to the enormous expense of placing an operational system on-orbit, even a moderate loss of mission capability should be fully investigated and understood to determine root causes for incorporation into "lessons learned" to prevent recurrence. For satellites, declaration of a space mishap will be based upon the permanent loss of degradation of a primary or non-primary mission capability. Degradation includes shortened life span and/or degraded data or mission performance.

9.3.2.3.1. Report the permanent loss or degradation of a primary or non-primary mission of an individual satellite, as defined by operational or test mission capability criteria, as a result of a collision with a man-made, non-hostile, object as a space mishap.

9.3.2.3.2. Report the permanent loss or degradation of a primary or non-primary mission of an individual satellite, as defined by operational or test mission criteria, as a result of ground-based errors to include human, software, training, or management deficiencies, as a space mishap.

9.3.2.3.3. Report the permanent loss or degradation of a primary or non-primary mission of an individual satellite, as defined by operational or test mission criteria, occurring during early orbit checkout/calibration as a space mishap.

9.3.2.3.4. Report the placement of a satellite into an incorrect orbit which results in the permanent loss or degradation of a primary or non-primary mission of an individual satellite, as defined by operational or test mission criteria, as a space mishap.

9.3.2.3.5. A significant satellite malfunction which is declared a space mishap by the convening authority.

9.3.2.3.6. Destruction of, or damage to, a non-Air Force space system caused by a collision with an Air Force space system or debris associated with the system.

9.3.2.3.7. Death, injury, or illness of a person on-orbit caused by an Air Force space system or debris associated with the system.

9.3.2.3.8. For all other significant satellite malfunctions, the convening authority will use the affect on mission capability, the mission importance, the permanence of mission capability degradation, and other extenuating circumstances to declare the malfunction an anomaly or a space mishap. If the malfunction is declared a mishap, it will be investigated using the guid-

ance of AFI 91-204. If the malfunction is declared an anomaly, it will be investigated using anomaly resolution procedures.

9.3.2.4. Use **Table 9.1.**, Orbital Mishap Determination Matrix, to determine the class of on-orbit space mishaps.

Table 9.1. Orbital Mishap Determination Matrix.

	Permanent Loss of Primary Mission Capability	**Permanent Loss of a Non-Primary Mission Capability**	**Permanent DegradatioN of a Mission Capability** (Note 2)
Collision	Class A	Class B	Class B
Ground-induced	Class A	Class B	Class B
Early-orbit checkout (EOC)	Class A	Class B	Class B
Space environment related failure *(Note 1)*	Anomaly, unless convening authority declares mishap	Anomaly, unless convening authority declares mishap	Anomaly, unless convening authority declares mishap
Post EOC, Prior to end of design life	Anomaly, unless convening authority declares mishap	Anomaly, unless convening authority declares mishap	Anomaly, unless convening authority declares mishap

NOTES:

1. Space vehicle failing to function properly in the space environment for which it was designed.
2. Includes shortened life span and/or degraded data or mission performance.

9.4. Other Events.

9.4.1. Class E Events.

9.4.1.1. Class E Events. Class E events are deemed important enough to trend for mishap prevention, despite the fact they do not meet other mishap class reporting criteria. Report the unplanned creation of orbital debris by an Air Force space system or Air Force satellite conjunctions, as a Class E event.

9.4.2. High Accident Potential (HAP) Events.

9.4.2.1. A HAP event is a significant space occurrence with a high potential for causing injury, occupational illness, or damage if they recur. These events do not have reportable mishap costs. Do not use the HAP designation in conjunction with any other class of mishap. As a minimum report the accidental escape or spillage of dangerous (toxic, caustic, or corrosive) material that results in an individual receiving a precautionary checkup as a HAP.

9.5. Mishap Category.

9.5.1. Guidelines.

9.5.1.1. When a commercial enterprise or another agency uses an Air Force space system or space support system element, report damage occurring to Air Force resources according to the appropriate memorandums of understanding/leases/licenses/agreements. If the event does not damage or destroy an Air Force-owned satellite or if the event does not cause collateral Air Force property damage, injury, or illness, it is not a reportable mishap. If the Air Force will be wholly or partially reimbursed, report IAW paragraph **3.4.** If it represents a high potential for damage to Air Force space system elements, report it as a HAP event.

9.5.1.2. Report inability to retrieve recoverable space system elements as space mishaps. Do not report normal expected damage to recoverable space systems during an otherwise normal recovery sequence.

9.5.1.3. Report space mishaps and space HAP events involving radioactive material or nuclear power systems as radiological mishaps according to **Chapter 12**.

9.5.1.4. Report the impact of a space system and its associated debris or hazardous effects outside predicted limit parameters as a space mishap, and classify the mishap according to damage costs or injuries. If no reportable damage occurs, report the impact as a HAP event.

9.5.1.5. Responsibility for an on-orbit space system or debris associated with it does not end until reentry and touchdown on Earth; transfer of responsibility to an agency outside of the Air Force; or injection into an Earth-escape trajectory (unless required for mission). Responsibility for orbital space systems does not end when placed into a non-operational orbit. Reference paragraph **9.3.2.** for those events that will be reported as space mishaps.

9.5.1.6. Report injury, illness, or physiological episode during space system operation or space system processing as a space mishap according to paragraph **9.3.1.**

9.5.1.7. Report damage to space or space support systems being procured by an Air Force contract when the event occurs on Air Force property according to paragraph **9.3.1.** This includes contractor occupied facilities on Air Force installations.

9.5.1.8. Report the loss or damage of Air Force space systems during launch or processing on commercially procured launch systems. Contact appropriate Major Command Safety office for implementation of memorandum of agreements with FAA/AST and the responsible commercial entity. The external agency report may be used as the official final mishap investigation report with AFSC approval.

9.5.1.9. If a non-DoD launch is adversely affected in any way by a DoD range (does not include normal authorized destruct), or range safety procedures fail to adequately protect the public or DoD operations, the Air Force will initiate a space mishap investigation. Class of mishap will be based on DoD loss or the extent of injuries, illness, or death resulting from the mishap and will focus on range safety procedures. If no DoD loss, or any injury, illness, or death has occurred, the convening authority will evaluate the circumstances of the mishap to determine mishap class. This investigation may be done in coordination with a FAA, NASA or NTSB investigation. An AFSC representative will always be present if other agencies are involved.

9.5.2. Space Mishaps, Ground and Industrial Involvement.

9.5.2.1. Space mishaps that occur prior to launch, or involve a unique space support system that does not leave the ground, shall be classified as a space mishap with ground and industrial involvement. For example:

9.5.2.2. While lifting a payload with a mobile service tower crane, a gust of wind swings the payload into the mobile service tower damaging the payload.

9.5.2.3. While transferring propellant from the storage tank to the launch vehicle, the control system malfunctions and the launch vehicle's tank is over-pressurized by the fueling system.

9.5.3. Ground and Industrial Mishap, Space Involvement.

9.5.3.1. Mishaps which occur prior to launch, or are limited to components or equipment commonly used in non-space applications, and not specifically configured for space related use will be classified as ground and industrial mishaps with space involvement. For example:

9.5.3.2. While moving a stacked TITAN IV from the stacking facility to the launch pad one of the locomotives derails and catches fire; however, there is no damage to the space assets.

9.5.3.3. While working on a hypergolic storage tank, a worker falls and seriously hurts himself.

9.6. Investigation.

9.6.1. SIB or Single Investigating Officer (IO) For Class A Space Mishaps.

9.6.1.1. SIB President or Single Investigating Officer Qualifications:

9.6.1.1.1. Colonel (0-6) or GM-15.

9.6.1.1.2. Appointed from outside the wing or equivalent organization having the mishap.

9.6.1.1.3. A graduate of the HQ AFSC Board President Course prior to his or her appointment.

9.6.1.1.4. The SIB President is the final release authority for all information from the board. The SIB President will release factual information to the AIB President via the AFSC representative in accordance with AFI 34-1101, *Assistance to Families of Persons Involved in Air Force Aviation Mishaps.*

9.6.1.2. Required Primary SIB Members:

9.6.1.2.1. IO trained in mishap investigative techniques.

9.6.1.2.2. HQ AFSC Representative.

9.6.1.2.3. Select additional members as necessary.

9.6.1.3. Additional Primary Members:

9.6.1.3.1. Space Operations Officer, qualified in the operational use of the space system.

9.6.1.3.2. Space Materiel Officer qualified in the maintenance, engineering, or munitions involved.

9.6.1.3.3. Bio-environmental Engineer, if bio-environmental health factors are involved.

9.6.1.3.4. Vehicle Maintenance Officer, if a motor vehicle is involved.

9.6.1.3.5. AFOTEC Representative, if AFOTEC-managed OT&E asset is involved.

9.6.1.3.6. Security Police Law Enforcement Officer/NCO, if mishap involves security forces issues.

9.6.1.3.7. Fire Protection Specialist (at least E-7 or GS-9), if the mishap is the result of a fire.

9.6.1.3.8. Weather Officer, if weather or weather service is known or suspected to have been a factor in the mishap.

9.6.1.3.9. Other experts from appropriate areas if mishap involves areas not specified in this list.

9.6.1.4. Required Non-primary SIB Members:

9.6.1.4.1. SIB Recorder, an officer or senior NCO familiar with administrative procedures.

9.6.1.4.2. Representatives of the system manager, IM, or Air Force test organization, if these organizations decide to participate.

9.6.1.5. Additional Non-primary SIB Members at the convening authority's option:

9.6.1.5.1. Representatives from other federal agencies, as advisors or consultants.

9.6.1.5.2. Technical personnel with expertise in specific systems or human factors.

9.6.1.5.3. Additional members as desired.

9.6.2. SIB President or Single IO Qualifications.

9.6.2.1. For all other space mishaps:

9.6.2.2. Major (O-4), GS-12 or higher.

9.6.2.3. Not from the same squadron/organization having the mishap.

9.6.2.4. Formal training on mishap investigations or experience is preferred.

9.6.3. Engineering Analysis Group (EAG) and Accident Investigation Board (AIB) Interaction The SIB must maintain a good working relationship with the AIB and the EAG to assure a thorough safety investigation. The SIB will provide timely and incremental release of necessary factual information through the AIB to the public and commercial space industry manufacturers.

9.6.3.1. To establish a good working relationship, the SIB should formally meet with the AIB and the EAG at the beginning of the investigation to address the following topics at a minimum:

9.6.3.1.1. Review responsibilities of the SIB, the AIB, and the EAG

9.6.3.1.2. Review privileged information criteria.

9.6.3.1.3. Review responsibilities to protect mishap information from unauthorized public release to maintain investigation integrity.

9.6.3.1.4. Review process to control contractor personnel access to investigation information.

9.6.3.1.5. Assure only those with a valid need to know have access to mishap investigation information.

9.6.3.1.6. Review the process to release impounded information and evidence for investigation purposes.

9.6.3.1.7. Review the process to release mishap information to the public and to the contractors involved for internal business purposes only.

9.6.3.1.8. Review process to track AIB and SIB requests for technical information from contractors and share answers to prevent duplication of effort.

9.6.3.1.9. Review process to plan, coordinate, approve, and execute tests which may alter or destroy evidence.

9.6.3.1.10. Review process to examine, exonerate, and if cleared, release systems to minimize impact to day-to-day operations.

9.6.3.1.11. Review process to determine debris recovery strategy.

9.7. Messages, Reports, and Logs.

9.7.1. Reporting Space Mishaps:

9.7.1.1. Space launch mishaps will be investigated using the procedures outlined in **Chapter 4**.

9.7.1.2. Class A and B Space Mishaps require both message and formal reports.

9.7.1.3. Report Class C Mishaps by message.

9.7.1.4. Any space operations anomaly/malfunction which occurs and does not meet the reporting criteria of a Class A, B, or C mishap, but should be tracked through safety channels, should be reported by message as a Class E event or HAP event.

9.7.1.5. Report space mishaps to the addressees in **Table 9.3.** according to the schedule in **Table 9.2.** Route formal reports according to **Table 9.4.**

9.7.2. Engineering Analysis Process:

9.7.2.1. Engineering Analysis. The engineering analysis is a technical examination of mishap data conducted by an Engineering Authority. It provides important factual information to the SIB and the AIB. To assure the engineering analysis report is releasable to the Commercial Space Industry, use the following rules:

9.7.2.2. Factual mishap data will be passed from the SIB to the AIB to the Engineering Analysis Group to conduct the engineering analysis. This information will be passed to the AIB as soon as it is available.

9.7.2.3. SIB members will NOT direct the engineering analysis. SIB members may receive periodic updates on the engineering analysis, or monitor it, but may not direct the analysis in any manner that may give insight into SIB deliberations.

9.7.2.4. The engineering analysis, if kept separate from the safety investigation, is not privileged and will only be released to the appropriate agencies through the AIB. If the report contains classified or proprietary information, control it appropriately.

9.7.2.5. The SIB will submit an Air Force formal report that includes the engineering analysis and any other data/test results deemed appropriate. The formal report is privileged and will include findings, causes, and recommended corrective actions. The non-privileged engineering analysis will be included in Tab J of the formal report. If the engineering analysis report contains proprietary information, it will be included in Tab W of the formal report.

9.7.2.6. Release of Mishap Factual Information to the Commercial Space Industry. Factual information concerning the mishap, including non-privileged engineering analysis results, will be released to the Commercial Space Industry through the AIB.

9.7.3. Anomaly Resolution Process.

9.7.3.1. Anomaly resolution is a process conducted to investigate problems associated with a space system. The results of the anomaly resolution process may be used by a SIB. To keep the results of the anomaly resolution process from becoming privileged follow the guidance of paragraph **9.7.2.1.** for conducting an engineering analysis.

9.7.4. Preparing Message Reports for Space Mishaps.

9.7.4.1. Prepare these message reports in the formats shown in **Figure 9.2.** or **Figure 9.3.** Submit them according to the time requirements of **Table 9.2.** and provide to appropriate addressees in **Table 9.3.** The following instructions also apply to these messages:

9.7.4.2. Addressees. **Table 9.3.** shows who receives the reports based on the need to know in order to prevent inadvertent release of privileged safety information outside the Air Force.

9.7.4.2.1. Commands may supplement this instruction to include internal organizations as addressees if they have a need to know.

9.7.4.2.2. Use AIGs to include addressees within the command as recipients of selected safety messages. List the addressees in **Table 9.3.** followed by the appropriate weapon system AIG, when used. If the base message center is not listed on the AIG, contact the investigating MAJCOM to ensure they retransmit the message under the appropriate AIG. Do not place addressees outside the command on command AIG listings without HQ AFSC/JA approval.

9.7.4.2.3. Ensure all agencies identified as OPRs for mishap recommendations are included in the addressee list, unless such agencies are outside the Department of the Air Force. For OPRs outside the Air Force, MAJCOM safety offices should consult with HQ AFSC/JA on the appropriate means of conveying the tasking.

9.7.4.3. Determining Mishap Event Number. Because it is the single common worldwide identifier of a mishap, include the mishap event number in the subject lines of all non-nuclear message reports. Refer to the mishap event number in all related correspondence, DRs, TDRs, and Endorsements. For all non-nuclear mishaps, the mishap event number consists of sixteen characters, such as "1996/03/21, ZQKL, 005A," assembled as follows:

9.7.4.3.1. Date of Mishap. This is the local date of the base responsible for the mishap, not the Zulu or Coordinated Universal Time (CUT) day. Use eight digits (YYYYMMDD).

9.7.4.3.2. Installation Code. Use the four letter Home Location Code from SORTS. GSUs for ARC forces need to use local base code. Note: GSU and tenant units may not have the same codes as the reporting unit. For launch mishaps, use the base where the vehicle was launched. For orbital mishaps, use the base from which the satellite was being controlled.

9.7.4.3.3. Unit Control Number. Use separate sets of four-character combinations (three digits and one letter) for unit control numbers. ("Unit" means group equivalent or higher.) Assign the digits in order for each non-nuclear mishap. Host base safety staffs will assign blocks of numbers to their tenants. The last space designates the mishap class (A, B, or C). HAP events have no reportable costs and are designated by the letter "H," e.g., "105A, 406H."

9.7.5. Writing the Narrative Report.

9.7.5.1. The principles for writing the narrative portion of the final message report are the same as for the formal report. See **Chapter 5** for guidance.

9.7.6. Marking Messages, Reports, Documents, and Other Safety Materials.

9.7.6.1. Air Force mishap messages are subject to limited distribution. Moreover, aircraft, missile, space, nuclear, and certain ground and explosive safety reports contain privileged information. NOTE: For classified messages add the proper security classification marking from AFI 31-401, *Information Security Program Management*, and omit the notation "FOR OFFICIAL USE ONLY."

9.7.6.2. Marking Privileged Messages: Place the following Privilege Warning between rows of slashes immediately before the subject line of all privileged messages. ***EXCEPTION:*** Preliminary Class A and B aircraft, missile, and space mishap messages ("8-hour" reports) are factual only and fully releasable unless controlled for other reasons, such as information security. Example:

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will contain the Privilege Warning at the beginning and the end of the tape, program, or recording as well as the outside of the tape itself.

9.7.6.7. Marking Reports Submitted on AF Form 739. Do not mark this report or log for limited distribution.

9.7.7. General Composition of Formal Reports.

9.7.7.1. All formal Privileged reports must have two parts: Part I, Facts; and Part II, Privileged Documents. Part I contains factual information that may be disclosed outside the Air Force; Part II contains the privileged portions of the formal report and will not be disclosed.

9.7.8. What to Include in Formal Reports.

9.7.8.1. Privileged space reports usually include Tabs A, B, J, M, Q, R, and S in Part 1 and Tab T in Part 2. Other tabs may be used. Most commonly used additional tabs include, but are not limited to Tabs, H, G, N, O in Part 1 and Tabs U, W and Y in Part 2. Tab Z is optional for all reports. Include a computer disk(s) containing the ASCII text or MS Word documents of the formal report in the copy sent to HQ AFSC/JA.

9.7.9. Authenticating Formal Reports.

9.7.9.1. Type each primary SIB member's name, grade, and position, as listed on the Board's appointment orders, on the last page of Tab T. Have each concurring member sign above it for authentication of the report or for any changes to the report. If the formal SIB report needs to be changed after it is completed and signed by the board, the primary members of the SIB shall be physically reconvened.

9.7.10. Controlling the Formal Report.

9.7.10.1. Once the SIB completes the investigation and finalizes the hard copy report, the SIB recorder or local safety office will control the hard copy report until the convening authority is briefed on the results of the investigation. Upon approval for release, the formal report will be distributed.

9.8. Follow-up Actions.

9.8.1. Briefing Formal Reports.

9.8.1.1. Once the SIB completes the investigation and finalizes the hard copy report and the final SIB message, the board members will brief the MAJCOM/CC (convening authority) on the results of all Class A mishaps or as directed by the convening authority. There will be no intermediate briefings prior to the MAJCOM/CC briefing. HQ USAF/SE will be the focal point for all briefings to the CSAF for those mishaps involving fatalities or other mishaps when requested. Safety investigation briefings will be afforded the same protection given the formal report. The senior officer receiving the briefing will dictate attendance. For basic briefing format see **Attachment 3**. Contact MAJCOM safety office for command format.

9.8.2. Review of Final Report.

9.8.2.1. Include the investigators' conclusions as findings, causes, and recommendations in the final report. The following standards apply to all final reports; however, references to formal reports and command endorsements apply primarily to final reports of Class A and B mishaps:

9.8.2.2. Before the SIB or investigating officer sends the final report, the convening authority's safety staff ensures:

9.8.2.2.1. The report includes significant points of the investigation and analysis.

9.8.2.2.2. The SIB's or investigating officer's findings and causes meet the CAR format.

9.8.2.2.3. The report shows the correct action agencies.

9.8.2.3. The convening authority determines whether the final report fulfills the purposes, intent, and requirements of the mishap prevention program. If it does not, the convening authority will attach written comments to the final report as an addendum or direct an additional investigation. At this stage of the investigation and reporting process, the intent is to ensure each report is technically correct.

9.8.2.4. Only the primary members of the safety board can make changes to the final report. Comments raised by the convening authority addendum will be worked during the Memorandum of Final Evaluation process. If the final SIB message needs to be changed after it is completed and signed by the board, the primary members of the SIB shall be physically reconvened.

9.8.3. For any launch failure occurring at an Air Force space launch range (30 SW or 45 SW), the Wing safety office will assess the performance of the flight termination system and evaluate the effectiveness of debris prediction models and toxics dispersion models. For Air Force launch mishaps, the assessments will be included in the formal SIB report. For non-Air Force launch mishaps, the reports will be forwarded to AFSPC/SE and AFSC/SEW.

Figure 9.1. Privilege Warning.

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FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, **Chapter 2** FOR RESTRICTIONS. DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

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Figure 9.2. Format for Preliminary Class A, B, C, or HAP Space Mishap Message.

Use this format for preliminary Class A, B, C, or HAP space mishap messages required by **Table 9.2.** This format can be used for 72-hour status reports. Preliminary (8-hour) messages must not contain privileged information. If this format is used for a 72-hour status report, include the Privileged markings from **Figure 9.1.**.

FROM: (Originator)

TO: (See **Table 9.3.**)

UNCLAS

SUBJECT: TYPE SPACE (if applicable), CLASS, SPACE, REPORT STATUS, AND MISHAP EVENT NUMBER

***NOTE**: For "*" entries, see **Attachment 5**.*

1. Date and time of mishap. Give date (YYYYMMDD), local time (24 hour clock), and whether (day or night). If exact time is not known, use best estimate.

2. Base submitting report. Was mishap on base? (Y or N). ***NOTE***: If base code is unknown, use clear text of base name.

3. Duty Status.

4. Name of nearest base to mishap or base controlling asset for on-orbit mishaps.

5. Location of mishap. If on a military base, give specific location, e.g., launch complex 17, building 555, or munitions storage area. If mishap occurred off base, use street and highway references, as well as distance and direction from nearest military base. For a space vehicle impacting off base or off range, give location by magnetic direction and distance in nautical miles from nearest military base, e.g., 25 NM ESE of Nellis AFB NV. If an item is dropped from a vehicle and not recovered, list location as in flight with an approximation of location. If mishap occurs on-orbit, list on-orbit as the location.

6. Give latitude and longitude of mishap in minutes and degrees to 2 decimal places (if available).

7. Object information.

7.1. *Nomenclature: Air Force equipment or facilities identification. For space, include the mission-design-series (MDS) and system serial number (add whatever information needed to identify the system as precisely as possible). For vehicles and equipment, list nomenclature and serial numbers. For facilities, list building number and principal purpose.

7.2. *Accountable MAJCOM and squadron of equipment or personnel.

7.3. Was mishap within 10 NM of base (Y or N)?

7.4. Was object destroyed (Y or N)? (If No, summarize damage assessment, including loss of capability).

8. Personnel Information. Include known information about fatalities and injuries. Do not include names due to next of kin notification considerations. Do not include SSNs on preliminary messages. Include information on team members and bystanders.

8.1. *Grade: Age: AFSC:

8.2. *Injury Class and Type:

8.4. For team members include qualifications.

9. Narrative of circumstances. Give brief description of mishap. Provide strictly abbreviated, factual information. Do not include information implying cause or containing material gained through testimony from team members or other witnesses. Describe extent of damage, e.g., "Building destroyed by fire or explosion," "Launch vehicle destroyed," etc. Include mission information, including mission type and mishap weather.

10. Initial estimates of collateral damage and injury costs. Give estimate of damage to non-Air Force property and non-Air Force injury costs if applicable. Include status of on-going rescue and recovery operations, hazard containment, and security. Provide information on the level of media interest.

11. Interim Safety Board President and cognizant official and telephone number (DSN and commercial).

Figure 9.3. Format for Consolidated Mishap Report (CMR) Space Mishap.

FROM: (ORIGINATOR)

TO: (See **Table 9.3.**)

(Security Classification)

SUBJECT: TYPE SPACE (if applicable), CLASS, SPACE, CROSS CATEGORY INVOLVEMENT, SUBCATEGORY, REPORT STATUS, MISHAP EVENT NUMBER.

Example: Delta II GPS 2R1, Class A, Space Mishap, Final Report, 96/03/07, CPRL, 001A

***NOTE*:** For category, cross category involvement, and subcategory, see **Attachment 5**. For mishap event number see paragraph 9.7.5.3.

***NOTE*:** For classified reports see AFI 31-401, *Information Security Program Management*.

***NOTE**:* Include Privacy Act Statement if Social Security Numbers are included in the message.

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C., CHAPTER 40; 37 U.S.C., CHAPTER 9; EO 9397, NOVEMBER 1943. PRINCIPAL PURPOSES: SAFETY MISHAP REPORTING ONLY. ROUTINE USES: SAFETY MISHAP REPORTING ONLY. DISCLOSURE: DISCLOSURE OF SSN IS VOLUNTARY.

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1.5. Date of the mishap.

1.6. Local Time.

2. Accountability:

2.1. MAJCOM.*

2.2. Numbered Air Force, ALC.

2.3. Wing/Group.

2.4. Squadron/Unit.

2.5. Base code. (Use the four letter Home Location Code from SORTS).

3. Environmental factors:

3.1. Weather was a factor (Y or N).

3.2. Day or night.

3.3. Mishap did involve fire or explosion (Y or N).

3.4. Space Environment was a factor (Y or N).

4. Damage and injury cost estimates:

4.1. Mishap cost NONAF: Estimate of damage to non-Air Force property, including other DoD and non-DoD property.

4.2. AF cost damage: Cost of damage to Air Force property, including labor and materiel.

4.3. Cost total injury: Cost of injuries to Air Force personnel, including military and civilian.

4.4. Total mishap cost (sum of costs in items 4.1 through 4.3).

5. Personnel involved: Give the following data on each person involved. If more than one person is involved, provide information in subparagraphs entitled “Person 1,” “Person 2” etc. Repeat entry 5.1 through 5.1.19 for each person involved in the mishap. Number as 5.X through 5.X.19.

5.1. Gender.

5.2. Age.

5.3. Grade.*

5.4. Duty AFSC or job series.

5.5. Time on duty prior to mishap. Give time to nearest 10th of the hour from the time the individual reported to work until he or she was involved in the mishap.

5.6. Activity at time of mishap.*

5.7. Role in event.*

5.8. Functional area.*

5.9. Organization assigned.

5.10. MAJCOM.*

5.11. Numbered Air Force, ALC.

5.12. Wing/Group.

5.13. Squadron/Unit.

5.14. Base.

5.15. Component.*

5.16. TOX testing (positive, negative, pending, or not accomplished). If positive or not accomplished, explain in narrative. TOX test information must be identified in all mishaps.

5.16.1. Substance type.*

5.16.2. Substance level.

5.17. Injury class.*

5.17.1. Part of body injured.*

5.17.2. Type injury.*

5.18. Was individual training a factor in the mishap (Y or N)? Types of training include traffic safety, job task, life support, etc. If training was factor, answer following six questions:

5.18.1. Was individual trained and, if required, certified to perform task (Y or N)?

5.18.2. Was training program, as designed, adequate to perform task (Y or N)?

5.18.3. Did training, as administered, comply with established training program (Y or N)?

5.18.4. Were written instructions available (checklist, TO, etc.) (Y or N)?

5.18.5. Were written instructions used (Y or N)?

5.18.6. Were written instructions satisfactory (Y or N)?

5.19. Safety equipment. Select available safety equipment (maximum of three) from **Attachment 5**, and state if it was used (Y or N) and if it worked (Y or N). Use following format: seat belts/yes/yes; parachute/yes/no/; helmet/no/(blank).*

6. Property data. Give the following data on each piece of property involved. If more than one piece of property is involved, provide information in subparagraphs entitled “Object 1,” “Object 2,” etc.

6.1. Property identification.* Repeat all of entry 6.1 for each item if more than one item or property type is involved. Number as 6.X.1 through 6.X.12.

6.1.1. Organization assigned. If the organization is same as paragraph 2, state “same as paragraph 2.”

6.1.1.1. MAJCOM.*

6.1.1.2. Numbered Air Force, ALC.

6.1.1.3. Wing/Group.

6.1.4. Vehicle or equipment serial number.

6.15. Object or vehicle activity at time of mishap.*

6.1.6. Was object destroyed (Y or N)?

6.1.7. Cost to repair or replace.

6.1.8. Mission-design-series (MDS).

6.1.9. Major system failing.*

6.1.10. Parts information. Repeat entries 6.1.10.1 through 6.1.10.1.6 as required for all failed parts. Number as 6.1.10.X through 6.1.10.X.6.

6.1.10.1. Failed part:

6.1.10.1.1. Failed part description.

6.1.10.1.2. Failed part number.

6.1.10.1.3. Failed part manufacturer.

6.1.10.1.4. How malfunction code (see Dash 6 TO).

6.1.10.1.5. Work unit code (see Dash 6 TO).

6.1.10.1.6. Report control number from DR report.

6.1.11. Lot number (if applicable).

7. Narrative. Give a concise, chronological description of the facts and circumstances leading to the mishap. For areas not factors in the mishap, give details in narrative not included elsewhere in the report. Include enough information in final reports to show SIB or investigating officer reasoning in reaching findings and recommendations. In all cases, continue the sequence through point of occurrence (or discovery) for all damage and injury or until the event ends. For technical assistance on this item, contact HQ AFSC/SEW, DSN 246-6059, commercial (505) 846-6059. Specify in the narrative if an accident investigation was/was not convened.

8. Findings and causes. Repeat entries 8.1 through 8.X for the required number of findings and causes. Findings must not address new information that was not previously discussed in the narrative.

9. Preventive action recommended or taken. Repeat entries 9.1 through 9.X as necessary.

10. Cognizant official, unit, office symbol, and telephone number (DSN and commercial).

NOTE: *The CMR format provides the user appropriate fields based on mishap class and category.*

Table 9.2. Reporting/Recording Schedule for Class A, B, C, and HAP Events.

Reports required by this table are in addition to OPREP-3 reports required by AFMAN 10-206 (see note 1).				
	A	**B**	**C**	**D**
	If the mishap is a	**then submit**	**not later than**	**by**
1	Class A or B mishaps	Preliminary (see note 2 and 9)	within 8 hours	Priority message (see note 3)
2		Status report (see note 4)	within 72 hours	Routine message **Figure 9.3.**
3		Status report (see note 5)	Every 30 calendar days or as required.	CMR format **Figure 9.3.**
4		Final report (see note 6)	within 60 calendar days	
5		Formal report	within 60 calendar days (see note 7 and 8)	AF Form 711-series or CMR as specified by category
6	Class C mishaps	Preliminary report	within 5 work days	Routine message, **Figure 9.2.**
7		Status report (see note 5)	as required	CMR format **Figure 9.3.**
8		Final report (see note 6)	within 30 calendar days (see note 7)	CMR format **Figure 9.3.**
9		Formal report (when directed by MAJCOM)	within 30 calendar days (see note 7)	AF Form 711-series or CMR specified by category
10	HAP event	Preliminary report	as soon as possible	Routine message **Figure 9.2.**
11		Status report (see note 5)	as required	CMR format **Figure 9.3.**
12		Final report (see note 6)	within 30 calendar days (see note 7)	
13		Formal report (if required by MAJCOM or HQ USAF/SE)	within 30 calendar days (see note 7)	AF Form 711-series or CMR specified by category

NOTES:

1. See paragraph 5.2.5 for instructions on MINIMIZE.

2. Use non-privileged, unclassified **Figure 9.2.** format for preliminary report.

3. Overseas commands use IMMEDIATE precedence.

4. Use **Figure 9.3.** format for 72-hour status reports. Include new information discovered since the preliminary report and identify SIB members. Remember to place the safety privilege statement at the beginning of the message.

5. Include information not previously reported in the 72-hour or preliminary report. It is not necessary to use the entire **Figure 9.3.** format for subsequent status reports. Only add information not previously reported. Use the **Figure 9.3.** format when modifying a previously transmitted CMR or final report.

6. Do not delay final reports awaiting testing results. If the results from testing significantly change the outcome of a final report, reconvene the SIB (if necessary) and send a status report describing the changes.

7. For extension of due date, send request to the investigating MAJCOM with information copy to HQ AFSC/SEW.

8. Mishaps reported in Class C abbreviated CMR format that are later upgraded to Class A or B will require status reports using message format in **Figure 9.3.**

9. Orbital mishaps timing start the day the MAJCOM Commander declares a mishap, after all recovery actions are completed.

Table 9.3. Addresses for Space Mishap Message Reporting.

	A	B	C
	Organization (see notes 1, 2, and 3)	Office Symbol	For
1	HQ USAF KIRTLAND AFB NM	SE	All space mishaps
2	HQ USAF WASHINGTON DC	SEI	
3	HQ AFSOC HURLBURT FLD FL	SE	
4	HQ AETC RANDOLPH AFB TX	SE	
5	HQ AMC SCOTT AFB IL	SE	
6	HQ PACAF HICKAM AFB HI	SE	
7	HQ AFMC WRIGHT PATTERSON AFB OH	SE	
8	HQ ACC LANGLEY AFB VA	SE	
9	HQ AFSPC PETERSON AFB CO	SE	
10	HQ USAFA USAF ACADEMY CO	SE	
11	HQ USAFE RAMSTEIN AB GE	SE	
12	ANGRC ANDREWS AFB MD	SE/XO	
13	HQ AFRC ROBINS AFB GA	SE	
15	Intermediate commands		
16	Home base of operator (if other than the organization submitting the report)		
17	Military base of departure		
18	SMC LOS ANGELES AFB CA	AXZ	
19	344 TRS LACKLAND AFB TX	TTEB	
20	HQ AFMC WRIGHT-PATTERSON AFB OH	DR	All mishaps involving material deficiencies, Tech Order changes, or AF Policy changes
21	AWS SCOTT AFB IL	SE	Mishaps involving weather events or services

22	OO-ALC HILL AFB UT	SES/SEW/ LMES	Support systems; ballistic missile systems and/or components
23	HQ AFSPC PETERSON AFB CO	SE	
24	HQ AFOTEC KIRTLAND AFB NM	SE	Class A space and all OT&E mishaps
25	COMNAVSAFECEN NORFOLK NAS VA		Mishaps involving US Navy personnel or facilities and mishaps involving systems common to USAF and USN
26	COMNAVAIRSYSCOM WASHINGTON DC		Mishaps involving systems common to USAF and USN
27	CDRUSASC FT RUCKER AL	CSSC-SE	Mishaps involving US Army personnel or facilities and mishaps involving systems common to USAF and USA
28	COMDT COGARD WASHINGTON DC		Mishaps involving US Coast Guard personnel or facilities and mishaps involving systems common to USAF and USCG
29	SECDEF WASHINGTON DC	USD (A&T) (ES) SH	Preliminary report for mishaps involving fatality, in-patient hospitalization of three or more persons, or property damage of $1,000,000 or more
30	SAF WASHINGTON DC	MIQ	Preliminary and final report for Class A and B mishaps
31	AFIP WASHINGTON DC	OAFME	Preliminary and final report for Class A and B mishaps involving injury or death.
32	HQ AFCESA TYNDALL AFB FL	CEXF	Preliminary and final report for mishaps involving fire suppression or crash and rescue operations
33	SA-ALC KELLY AFB TX	SF/LFCS	Mishaps involving fuels or related products
34	DET 63 ASC INDIAN HEAD MD	CC	Mishaps involving EOD operations or activities
35	DEPT OF DEFENSE EXPLOSIVES SAFETY BOARD ALEXANDRIA VA	KT/IT	Class A, B and C Space launch vehicle mishaps
36	USSTRATCOM OFFUTT AFB NE	J416	Mishaps resulting in degraded mission capabilities.

NOTES:

1. Include system program director (SPD) or equivalent as an addressee.

2. Include MAJCOMs that are common users of the mishap materiel (space systems, equipment, launch vehicles, ordnance devices, explosives, etc.) as message addressees when exchange of information would enhance mishap prevention efforts.

3. Safety offices are responsible for revalidating addressee lists prior to each message transmission. Do not send privileged messages to addressees at line 29 at any time.

Table 9.4. Routing of Formal Space Mishap Reports.

	A	B	C
	Forward	To	For (see note 3)
1	One copy of formal report by priority mail	HQ AFSC/SE	Review, appropriate corrective action, and file
2	One copy of formal report by priority mail	AF/SEI	Review appropriate action.
3	One copy of formal report	Organization to which person who had mishap is assigned (see note 6)	Review, appropriate corrective action, and file at wing or equivalent and their organizational level safety office. MAJCOMs specify Endorsement requirements suspense dates. They may grant extensions when warranted.
4		Organization that possessed or controlled mishap asset if different from organization in line 3	
5		Intermediate commands of units specified in lines 3 and 4	
6		MAJCOM concerned	Review, appropriate corrective action, and file. Endorse transmittal correspondence to HQ AFSC/SEW within 90 days of mishap. Provide copies of Endorsement to each formal report addressee.
7		Responsible MAJCOM if developmental asset involved	
8		Gaining MAJCOM if developmental asset involved	
9		System Program Director, Air Logistics or Product Center, as specified in TO 00-25-115 for aircraft, missiles and explosives involved (notes 1 and 4 apply)	Review and take appropriate corrective action. Forward action memorandum or endorsement with a copy of TDR, photos, test results, and when established, MIP interim or closing action to HQ AFSC/SEW and a copy to HQ AFMC/SE within 90 days of the mishap. See note 1.

10		Each agency or organization tasked in the recommendations (See note 6)	Review, appropriate corrective action, and file.
11		HQ AFMC/SE Wright Patterson AFB OH 45433 (note 2 applies)	Review and take appropriate corrective action, Endorsement concurrence will be in DB-10. If HQ AFMC disagrees with ALC or non-concurs, endorsement will be provided to each formal report addressee and to HQ AFSC/SEW within 90 days of mishap
12		HQ ACC/SE Langley AFB VA 23665-2786 if helo ops deficiencies involved	Review, appropriate corrective action, and file. Endorse transmittal of correspondence to HQ AFSC/SEW within 90 days of mishap, and provide copies of the endorsement to each formal report addressee
13		HQ AFOTEC/SE Kirtland AFB NM 87117	
14		OO-ALC/WMCS Hill AFB UT 84406 if ammunition and explosives materiel other than nuclear involved (see note 4)	.
15		SMC/AXZ 160 Skynet St, Ste 2315 Los Angeles AFB CA 90245-4683	Review, appropriate corrective action, and file.
16		HQ AFSPC/SE Peterson AFB CO 80914 (see note 7)	
17		ESC/SE Hanscom AFB MA 01731 if ground electronics subsystem involved	
18		NASA Headquarters/QS Washington DC 20546 (See note 6)	

19		DOT/FAA/AST-200 800 Independence Avenue, SW Washington DC 20591 (See note 6)	
20		HQ AFMOA/SGPA Bolling AFB DC 20332-6188 (See note 5)	
21		Armed Forces Institute of Pathology Washington DC 20305 If fatality occurred (see note 6)	

NOTES:

1. ALC action correspondence is not required unless the safety report contains findings or recommendations involving materiel failure or malfunction, depot-level maintenance, design deficiencies, or technical order deficiencies.

2. For all mishaps requiring an action by an AFMC organization, send one copy to HQ AFMC/SE, Wright Patterson AFB OH 45433-5006, as well as the tasked agency.

3. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

4. When routing formal reports to Air Logistics Centers, send the reports to the Materiel Safety Offices at the applicable ALC for internal distribution and tracking. Use the following addresses:

OC-ALC/LARM Tinker AFB OK 73145

OO-ALC/SES Hill AFB UT 84056

SA-ALC/LACS Kelly AFB TX 78241

SM-ALC/LAFS McClellan AFB CA 95652

WR-ALC/SEM Robins AFB GA 31098-1864

NOTE: SPM and ALC support may not be collocated.

5. In mishaps with significant medical contribution or resulting in a medical condition or physical injury, send a copy of the formal report.

6. Do not send a report to an agency outside the USAF. Prepare those copies of the report and send them to HQ AFSC/SEW for forwarding.

7. HQ AFSPC/SE will forward copies of launch-related mishap reports to 30/45 SW/SE.

CHAPTER 10

EXPLOSIVE AND CHEMICAL AGENT MISHAPS

10.1. General Information.

10.1.1. This chapter defines and provides guidance for reporting explosives and chemical agent mishaps. The guidance for determining classification of explosives mishaps is also applicable in determining classification of other types of mishaps that involve explosives.

10.1.1.1. All safety investigations for mishaps occurring on or after 3 October 2000 include privileged information. Explosives and chemical agent safety investigation reports are privileged reports that contain both privileged and non-privileged information. However, promises of confidentiality are not given to witnesses in explosive or chemical agent safety investigations. Consequently, witness statements for these categories of mishaps are not privileged. The Safety Board deliberative process to include Board findings, conclusions, analysis and recommendations are privileged for all types of mishaps, including explosive mishaps.

10.1.2. Definitions.

10.1.2.1. Explosives. Includes (but is not necessarily limited to) all items of U.S. titled (owned by the U.S. Government through DoD Components) ammunition; propellants (solid and liquid); pyrotechnics; explosives; warheads; explosive devices; and chemical agent substances and associated components presenting real or potential hazards to life, property, or the environment. Dummy (inert) ordnance shall be considered as an explosive device any time it is used in training or test situations to simulate an actual item. Excluded are nuclear warheads and associated devices, except for considerations of storage and stowage compatibility, blast, fire, and non-nuclear fragment hazards associated with the explosives. Riot control agents, smoke and incendiaries are categorized as explosives. The terms “explosives,” “explosives weight,” “net weight,” and other related terms refer to the fillers of explosive items. Fillers may be explosive mixtures, propellants, pyrotechnics, or toxic chemical agents. Liquid fuels and oxidizers when not used with missiles, rockets, and other such weapons or explosives items, such as JP-4, hydrazine, and liquid oxygen (LOX), are not explosives.

10.1.2.2. Chemical Agents. Includes chemical compounds intended for use in military operations to kill, seriously injure, or incapacitate persons through its chemical properties. Excluded are riot control agents, chemical herbicides, smoke, and flame producing devices. Pesticides, insecticides, and industrial chemicals, unless selected by the DoD Components for chemical warfare purposes, are also excluded.

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

10.1.2.4. Explosives or Chemical Agent Mishaps.

10.1.2.4.1. Mishaps that involve explosives and chemical agents which occur:

10.1.2.4.1.1. During ground operations (use, maintenance, handling, transportation, and storage).

10.1.2.4.1.2. After release from an aircraft, including off-range impacts, when due to a system malfunction of the explosive item (see paragraph **7.2.3.4.9.** of this instruction).

10.1.2.4.2. In-flight damage to live and captive explosives are aircraft flight-related mishaps. See paragraph **7.2.3.4.10.** of this instruction.

10.1.2.4.3. Mishaps, which occur during test and evaluation, are reportable.

10.1.2.4.4. Mishaps involving space operations are categorized as space mishaps.

10.1.2.4.5. For explosives mishaps involving non-US assets or personnel see paragraph **1.8.** of this instruction.

10.1.2.4.6. EXCEPTIONS:

10.1.2.4.6.1. Report personnel induced accidental initiation where item functions as designed during ground operations as Ground and Industrial (Explosives Involvement).

10.1.2.4.6.2. Report personnel induced accidental functioning of aircraft installed explosive systems as an Aircraft Ground Operations (Explosives Involvement) or Aircraft Flight (Explosives Involvement) or Aircraft Flight Related (Explosives Involvement).

10.1.2.4.6.3. Aircraft damage (greater than $10,000) as a result of the mishap is reported as Aircraft Flight/Ground Operations (Explosives Involvement).

10.2. Assigning Explosive and Chemical Agent Mishap Accountability.

10.2.1. Guidelines.

10.2.1.1. HQ AFSC assigns a mishap to the organization possessing the explosives or toxic chemical agents at the time of the mishap. If the explosives are in a state of transit, holding, or transfer at the time of the mishap, possession may be in doubt. In such cases, HQ AFSC assigns the mishap to the organization responsible for the operation or area at the time of the mishap. For ARC explosive mishaps ARC units should contact the appropriate ARC safety office if possession of an explosive is in doubt. The ARC safety office will contact HQ AFSC for determination.

10.3. Determining Explosives or Chemical Agent Mishap Category.

10.3.1. See **Table 10.4.**

10.3.2. When reporting multiple categories refer to appropriate chapters of this instruction to provide all required information and include necessary addressees in the reports..

10.4. Determining Classification of Explosives or Chemical Agent Mishaps..

10.4.1. Estimating Cost of Mishap.

10.4.1.1. Use the following paragraphs with paragraph **3.4.** and **3.5.** to determine explosives item costs only. Add other property damage, injury, or illness costs to the explosives item costs to classify the mishap.

10.4.1.2. For explosives or chemical agents expended in the mishap use the full current-stock-catalog replacement value if the item was serviceable and would normally be replaced in the inventory.

10.4.1.2.1. Do not count the cost of the expended item if it was intentionally expended (such as EOD) or it was not serviceable.

10.4.1.3. Drop Criteria. When explosives or munitions items are dropped a distance that exceeds the drop criteria in the specific item technical order, estimate the mishap cost at 15 percent of the item replacement cost in the current stock catalog. After initial mishap class determination, upgrade or downgrade the mishap class only if actual cost can be determined. Upgrade or downgrade can be accomplished after completion of final evaluation. See paragraph **10.5.1.2.**

10.4.2. Mishap Classification.

10.4.2.1. Class A Mishap. A mishap resulting in one or more of the following:

10.4.2.1.1. Reportable damage of $1,000,000 or more.

10.4.2.1.2. A fatality or permanent total disability.

10.4.2.2. Class B Mishap. A mishap resulting in one or more of the following:

10.4.2.2.1. Reportable damage of $200,000 or more but less than $1,000,000.

10.4.2.2.2. A permanent partial disability.

10.4.2.2.3. Inpatient hospitalization of three or more personnel.

10.4.2.3. Class C Mishap. A mishap resulting in one or more of the following:

10.4.2.3.1. Reportable damage between $20,000 and $200,000.

10.4.2.3.2. An injury resulting in a lost workday case involving 8 hours or more away from work beyond the day or shift on which it occurred; or occupational illness that causes loss of time from work at any time. For military personnel, do not count the day of injury or the day returned to duty. Do not count days when military personnel were not scheduled to work.

10.4.2.4. Class D Mishaps. A mishap resulting in one or more of the following:

10.4.2.4.1. Total cost of $2,000 or more for property damage but less than $20,000. Property damage includes all government equipment, vehicles, or munitions.

10.4.2.4.2. A nonfatal injury that does not meet the definition of a Class C and results in less than eight hours lost time (military lost work hour cases are not included).

10.4.2.5. HAP Events. Significant aircraft, missile, space, explosives, miscellaneous air operations, or ground occurrences with a high potential for causing injury, occupational illness, or damage if they recur. These events do not have reportable mishap costs. If the event meets reportable mishap criteria do not designate it as HAP. Do not use the HAP designation in conjunction with classes of mishap.

10.5. Change In Mishap Class.

10.5.1. Changing Classes:

10.5.1.1. Changes in damage costs or degree of injury/illness that result in a change in the mishap class requires additional reporting. Thus, the investigating command will track mishaps that have damage estimates close to a threshold limit and injuries/illness that have the potential for improving or worsening. This is especially significant for injuries/illness that could result in the injured person being medically discharged or separated, resulting in an upgrade to a Class A mishap. If the mishap classification changes after the final report was submitted, a status report will be sent

to change the mishap class. The MAJCOM/DRU/FOA will track those mishaps until issuance of the memorandum of final evaluation.

10.5.1.2. When drop criteria damage cost estimates change, upgrade or downgrade of classification can be accomplished after completion of final evaluation. SIB or MAJCOM/DRU/FOA will send a message with justification for class change to the same addresses as previous messages for the mishap. Do not delay final mishap message for cost determination.

10.5.1.3. Additional Primary Members:

10.5.1.3.1. Medical Officer, if medical factors are involved.

10.5.1.3.2. Bio-environmental Engineer if bio-environmental health factors are involved.

10.5.1.3.3. Vehicle Maintenance Officer, if a motor vehicle is involved.

10.5.1.3.4. Munitions/Explosives Representative. If applicable, use a fully qualified maintenance officer, NCO, or DAF civilian with munitions experience who is familiar with the design, construction, properties, use, and functioning of all involved explosive items.

10.5.1.3.5. AFOTEC Representative, if AFOTEC-managed OT&E asset is involved.

10.5.1.3.6. Security Police Law Enforcement Officer/NCO, if a motor vehicle is involved in the mishap.

10.5.1.3.7. Fire Protection Specialist (at least E-7 or GS-9), if the mishap is the result of a fire.

10.5.1.3.8. Weather Officer, if weather or weather service is known or suspected to have been a factor in the mishap.

10.5.1.4. Required Non-primary SIB Members:

10.5.1.4.1. SIB Recorder, an officer or senior NCO familiar with administrative procedures.

10.5.1.4.2. Representatives of the system manager, IM, or Air Force test organization, if these organizations decide to participate.

10.5.1.5. Additional Non-primary SIB Members at the convening authority's option.

10.5.1.5.1. Representatives from other federal agencies, as advisors or consultants.

10.5.1.5.2. Technical personnel with expertise in specific systems or human factors.

10.5.1.5.3. Additional members as desired.

10.5.2. SIB President or Single IO Qualifications.

10.5.2.1. For Class B explosive and chemical agent mishaps:

10.5.2.1.1. Major (O-4), GS-12 or higher.

10.5.2.1.2. Not from the same squadron/organization having the mishap.

10.5.2.1.3. Formal training on mishap investigations or experience is preferred.

10.5.2.1.4. Additional SIB members as required.

10.6. Safety Investigation Boards for Explosives or Chemical Agent Mishaps.

10.6.1. SIB or Single IO For Class A explosives or chemical agent mishaps.

10.6.1.1. SIB President or Single IO Qualifications.

10.6.1.1.1. Colonel (O-6) for Class A mishaps.

10.6.1.1.2. A graduate of the HQ AFSC Board President's Course prior to appointment.

10.6.1.1.3. Appointed from outside the wing or equivalent organization having the mishap.

10.6.1.2. Required Primary SIB Members:.

10.6.1.2.1. IO that is an officer with munitions experience.

10.6.1.2.2. HQ AFSC Representative (Class A only) when the mishap scenario warrants. If cost is the sole driver for Class A determination simply because multiple units were involved and there was no unintentional or premature functioning of the item and/or there was no injury, then AFSC representation is not warranted.

10.6.1.2.3. Medical Officer qualified in aerospace medicine, if personnel are directly involved in the mishap or personal injury occurs.

10.6.1.2.4. Select additional members as necessary.

10.6.1.3. Additional Primary Members:

10.6.1.3.1. Bio-environmental Engineer if bio-environmental health factors are involved.

10.6.1.3.2. Munitions/Explosives Representative. If applicable, use a fully qualified maintenance officer, NCO, or DAF civilian with munitions experience that is familiar with the design, construction, properties, use, and functioning of all involved explosives items.

10.6.1.3.3. AFOTEC Representative, if AFOTEC-managed procedures or equipment are involved.

10.6.1.3.4. Weather Officer, if weather or weather service is known or suspected to have been a factor in the mishap.

10.6.1.4. Required Non-primary SIB Members:

10.6.1.4.1. SIB Recorder, an officer or senior NCO familiar with administrative procedures.

10.6.1.4.2. Representatives of the system manager, IM, or Air Force test organization, if these organizations decide to participate.

10.6.1.5. Additional Non-primary SIB Members at the convening authority's Option.

10.6.1.5.1. Representatives from other federal agencies, as advisors or consultants.

10.6.1.5.2. Technical personnel with expertise in specific systems or human factors.

10.6.1.5.3. Additional members as desired.

10.6.2. SIB President or Single IO Qualifications.

10.6.2.1. For Class B explosive and chemical agent mishaps:

10.6.2.1.1. Major, GS-12 or higher.

10.6.2.1.2. Not from the same squadron/organization having the mishap.

10.6.2.1.3. Formal training on mishap investigations or experience is preferred.

10.6.2.1.4. Additional SIB members as required.

10.6.3. Single IO Qualifications For Class C and below explosives and chemical mishaps:

10.6.3.1. Weapons Safety Manager or higher.

10.6.3.2. Formal training on mishap investigations or experience is preferred.

10.6.3.3. Additional SIB members as necessary.

10.7. Message Reports for Explosive and Chemical Agent Mishaps.

10.7.1. Preparing Message Reports for Explosive and Chemical Agent Mishaps.

10.7.1.1. Prepare these non-nuclear message reports in the formats shown in **Figure 10.1.** and **Figure 10.2.** Submit them according to the time requirements of **Table 10.1.** and provide to appropriate addressees in **Table 10.2.** The following instructions also apply to these messages:

10.7.2. Addressees.

10.7.2.1. **Table 10.2.** shows who receives the reports based on a need to know to prevent inadvertent release of FOUO information outside the Air Force.

10.7.2.2. Commands may supplement this instruction to include internal organizations as addressees if they have a need to know.

10.7.2.3. Use a need-to-know determination in selecting additional internal addressees for explosive safety messages.

10.7.2.4. Use AIGs to include addressees within the command as recipients of selected safety messages. List the addressees in **Table 10.2.** followed by the appropriate AIG. If the base message center is not listed on the AIG, contact the investigating MAJCOM to ensure they retransmit the message under the appropriate AIG. Do not place addressees outside the command on command AIG listings without HQ AFSC/JA approval.

10.7.2.5. Use AIGs for safety reports with information of critical and immediate importance to other users of the equipment. Only send those reports conveying significant safety information peculiar to the weapon system or its mission by worldwide AIG. Do not use these AIGs for other information. When using the worldwide AIG for other than flight safety reports, list all MAJCOMs as addressees, including ANG and AFRC that possess similar equipment. Do not use an AIG for reports that contain little or no information of worldwide mishap prevention potential. Use routine handling procedures for AIG addressees.

10.7.2.6. For non-nuclear explosive information, use AIG 9404//SE/SEW//. This AIG may also be used for all reports under this instruction involving flight and ground mishaps if explosives are involved. The highest classification of information that may be transmitted using this AIG is UNCLAS.

10.7.2.7. Ensure all agencies identified as OPRs for mishap recommendations are included in the addressee list, unless such agencies are outside the Department of the Air Force. For OPRs outside the Air Force, MAJCOM safety offices consult with HQ AFSC/JA on the appropriate means of conveying the tasking.

10.7.3. Determining Mishap Event Number.

10.7.3.1. Because it is the single common worldwide identifier of a mishap, include the mishap event number in the subject lines of all non-nuclear message reports. Refer to the mishap event number in all related correspondence, DRs, TDRs, and Endorsements. For all explosive mishaps, the mishap event number consists of sixteen characters, such as "ZQKL19990307005A", as follows:

10.7.3.2. Date of Mishap. This is the local date, not the Zulu or Coordinated Universal Time (CUT) day. Use eight digits (YYYYMMDD).

10.7.3.3. Installation Code. Use the four letter Home Location Code from SORTS. GSUs for ARC forces need to use local base codes. Note: GSU and tenant units may not have the same codes as the reporting unit.

10.7.3.4. Unit Control Number. Use separate sets of four-character combinations (three digits and one letter) for unit control numbers. ("Unit" means group equivalent or higher.) Assign the digits in order for each mishap. Host base safety staffs will assign blocks of numbers to are designated by the letter "H," e.g., "ZQKL19990307406H."

10.8. Formal Reports.

10.8.1. Writing the Narrative Report.

10.8.1.1. The principles for writing the narrative portion of the final message report are the same as for the formal report. See **Chapter 5** for guidance.

10.8.2. Marking Messages, Reports, Documents, and Other Safety Materials.

10.8.2.1. Air Force explosive safety mishap messages are "FOUO" information. Do NOT use privileged markings unless Space, Missile or Flight involvement or unless privilege has been requested by the investigation agent and granted by HQ AFSC/JA. If space, missile or flight involvement use privileged markings requirements found in space, missile or flight chapters of this AFI.

10.8.2.2. For classified messages add the proper security classification marking from AFI 31-401, *Information Security Program Management*, and omit the notation "FOR OFFICIAL USE ONLY."

10.8.2.3. Marking Non-Privileged Reports. Do not place markings on unclassified pages of non-privileged reports that indicate special handling requirements except "FOR OFFICIAL USE ONLY." For classified pages, add the proper security clearance marking from AFI 31-401 and omit the notation "FOR OFFICIAL USE ONLY."

10.8.3. Deleted.

10.8.3.1. Formal non-privileged reports are assembled in one part. They contain both factual information and the investigator's analysis and conclusions.

10.8.4. Deleted.

10.8.4.1. Non-privileged reports should include at least Tabs A, B, J, M, Q, R, S, T, U and a memorandum of transmittal (paragraph **5.4.6.** and **Figure 5.2.**). If any required forms or exhibits do not add to the report due to the mishap's circumstances omit them. Tab Z is optional for non-priv-

ileged reports. Include a computer disk(s) containing the ASCII text or MS Word documents of the formal report in the copy sent to HQ AFSC/JA.

10.8.5. Authenticating Formal Reports.

10.8.5.1. Type each primary SIB member's name, grade, and position, as listed on the Board's appointment orders, on the last page of Tab T. Have each primary member sign above their name to authenticate the report or any changes to the report, unless there is a minority opinion. Primary members that disagree with the results may submit individual minority reports. Minority reports must include reasons for disagreeing, and will include findings and causes, and recommendations if different from those contained in the report. Sign the minority report and place immediately after the authentication page and include them as part of the final mishap message and report.

10.8.6. Controlling the Formal Report.

10.8.6.1. Once the SIB completes the investigation and finalizes the hard copy report, the SIB recorder or local safety office will control the hard copy report until the convening authority is briefed on the results of the investigation. Upon approval for release, the formal report will be distributed.

10.9. Follow-up Actions.

10.9.1. Review of Final Report.

10.9.1.1. Include the investigator's conclusions as findings, causes, and recommendations in the final report. The following standards apply to all final reports; however, references to formal reports and command endorsements apply primarily to final reports of Class A and B mishaps:

10.9.1.2. Before the SIB or investigating officer sends the final report, the convening authority's safety staff ensures:

10.9.1.2.1. The report includes significant points of the investigation and analysis.

10.9.1.2.2. The SIB's or investigating officer's findings and causes meet the CAR format.

10.9.1.2.3. The report shows the correct action agencies.

10.9.1.3. The convening authority determines whether the final report fulfills the purposes, intent, and requirements of the mishap prevention program. If it does not, the convening authority will attach written comments to the final report as an addendum or direct additional investigation. At this stage of the investigation and reporting process, the intent is to ensure each report is technically correct.

10.9.1.4. Only the primary members of the safety board can make changes to the final report. Comments raised by the convening authority addendum will be worked during the Memorandum of Final Evaluation process. If the final SIB message needs to be changed after it is completed and signed by the board, the primary members of the SIB shall be physically reconvened.

10.9.2. Briefing Formal Reports.

10.9.2.1. Once the SIB completes the investigation and finalizes the hard copy report and the final SIB message, the board members will brief the MAJCOM/CC (convening authority) on the results of all Class A mishaps or as directed by the convening authority. There will be no intermediate

briefings prior to the MAJCOM/CC briefing. HQ USAF/SE will be the focal point for all briefings to the CSAF for those mishaps involving fatalities or other mishaps when requested.

10.9.2.2. Safety investigation briefings will be afforded the same protection given the formal report. The senior officer receiving the briefing will dictate attendance. For basic briefing format see **Attachment 3**. Also contact MAJCOM safety office for specific command format.

10.9.3. Department of Defense Explosives Safety Board Reporting Requirements.

10.9.3.1. For Class A and B explosives mishaps involving explosive items and/or chemical agents that are engulfed in flames and/or cook-off, contact HQ AFSC/SEW to report specific technical data required in accordance with DoD 6055-9 STD, *DoD Ammunition and Explosives Safety Standards*, **Chapter 13**. Report other categories and classes of mishaps whenever the information to be obtained can contribute to the development or verification of safety procedures or standards.

Figure 10.1. Format for Preliminary Class A, B, C, D, or HAP Explosive or Chemical Agent Mishaps.

Use this format for preliminary explosives mishap messages required by **Table 10.1.**. This format can be used for 72-hour status reports. Preliminary (8-hour) messages contain factual information only.

FROM: (Originator)

TO: (See **Table 10.2.**)

CLASSIFICATION

SUBJECT: TYPE EXPLOSIVES OR CHEMICAL AGENT, CLASS, CATEGORY, CROSS- CATEGORY, REPORT TYPE, MISHAP EVENT NUMBER [*Example: BDU-33, Class C, Explosives, Ground Involvement, Preliminary, ACVZ19990830605C*] (see paragraph **10.7.3.**)

NOTE: For "*" entries, see **Attachment 5**.

1. Date and time of mishap. Give date (YYYYMMDD) and local time (24 hour clock).

2. Base submitting report (Use the four letter locations code from SORTS). Was mishap on base? (Y or N).

NOTE: If base code is unknown, use clear text of base name.

3. Duty Status.

4. Name of nearest base to mishap.

5. Location of mishap. If on a military base, give specific location, e.g., departure end of runway 23, building 555, or munitions storage area. If mishap occurred off base, use street and highway references, as well as distance and direction from nearest military base. For explosives impacting off base or off range, give location by magnetic direction and distance in nautical miles from nearest military base, e.g., 25 NM ESE of Nellis AFB NV. If an item is dropped from an aircraft and not recovered, list location as in flight with an approximation of location.

6. Give latitude and longitude of mishap in minutes and degrees to 2 decimal places (if available)

7. Object information.

7.1. *Nomenclature: Air Force equipment or facilities identification. For explosives give complete nomenclature and name (i.e., MJU10 Flare, FMU-81 Bomb Impact Fuse, MK-84 200lb GP Bomb) . For vehicles and equipment, list nomenclature and serial numbers. For facilities, list building number and principal purpose.

7.2. *Accountable MAJCOM/DRU/FOA.

7.2.1. NAF

7.2.2. Center/Wing (Wing-equivalent Group)

7.2.3. Group.

7.2.4. Squadron.

7.2.5. Unit.

7.2.6. Base Code

7.3. Was mishap within 10 NM of base? (Y or N).

7.4. Was object destroyed? (Y or N). (If No, summarize damage assessment)

8. Personnel Information. Include known information about personnel fatalities and injuries. Do not include names due to next of kin notification considerations. Do not include SSANs on preliminary messages. Include information on crewmembers and bystanders.

8.1. Grade.

8.1.1. Age

8.1.2. AFSC:

8.2. *Injury Class and Type:

8.4. For crewmembers, include qualifications.

9. Narrative of circumstances. Give brief description of mishap. Provide abbreviated, factual, releasable, information. Do not include information implying cause or containing material gained through testimony from crewmembers or other witnesses. Describe extent of damage, e.g., "Building destroyed by fire or explosion," "Explosives item destroyed," etc. Include mission information, including mission type and mishap weather.

10. Initial estimates of collateral damage and injury costs. Describe damage to non-Air Force property and non-Air Force injuries if applicable. Include status of on-going rescue and recovery operations, hazard containment, and security. Provide information on the level of media interest.

11. Interim Safety Board President and cognizant official and telephone number (DSN and commercial) and e-mail address.

Figure 10.2. Format for Explosive or Chemical Agent Consolidated Mishap Report (CMR).

FROM: (ORIGINATOR)

TO: (See **Table 10.2.**)

CLASSIFICATION

SUBJECT: TYPE EXPLOSIVE OR CHEMICAL AGENT, CLASS, CATEGORY, CROSS- CATEGORY, REPORT TYPE, MISHAP EVENT NUMBER [*Example: MJU-7 Flare, Class A, Explosives, Ground Related, Final Report, CPRL19990307001A*] (see paragraph **10.7.3.**)

NOTE: For category, cross-category involvement, and sub-category, see **Attachment 5**.

NOTE: For classified reports, see AFI 31-401, *Information Security Program Management*.

NOTE: Include Privacy Act Statement when Social Security Numbers are included in the message.

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C., CHAPTER 40; 37 U.S.C., CHAPTER 9; EO 9397, NOVEMBER 1943. PRINCIPAL PURPOSE: SAFETY MISHAP REPORTING ONLY. ROUTINE USES: SAFETY MISHAP REPORTING ONLY. DISCLOSURE: DISCLOSURE OF SSN IS VOLUNTARY.

////////////

2.4. Group.

2.5. Squadron.

2.6. Unit.

2.7. Base Code. (Use the four letter Home Location Code from SORTS).

3. Environmental factors:

3.1. Weather was a factor (Y or N).

3.2. Day or night.

3.3. Mishap involved fire or explosion (Y or N).

4. Damage and injury cost estimates:

4.1. Mishap cost NONAF: Estimate of damage to non-Air Force property, including other DoD and non-DoD property.

4.2. AF cost damage: Cost of damage to Air Force property, including labor and materiel.

4.3. Cost total injury: Cost of injuries to Air Force personnel, including military and civilian.

4.4. Total mishap cost (sum of costs in items 4.1 through 4.3).

5. Personnel involved: Give the following data on each person involved. If more than one person is involved, provide information in subparagraphs entitled "Person 1," "Person 2," etc. Repeat entry 5.1 through 5.12 for each person involved in the mishap.

5.1. SSAN (mandatory for all military and DoD civilian personnel).

5.1.1. Gender.

5.1.2. Age

5.1.3. Grade*

5.1.4. Duty AFSC or job series.

5.2. Time on duty prior to mishap. Give time to nearest 10th of the hour from the time the individual reported to work until he or she was involved in the mishap.

5.3. Activity at time of mishap.*

5.4. Role in event.*

5.5. Functional area.*

5.6. Organization assigned.

5.7. MAJCOM/DRU/FOA*.

5.7.1. NAF

5.7.2. Center/Wing (Wing-equivalent Group)

5.7.3. Group.

5.7.4. Squadron.

5.7.5. Unit.

5.7.6. Base Code. (Use the four letter Home Location Code from SORTS).

5.8. Component.*

5.9. TOX testing (positive, negative, pending, not suspected, or not accomplished). If positive or not accomplished, explain in narrative. TOX test information must be identified in all mishaps.

5.9.1. Substance type.*

5.9.2. Substance level.

5.10. Injury class.*

5.10.1. Part of body injured.*

5.10.2. Type injury.*

5.11. Was individual training a factor in the mishap (Y or N)? Types of training include traffic safety, job task, life support, etc. If training was factor, answer the following six questions:

5.11.1. Was individual trained and, if required, certified to perform task (Y or N)?

5.11.2. Was training program, as designed, adequate to perform task (Y or N)?

5.11.3. Did training, as administered, comply with an established training program (Y or N)?

5.11.4. Were written instructions available (checklist, TO, etc.) (Y or N)?

5.11.5. Were written instructions used (Y or N)?

5.11.6. Were written instructions satisfactory (Y or N)?

5.12. Safety equipment. Select available safety equipment (maximum of three) from **Attachment 5** and state if it was used (Y or N) and if it worked (Y or N). Use following format: seat belts/yes/yes; parachute/yes/no/; helmet/no/(blank).*

6. Property data. Give following data on each piece of property involved. If more than one piece of property is involved, provide information in subparagraphs entitled “Object 1,” “Object 2,” etc.

6.1. Property identification.* Repeat all of entry 6.1 for each item if more than one item or property type is involved. Number as 6.X.1 through 6.X.8.

6.1.1. Organization assigned. If the organization is same as paragraph 2, state “same as paragraph 2.”

6.1.1.1. MAJCOM/DRU/FOA*.

6.1.1.2. Numbered Air Force.

6.1.1.3. Center/Wing (Wing-equivalent Group).

6.1.1.4. Group.

6.1.1.5. Squadron.

6.1.1.6. Unit.

6.1.1.7. Base.

6.1.2. Vehicle or equipment serial number.

6.1.3. Object or vehicle activity at time of mishap.*

6.1.4. Was object destroyed (Y or N)?

6.1.5. Cost to repair or replace.

6.1.6. Mission-design-series (MDS).

6.1.7. Mishap within 10 miles of base (Y or N)?

6.1.8. Major system failing.*

6.1.9. Parts information. Repeat entries 6.1.9 through 6.1.9.1.4 as required for all failed parts. Number as 6.1.9.X through 6.1.9.X.4.

6.1.9.1. Failed part:

6.1.9.1.1. Failed part description.

6.1.9.1.2. Failed part number.

6.1.9.1.3. Failed part manufacturer.

6.1.9.1.4. Report control number from DR report.

6.1.10. Lot number (if applicable).

7. Narrative. Give a concise, chronological description of the facts and circumstances leading to the mishap. For areas not factors in the mishap, give details in narrative not included elsewhere in the report. Include enough information in the final report to show SIB or investigating officer reasoning in reaching findings and recommendations. In all cases, continue the sequence through point of occurrence (or discovery) for all damage and injury or until the event ends. For technical assistance on this item, contact HQ AFSC/SEW, DSN 246-6059, commercial (505) 846-6059. Specify in the narrative if an accident investigation was/was not convened and is being conducted.

8. Findings and Causes. Repeat entries 8.1 through 8.X for the required number of findings and causes. Findings must not address new information that was not previously discussed in the narrative. Use the CAR methodology from **Attachment 4**.

9. Preventive action recommended or taken. Repeat entries 9.1 through 9.X, as necessary.

10. Cognizant official, unit, office symbol, and telephone number (DSN and commercial) and email address.

Table 10.1. Reporting/Recording Schedule for Class A, B, C, D, and HAP Events.

Reports required by this table are in addition to OPREP-3 reports required by AFMAN 10-206 (see note 1).				
	A	**B**	**C**	**D**
	If the mishap is a	then submit	not later than	by
1	Class A or B mishaps	Preliminary (see note 2)	within 8 hours	Priority message (see note 3)
2		Status report (see note 4)	within 72 hours	Routine message **Figure 10.2.**
3		Status report (see note 5)	15 calendar days, then as required.	CMR format **Figure 10.2.**
4		Final report (see note 6)	within 30 calendar days	
5		Formal report	within 30 calendar days (see note 7 and 8)	AF Form 711-series
6	Class C	Preliminary report	within 5 work days	Routine message **Figure 10.1.**
7		Status report (see note 5)	as required	CMR format **Figure 10.2.**
8		Final report (see note 6)	Within 30 calendar days (see note 7)	CMR format **Figure 10.2.**
9		Formal report (when directed by MAJCOM or HQ USAF/SE)	Within 30 calendar days (see note 7)	AF Form 711-series
10	Class D mishaps HAP event	Final report (see note 6)	Within 30 calendar days (see note 7)	CMR format **Figure 8.3.**
11		Formal report (when directed by MAJCOM or HQ USAF/SE)	Within 30 calendar days (see note 7)	AF Form 711-series

NOTES:

1. See paragraph 5.2.5. for instructions on MINIMIZE.

2. Use non-privileged, unclassified **Figure 10.1.** format for preliminary report.

3. Overseas commands use IMMEDIATE precedence.

4. Use **Figure 10.2.** format for 72-hour status reports. Include new information discovered since the preliminary report and identify SIB members. Remember to place the "For Official Use Only" statement at the beginning of the message, unless classified then use classified markings.

5. Include information not previously reported in the 72-hour or preliminary report. It is not necessary to use the entire **Figure 10.2.** format for subsequent status reports. Only add information not previously reported. Use the **Figure 10.2.** format when modifying a previously transmitted CMR or final report.

6. Do not delay final reports awaiting testing results. If the results from testing significantly change the outcome of the final report, reconvene the SIB (if necessary) and send a status report describing the changes.

7. For extension of due date, send request to the investigating MAJCOM/DRU/FOA with information copy to HQ AFSC/SEW.

8. Mishaps reported in Class C CMR format that are later upgraded to Class A or B will require status reports using message format in **Figure 10.2.**

Table 10.2. Addressees for Explosive Mishap Message Reports.

	A	B	C
	Organization (see notes 4)	Office Symbol	For
1	HQ USAF KIRTLAND AFB NM	SE/SEW	All explosives mishaps (see notes 1 and 4)
2	HQ USAF WASHINGTON DC	SEI	
3	HQ AFSOC HURLBURT FLD FL	SE	
4	HQ AETC RANDOLPH AFB TX	SE	
5	HQ AMC SCOTT AFB IL	SE	
6	HQ PACAF HICKAM AFB HI	SE	
7	HQ AFMC WRIGHT PATTERSON AFB OH	SE	
8	HQ ACC LANGLEY AFB VA	SE	
9	HQ AFSPC PETERSON AFB CO	SE	
10	HQ USAFA USAF ACADEMY CO	SE	
11	HQ USAFE RAMSTEIN AB GE	SE	
12	ANG ANDREWS AFB MD	DOSW	
13	HQ AFRC ROBINS AFB GA	SE	
14	MAJCOM concerned (gaining MAJCOM for ANG/AFRC) (see note 4)	as required	All mishaps

15	Intermediate commands		
16	Home base of operator (if other than the organization submitting the report)		
17	Military base of departure		
18	344 TRS LACKLAND AFB TX	TTEB	
19	ANG ANDREWS AFB MD (see note 5)	DOSW/XOOO	ANG mishaps
20	HQ AFRC ROBINS AFB GA	SE	AFRC mishaps
21	HQ AFMC WRIGHT-PATTERSON AFB OH	SE/DR	All mishaps involving material deficiencies, Tech Order changes, or AF Policy changes
22	AWS SCOTT AFB IL	SE	Mishaps involving weather events or services
23	ASC WRIGHT-PATTERSON AFB OH	CC/ENVS	Mishaps involving non-ballistic missiles components
24	OO-ALC HILL AFB UT	LMES	Ballistic missile support systems and/or components
25	HQ AFSPC PETERSON AFB CO	SE	
26	ALC Safety and Materiel Safety Offices: OO-ALC HILL AFB UT SA-ALC KELLY AFB TX WR-ALC ROBINS AFB GA OC-ALC TINKER AFB OK	SE/SES/YP-S SE/LFCS SE/LDE SE/LARM	Explosives mishaps involving TO, materiel, vehicle, or equipment deficiency; and other mishaps involving deficiencies in these areas (see note 2)
27	OO-ALC HILL AFB UT	SE/SES/ WMCS	Explosives and egress mishaps
28	HQ AFOTEC KIRTLAND AFB NM	SE	Class A missile and all OT&E mishaps
29	SMC LOS ANGELES AFB CA	SE	Explosives mishaps involving space vehicles or equipment
30	SECDEF WASHINGTON DC	USD (A&T) (ES) SH	Preliminary report for mishaps involving fatality, in-patient hospitalization of three or more persons, or property damage of $1,000,000 or more.
31	SAF WASHINGTON DC	MIQ	Preliminary and final report for Class A and B mishaps
32	AFIP WASHINGTON DC	OAFME	Preliminary and final report for Class A and B mishaps involving injury or death.

33	HQ AFCESA TYNDALL AFB FL	CEXF	Preliminary and final report for mishaps involving fire suppression or crash and rescue operations
34	DET 63 ASC INDIAN HEAD MD	CC	Mishaps involving EOD operations or activities
35	DEPT OF DEFENSE EXPLOSIVES SAFETY BOARD ALEXANDRIA VA	KT/IT	All explosives mishaps
36	9 MUNS BEALE AFB CA	CC	
37	COMNAVSEASYSCOM WASHINGTON DC	SEA-652	Mishaps involving R&D or manufacture of explosives or munitions
38	CDRAMCCOM ROCK ISLAND IL	AMSMC-SF	
39	DLA FORT BELVIOR VA	AQOI	Mishaps involving R&D or manufacture of explosives or munitions and aircraft mishaps involving USAF contractors under DLA contract management
40	AAC EGLIN AFB FL	WM	All weapon mishaps
41	HQ AETC RANDOLPH AFB TX	TTO	
42	HQ AFMC WRIGHT PATTERSON AFB OH	SEG	All mishaps involving AFMC managed items, and equipment

NOTES:

1. Include the aircraft system program director (SPD) or equivalent as an addressee when explosive mishaps involve aircraft armament systems.

2. Include the appropriate SPD and item manager (IM) as addressees when mishaps involve Air Force materiel deficiencies.

3. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/** for current message addresses. See AFDIR 37-135 for mail addresses.

4. Include MAJCOM/DRU/FOAs that are common users of the mishap materiel (aircraft, engines, equipment, weapons, munitions, ordnance devices, explosives, missiles, vehicles, etc.) as message addressees when exchange of information would enhance mishap prevention efforts. Also use the Address Indicator Group (AIG) for the weapon system if one exists. MAJCOM/DRU/FOAs may also add AIGs specific to their command.

**Note: If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG(s).

5. ANG units will send copy of all messages to appropriate ANG State Headquarters and the Adjutant General (TAG).

6. Use the Address Indicator Group (AIG) for the weapons system if one exists. MAJCOM/DRU/FOAs may add AIGs specific to their command.

AIG 9380	A-10
AIG 9381	C-17
AIG 9383	C-5
AIG 9384	F-111
AIG 9385	Ground Safety
AIG 9386	Helicopters
AIG 9387	C-130
AIG 9388	C-12
AIG 9389	F-4
AIG 9390	B-52
AIG 9391	All flight mishap messages (Preliminary, status, and final)
AIG 9392	Air Refueling

AIG 9392	KC-135
AIG 9393	F-22
AIG 9394	T-1
AIG 9395	T-38/F-5
AIG 9397	T-37
AIG 9398	C-141
AIG 9399	F-16
AIG 9401	T-39/C-21
AIG 9404	Worldwide SE/SEW
AIG 9405	Aero Clubs
AIG 9406	B-1
AIG 9407	F-15

**Note*: *If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG.*

Table 10.3. Routing of Explosive Formal Safety Reports.

	A	B	C
	Forward	To (See Note 3)	For (See Note 2)
1	Two copies by priority mail	HQ AFSC/SEW	Review, appropriate corrective action, and file.
2	One copy of formal report by priority mail	HQ USAF/SEI	Review appropriate action.
3	One copy of formal report.	Organization to which person who had mishap is assigned (see note 5)	Review appropriate corrective action, and file at wing, or equivalent and their organizational level, safety office. MAJCOMs specify endorsement requirements suspense dates.
4		Organization that possessed explosives if different from organization in line 2	
5		Host installation commander if organizations in lines 2 and 3 are tenants	
6		Intermediate commands of units specified in lines 2 and 3	
7		MAJCOM concerned	Review, appropriate corrective action, and file. Endorse transmittal correspondence to HQ AFSC/SEW
8		ANGRC/DOS or HQ AFRC/SE if ANG or AFRC asset involved	

9		Appropriate State Headquarters and the Adjutant General (TAG) if ANG aircraft involved	within 90 days of mishap. Provide copies of Endorsement to each formal report addressee.
10		Gaining MAJCOM if ANG or AFRC asset involved	
11		HQ AFOTEC/SE Kirtland AFB NM 87117 if OT&E involved or upon written request	
12		Air Logistics or Product Center system program director as specified in TO 00-25-115 for aircraft, missiles and explosives involved (notes 1, 2, and 4 apply)	Review and take appropriate corrective action. Forward Action memorandum or Endorsement with a copy of TDR, photos, test results, and when established, MIP interim or closing action to HQ AFSC/SEW and a copy to AFMC/SE within 90 days of mishap. See note 1.
13		OO-ALC/WMCS Hill AFB UT 84406	
14		Each agency or organization tasked in the recommendations (see note 6)	Review, appropriate corrective action, and file.
15		HQ AFMC/SE Wright Patterson AFB OH 45433 (see note 2)	Review and take appropriate corrective action. Endorsement concurrence will be in DB-10. If AFMC disagrees with ALC or non-concurs, Endorsement will be provided to each formal report addressee and HQ AFSC/SEW
16		HQ AFMOA/SGPA Bolling AFB DC 20332-6188 (See note 5)	Review, appropriate corrective action, and file.
17		HQ USAF/IL 1030 Air Force Pentagon Washington DC 20330-5006	
18		AAC/SES Eglin AFB FL 32542	
19		AAC/WM 207 West D Ave, Ste 308 Eglin AFB, FL 32542-6844	

20		Det 63, 615 SMSQ/CC 2008 Stump Neck Road Indian Head MD 20640 if EOD operations or activities involved	
21		DDESB/KT (See note 6)	Review and file.

1. ALC action correspondence is not required unless the safety report contains findings or recommendations involving materiel failure or malfunction, depot-level maintenance, design deficiencies, or technical order deficiencies.

2. For all mishaps requiring an action by an AFMC organization, send one copy to HQ AFMC/SE, Wright Patterson AFB OH 45433-5006, as well as the tasked agency.

Address elements for reference only. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

3. When routing formal reports to Air Logistics Centers, send the reports to the Materiel Safety Offices at the applicable ALC for internal distribution and tracking. Use the following addresses:

a. OC-ALC/LARM Tinker AFB OK 73145

b. OO-ALC/SES Hill AFB UT 84056

c. SM-ALC/LAFS McClellan AFB CA 95652

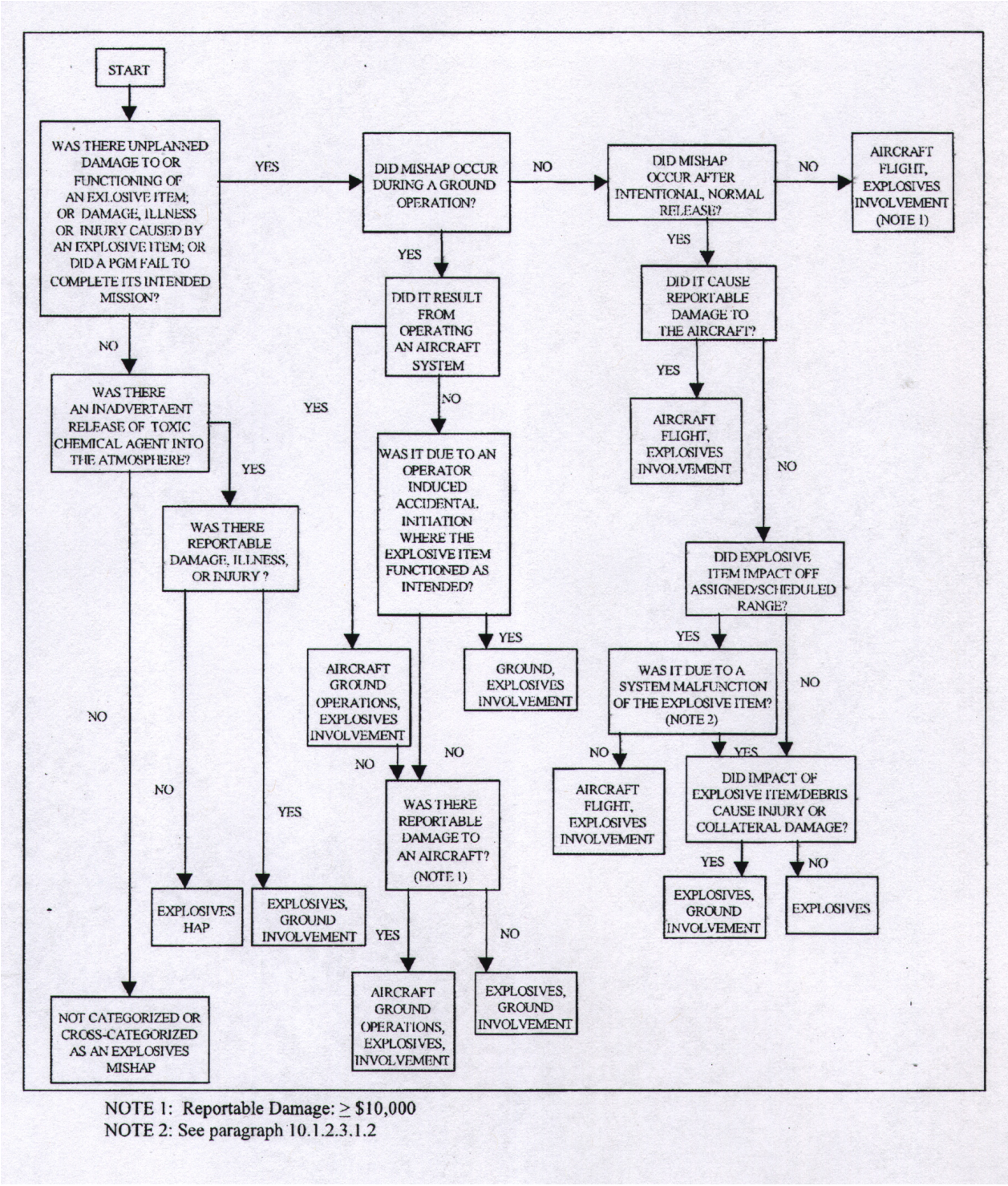
d. WR-ALC/SEM Robins AFB GA 31098-1864

NOTE: SPM and ALC support may not be collocated.

4. In mishaps with significant medical contribution or resulting in a medical condition or physical injury, send a copy of the formal report.

5. Do not send a report to an agency outside the USAF. Prepare those copies of the report and send them to HQ AFSC/SEW for forwarding.

Table 10.4. Added. Explosives or Chemical Agent Mishap Category Flow Chart.



NOTE 1: Reportable Damage: ≥ $10,000
NOTE 2: See paragraph 10.1.2.3.1.2

CHAPTER 11

GROUND MISHAPS

11.1. General Information.

11.1.1. Guidelines.

11.1.1.1. The term "ground" is a generic term that includes all categories described in this chapter including; Ground and Industrial, Motor Vehicles, Off-Duty Military, Maritime, and Fire. Ground and Industrial mishaps are subcategorized into Combat Training, Contractor, Commercial Carrier, Miscellaneous, and Sports and Recreation. Motor Vehicle mishaps are subdivided into Government Motor Vehicle, Government Vehicle Other, and Private Motor Vehicle. Ground mishaps occur on- or off-duty, on ground or water, on or off an Air Force installation, and involve Air Force personnel and operations, contractor operations, and property losses. Fire mishaps resulting in personnel injuries or damage are investigated and reported by safety personnel.

11.1.1.2. All safety investigations for mishaps occurring on or after 3 October 2000 include privileged information. Ground and industrial safety investigation reports are privileged reports that contain both privileged and non-privileged information. However, promises of confidentiality are not given to witnesses in ground or industrial safety investigations. Consequently, witness statements for these categories of mishaps are not privileged. The Safety Board deliberative process to include Board findings, conclusions, analysis and recommendations are privileged for all types of mishaps, including ground and industrial mishaps.

11.2. Assigning Mishap Accountability.

11.2.1. Guidelines.

11.2.1.1. Record military or civilian injury/loss to the command that the individual is assigned to at the time of the mishap. Use military personnel data records and civilian payroll records to make accountability determinations.

11.2.1.2. Assign a mishap occurring to an individual in any permanent change of station (PCS) status to the losing command until the individual signs in at the new duty station. The Transfer Effective Date (TED) is not a criterion for determining the unit of assignment.

11.2.1.3. Assign mishaps involving personnel being transferred PCS with temporary duty pending further orders (TDPFO) to the organization originating the initial orders until the individual signs in at the next permanent duty station.

11.2.1.4. Record mishaps involving exchange students, personnel on terminal leave, and military members in non-pay status while awaiting an appellate review (appellate leave) or a court martial conviction to the Air Force at Large. For mishap reporting purposes, personnel in a non-pay status are returned to active duty when notified (written or verbal) to return to an Air Force installation. (NOTE: For mishap reporting purposes, the unit the mishap person belonged to provides the mishap event number even though the mishap is not accountable to the unit providing the number.)

11.2.1.5. Assign a mishap resulting in property damage to the owning command, regardless of who may have caused the mishap. If two or more commands experienced losses, HQ AFSC will assign the mishap to one command. Assign an Air Force GMV or GVO mishap to the command

that owns the vehicle. When a host unit makes an Air Force GMV or GVO available to a tenant unit on a recurring or permanent dispatch, the using organization is the owning command. EXCEPTION: For damage due to propeller, rotor wash or jet blast, see paragraph **7.9.2.1.2.** to determine accountability.

11.2.1.6. HQ AFSC assigns a mishap involving damage to a weapon system to the command possessing the system at the time of the mishap in accordance with AFI 21-103.

11.2.1.7. If a contractor mishap results in reportable damage to Air Force property, assign the mishap to the command negotiating the contract.

11.2.1.8. For contractor involvement during mishap investigations refer to paragraph **1.9.** (Contractor Involvement in Mishaps) of this instruction.

11.2.1.9. Research and Development mishaps will be investigated and reported using the criteria contained in paragraph **1.12.** of this instruction.

11.3. NON-REPORTABLE MISHAPS. Refer to paragraph1.15. for details.

11.4. Duty Status.

11.4.1. On-Duty.

11.4.1.1. Air Force military and DAF civilian personnel are on duty when:

11.4.1.2. At an installation or off-base location to perform officially assigned work. This includes activities incident to work activities on DoD installations, such as lunch periods, or rest breaks (e.g., if a DAF civilian, on their own initiative, jogs during a lunch period, the activity is unrelated to eating lunch and would not be a reportable mishap). ***NOTE***: Lunch off the installation is an off-duty event unless attendance at the luncheon is mandatory. Travel to and from on-base snack bars, clubs, dining halls, etc., is related to having lunch unless personnel deviate from the normal route of travel. Personnel driving or walking to or from work place parking areas at the start and end of the duty day are in an off-duty status. Injuries sustained by military members working as part-time NAF employees are reported as on-duty mishaps using the assigned NAF position series (instead of the military AFSC).

11.4.1.3. Being transported by DoD or commercial conveyance or private motor vehicle for the purpose of performing officially assigned work. This does not include routine travel to and from work.

11.4.1.4. Taking part in compulsory physical fitness training, sporting events, and physical fitness evaluation activities (including cycle ergometery testing). They also include directed sports activities at Basic Military Training, Technical Training School, Airman Leadership School, NCO Academy, Senior NCO Academy, Squadron Officer School, Air Force Academy, and other professional military education (PME) and formal training courses.

11.4.1.5. Air Force Reserve and Air National Guard (ANG) personnel performing in active duty training (drill). Injuries to Air Force Reserve and ANG personnel in “active duty” status traveling to and from their home are reported as off-duty mishaps. Air Force Reserve and ANG personnel in “unit training assembly” (UTA) status traveling to and from their home are not considered in any “duty status”. An injury or mishap occurring during travel to or from a UTA or when not performing official duties during lunch are not reportable.

11.4.1.6. When on temporary duty or temporary additional duty. Personnel on assignment away from their regular place of employment are covered 24 hours a day for any injury or occupational illness that results from activities essential to the temporary assignment. Travel between places of business or lodging and eating establishments, drugstores, barber shops, places of worship, cleaning establishments and similar places required for sustenance of the member, are considered on-duty. Travel between places of business or lodging and installation bowling centers, officer and enlisted clubs, gymnasiums, or any on-base non-appropriated fund activity facility required for the comfort or health of the member are also considered on-duty. However, when personnel deviate from the normal incidence of the trip, and become involved in activities that are not reasonably incidental to the duties of the temporary assignment contemplated by the employer, the person ceases to be considered on-duty for occupational injury and illness investigation and reporting purposes. Injuries or illnesses to military personnel resulting from activities unrelated to the temporary duty will be reported as off-duty mishaps (dancing at an off-base nightclub, recreational skydiving or parachute jumping, etc.).

11.4.2. Off-Duty.

11.4.2.1. Air Force personnel not in an on-duty status, whether on or off an Air Force installation. Personnel participating in base team sporting activities or in a permissive TDY status are off-duty.

11.5. MISHAP CATEGORIES..

11.5.1. Motor Vehicle.

11.5.1.1. Guidelines. A DoD mishap involving the operation of a motorized land vehicle by DoD personnel. Motor vehicle mishaps include collisions with other vehicles, objects, terrain features, animals or pedestrians; personal injury or property damage due to cargo shifting in a moving vehicle; towing or pushing mishaps; and legally parked DoD vehicles struck by an operating DoD vehicle. Motor vehicle mishaps do not include damage to DoD vehicles that are not in a traffic environment and damaged by a non-DoD vehicle or other source. These include damages or injuries sustained while loading or unloading, mounting or dismounting, weather damage to cargo, thrown or propelled objects, fire with no collision, or a DoD vehicle being handled as commodity or cargo. They will normally be reported as Ground and Industrial mishaps. Motor vehicle mishaps with DUI/DWI involvement are reportable. (**NOTE:** See paragraph **1.11.** for additional guidance on investigating potential criminal acts). Motor Vehicle mishaps are further divided into the following three sub-categories:

11.5.1.2. GMV. A motor vehicle that is owned, leased, or rented by a DoD component (not individuals); a rental vehicle authorized by official travel orders; a vehicle primarily designed for over-the-road operations; and a vehicle whose general purpose is the transportation of cargo or personnel. Examples of GMVs are passenger cars, station wagons, vans, ambulances, buses, motorcycles, trucks, and tractor-trailers. Vehicles on receipt to, and operated by, non-DoD persons or agencies and activities, such as the U.S. Postal Service or American Red Cross, are not GMVs. (**NOTE:** GMVs being operated during a combat training exercise that cause injury or property damage are categorized as Combat Training mishaps.)

11.5.1.3. GVO. Vehicles designed primarily for off-road operation such as tracked vehicles, forklifts, road graders, agricultural-type wheeled tractors, and aircraft tugs. (NOTE: GVOs being

operated during a combat training exercise that cause injury or property damage are categorized as Combat Training mishaps).

11.5.1.4. PMV. A motor vehicle mishap that is neither a GMV nor GVO. A PMV mishap involves reportable DoD property damage, a fatality, or lost workday case to on- or off-duty military personnel or DoD civilian personnel performing official duty. Injuries incurred by pedestrians or bicyclist involving PMVs are included in this category.

11.5.2. Ground and Industrial.

11.5.2.1. Guidelines. Ground and Industrial mishaps are DoD mishaps that occur on land or water and involve DoD operations. These mishaps occur in the industrial or work environment of the employer's premises and other locations where employees are engaged in work-related activities or are present as a condition of employment. The work environment includes not only physical location, but also the equipment or materials used by an employee during the course of his or her work. This category includes all Air Force functions (administrative, supply, custodial, maintenance, etc.). Ground and Industrial mishaps include damage caused by weather, natural phenomena (such as an earthquake), or damage that occurs to an aircraft while it is being handled as a commodity or cargo. Mishaps with reportable injuries that involve an aircraft, but do not have an aircrew member(s) on flying orders onboard, and do not involve reportable aircraft damage, are also categorized as Ground and Industrial. See paragraph **7.1.4.** of this instruction for information on Aircraft Ground Operations mishap categories. Not categorized as Ground and Industrial are mishaps involving Missiles, Explosives, Chemical Agents, Motor Vehicles, Space Systems and Support Equipment, Nuclear Weapons, Reactors, Maritime, Off-Duty Military injuries, or fire damage. Ground and Industrial mishaps are further divided into the following sub-categories::

11.5.2.2. Combat Training. Mishaps resulting from peacetime combat simulated exercises, obstacle/confidence course injuries, base exercises, and Inspector General (IG) exercises that test combat capability. Also includes vehicle, equipment, or other property damage that occurs during combat training.

11.5.2.3. Contractor. A mishap resulting from contractor operations which involve injury to Air Force personnel or damage to government-owned resources. Injury to contractor personnel or damage to contractor-owned equipment is not reportable under this instruction.

11.5.2.4. Commercial Carrier. Mishaps occurring during commercially licensed ground transport operations resulting in DAF personnel injury or illness, or damage to AF property. Examples of commercial carriers are commercial buses, taxicabs, street cars, ships, and trains. **NOTE:** Mishaps resulting in loss of Air Force resources aboard non-DoD aircraft (commercial, foreign, civil, and Aero Club) with intent for flight are not included in this category. See **Chapter 14**, Miscellaneous Air Operation Mishaps, for additional information..

11.5.2.5. Sports and Recreation. Mishaps involving injuries that occur during participation in some form of on-duty sporting, recreational or compulsory sports activity. Examples of sports and recreational activities are weight lifting, handball, and bicycling (**except** when involved with a motor vehicle) when performed to comply with command-directed physical conditioning..

11.5.2.6. Miscellaneous. Mishaps which do not fit into any of the other categories identified in paragraph **11.5.2.** of this instruction.

11.5.2.7. Natural Phenomena. Mishaps resulting from wildlife or environmental conditions of such a magnitude that could not have been predicted or prepared for, or for which all reasonable preparations had been taken. Do not report natural phenomena ground mishaps where adequate preparation, forecasting, and communication actions were taken and there were no injuries. However, report military and civilian occupational injuries resulting from these mishaps as Ground and Industrial mishaps.

11.5.3. Maritime.

11.5.3.1. Any mishap that occurs on board or as a result of operating a DoD vessel or service craft is a maritime mishap. Diving and swimming mishaps that occur in connection with official vessel operations are also maritime mishaps.

11.5.4. Off–Duty Military.

11.5.4.1. A DoD mishap that results in a fatality or lost time case to off-duty DoD military personnel whether on or off a DoD installation, excluding PMV mishaps. Off-Duty Military mishaps are further divided into the following sub-categories:

11.5.4.2. Commercial Carrier. Mishaps occurring during commercially licensed ground transport operations resulting in injury or illness. Examples of commercial carriers are commercial buses, taxicabs, streetcars, ships, and trains. NOTE: Mishaps resulting in a fatality or injury aboard non-DoD aircraft (commercial, foreign, civil, and Aero Club) with intent for flight are not included in this category. See **Chapter 14**, Miscellaneous Air Operation Mishaps, for additional information..

11.5.4.3. Miscellaneous. Mishaps which do not fit into any of the other categories identified in paragraph **11.5.4.** of this instruction.

11.5.4.4. Sports and Recreation. Mishaps that result in lost time injuries or fatalities to off-duty military personnel during participation in some form of sporting or recreational activity. Examples of sports and recreational activities are softball, weight lifting, handball, golf, football, sightseeing, dancing at a night club, auto racing, bicycling (**except** when involved with a motor vehicle), motor vehicles driven off road or in sanctioned races, and parachuting/sky diving.

11.5.5. Fire.

11.5.5.1. A mishap with reportable damage to real property or equipment, or reportable injury to DoD personnel, resulting from fire that does not involve an MDS weapon system or explosives. This mishap category also includes non-DoD personnel when DoD property, operations, or equipment fires result in injury. The point of origin and fire cause shall be dertermined by fire personnel prior to initiating the safety investigation.

11.5.6. Deleted.

11.5.6.1. Deleted.

11.6. Mishap Classification.

11.6.1. Guidelines.

11.6.1.1. Classify mishaps by the total direct dollar cost of damage and the degree of injury or occupational illness. Property damage includes the official estimate of damage to non-Air Force

property. NOTE: Report non-Air Force property damage/loss only when the damage/loss results from on-duty Air Force operations (personal property damage/loss in an off-duty mishap is not reportable).

11.6.1.2. DAMAGE OR INJURY FROM AIR FORCE OPERATIONS.

11.6.1.2.1. When Air Force operations result in damage or injury to non-Air Force property or personnel, use property damage costs and severity of injury to determine the mishap classification and reportability (fatal, permanent partial, etc.). (**NOTE:** Do not include injury costs for non-Air Force civilian personnel in the mishap report.)

11.6.2. Class A Mishap.

11.6.2.1. A mishap resulting in one or more of the following:

11.6.2.1.1. Reportable damage of $1,000,000 or more.

11.6.2.1.2. A fatality or permanent total disability due to injury or occupational illness. A permanent total disability results from an injury or occupational illness whenever competent medical authority determines the injured person can no longer follow any gainful occupation (e.g., individual is medically discharged, retired, or separated), or competent medical authority determines the injured person is in a non-medically induced coma (comatose). The loss of use of both hands, both feet, both eyes, or any combination of two of these body parts, in a single mishap is also a permanent total disability..

11.6.2.1.3. Destruction of an aircraft.

11.6.3. Class B Mishap.

11.6.3.1. A mishap resulting in one or more of the following:

11.6.3.1.1. Reportable damage of $200,000 or more, but less than $1,000,000.

11.6.3.1.2. Inpatient hospitalization of three or more personnel in a single mishap.

11.6.3.1.3. A permanent partial disability. A permanent partial disability is an injury or occupational illness which, in the opinion of competent medical authority, results in permanent impairment through loss of use of any part of the body. The loss of teeth, fingernails, toenails, or the tips of toes are not considered permanent partial disabilities. Repairable inguinal hernia, disfigurement, or sprains and strains that do not cause permanent limitation of motion are also not considered permanent partial disabilities.

11.6.4. Class C Mishap.

11.6.4.1. A mishap resulting in one or more of the following:

11.6.4.1.1. Reportable damage between $20,000 and $200,000.

11.6.4.1.2. An injury resulting in a lost workday case involving 8 hours or more away from work beyond the day or shift on which it occurred or an occupational illness that causes loss of time from work at any time. For military personnel, do not count the day of injury or the day returned to duty. Do not count days when personnel were not scheduled to work.

11.6.5. Class D Mishap.

11.6.5.1. A mishap resulting in one or more of the following:

11.6.5.1.1. Reportable damage between $2,000 and $20,000. Property damage includes all government-owned equipment and vehicles.

11.6.5.1.2. A nonfatal injury that does not meet the definition of a Class C, and results in less than eight hours lost time. Class D injuries include loss of consciousness, permanent change of job, or medical treatment greater than first aid. (Examples: Individual loses consciousness from heat stress while working in a high temperature environment; or a DAF civilian goes to their personal physician on the same day of an injury and returns to duty the next day.)

11.6.6. **OTHER EVENTS** .

11.6.6.1. Class L Events. This classification is used to report events, which do not require up-channel reporting under this Instruction, but which are required to be reported by local safety staffs for trending purposes. Use of Class L Events is optional..

11.6.6.1.1. Deleted.

11.6.6.1.2. Deleted.

11.6.6.1.3. Deleted.

11.6.6.2. Class X Events.

11.6.6.2.1. Report civilian occupational injury and illness cases on AF Form 739 or an equivalent log.

11.6.6.2.2. Claims by US appropriated and non-appropriated fund employees and foreign national employees covered by the Federal Employees' Compensation Act (FECA) or Long Shore and Harbor Workers Compensation Act (LHWCA), solely for medical treatment costs associated with doctor visits to obtain medical treatment.

11.6.6.2.3. An occupational injury or illness that is not reportable, but recordable according to OSHA Publication 2014 and as defined in this instruction (refer to paragraph **3.2.4.3.2.**).

11.6.7. **HAP Events** .

11.6.7.1. Significant occurrences with a high potential for causing injury, occupational illness, or damage if they recur. These events do not have reportable mishap costs or injuries. If the total cost of the event meets Class C or higher mishap criteria, report it in the appropriate mishap category, and do not designate it as a HAP. Do not combine a HAP with any class of reportable mishap.

11.7. Reporting Ground Safety Mishaps.

11.7.1. Investigative Scope.

11.7.1.1. The scope of ground mishap investigations depends on the severity of the mishap, future mishap potential, and the extent of corrective actions the Air Force can take to prevent similar mishaps. The convening authority may appoint a full SIB, tailored SIB or single investigator. When the causes and preventive actions are evident at the onset of the investigation, or the mishap is not technically complex, the convening authority may appoint a single investigator. A single investigator may require additional technical assistance from qualified subject matter/systems experts but they will not be involved in preparing the final report. SIB membership and qualifica-

tions are discussed in paragraph **11.7.4.** and single investigator qualifications are outlined in paragraph **11.7.5.**

11.7.2. Ground Mishap Report Format.

11.7.2.1. All reportable ground Class A, B, C, and HAP reports will be completed and approved in the Safety Automated System (SAS). The mishap report figures depicted in this chapter provide general guidance and may not reflect the current mishap report format generated in SAS. (**NOTE:** Any changes made to a report during the coordination and review process must be updated in SAS.)

11.7.2.1.1. Deleted.

11.7.2.1.2. Deleted.

11.7.2.1.3. Deleted.

11.7.2.2. Each mishap report is tracked by a single Mishap Event Number that is automatically assigned by the Safety Automated System when a report is initially entered. Because the mishap event number is the single common worldwide identifier of a mishap, include this number on all correspondence relating to a specific mishap (endorsements, classification changes, etc.).

11.7.2.3. The Mishap Event Number consists of the base code, date of the mishap, a series of SAS assigned numbers, and the alpha classification of the event being reported. An optional Unit Control Number (UCN) is available for additional unit tracking. Use of the UCN is determined locally or by the MAJCOM.

11.7.2.4. All SAS ground mishap reports (except Preliminary messages) transmitted through the Defense Message System (DMS) system must be encrypted.

11.7.2.5. Defense Message System addresses equivalent to the AUTODIN (SARAH LITE) addressees shown in **Table 11.2.** are available through the Global DMS Directory.

11.7.3. Mishap Class or Category Changes.

11.7.3.1. Changes in damage costs or degree of injury/illness that result in a change in the mishap class or category require additional reporting. Initial notification of a mishap class or category will be completed using a Preliminary Mishap Message, **Figure 11.2.**, to the appropriate agencies identified in Addressee **Table 11.2.**. At a minimum, the message will include the mishap control number, explanation/reason(s) for the class or category change, current status of the investigation, and the grade, age, AFSC, and status of personnel seriously or fatally injured. Ensure proper reporting procedures are followed for the new class or category of mishap. The investigating command will track mishaps that have damage estimates close to a higher classification threshold and injuries/illness that have the potential for worsening. This is especially significant for injury/illness that could result in the injured person being medically discharged, separated or retired, resulting in an upgrade to a Class A mishap. The convening authority and MAJCOM will track Class A and B on-duty mishaps until a Memorandum of Final Evaluation (MOFE) is issued by HQ AFSC and all recommendations are closed.

11.7.4. Ground Mishap Safety Investigation Boards**:**

11.7.4.1. SIB President: Colonel or GS-15 for on-duty Class A mishaps; and Major or GS-12 (or higher) for all other mishaps.

11.7.4.2. Required Primary Member: Investigating Officer. (Refer to paragraph **11.7.5.**)

11.7.4.3. Additional Primary Members:

11.7.4.3.1. HQ AFSC Representative (when requested by the MAJCOM or Board President).

11.7.4.3.2. Medical Officer, if medical factors are involved.

11.7.4.3.3. Bio-environmental Engineer, if bio-environmental health factors are involved.

11.7.4.3.4. Vehicle Maintenance Officer, if a motor vehicle is involved.

11.7.4.3.5. AFOTEC Representative, if AFOTEC-managed OT&E is involved.

11.7.4.3.6. Security Forces Law Enforcement Officer, if a motor vehicle is involved in the mishap.

11.7.4.3.7. Fire Protection Representative (civilian GS-9 (0081) or higher, or 7-skill level (3E7X1or higher), if the mishap is the result of a fire.

11.7.4.4. Required Non-primary Member: SIB Recorder (a junior officer or NCO familiar with administrative procedures).

11.7.4.5. Additional Non-primary Members (as desired): Other technical personnel, depending on the nature of the mishap.

11.7.5. Investigating Officer.

11.7.5.1. A ground safety member GS-9 (018 or 803) or higher, or 7-skill level (1S0X1) or higher may serve as the single investigating officer or SIB investigating officer for all ground mishaps. The investigator may be from the unit experiencing the mishap.

11.8. Determining Mishap Costs.

11.8.1. Guidelines.

11.8.1.1. Determine mishap costs by adding all reportable damage, injury, and illness costs. Report costs even though the US Government will be wholly or partially reimbursed. The total cost reported for a mishap includes all direct costs associated with that mishap. The following guidelines supplement mishap cost guidelines in paragraphs **3.4.** and **3.5.**.

11.8.2. GMV and GVO damage costs:

11.8.2.1. Material Cost. Use the material costs shown on AFTO Form 91, *Limited Technical Inspection-Motor Vehicles*, or AF Form 1823, *Vehicle and Equipment Work Order*.

11.8.2.2. Labor Cost. Use the direct man-hours from the AFTO Form 91 or AF Form 1823 to calculate the total labor cost.

11.8.2.3. Combine material/parts and labor cost to determine the total material cost.

11.8.2.4. Determining Contractor Repair Costs. Use the total cost of repair for vehicles repaired by a contractor. It is not necessary to separate the cost of material and labor.

11.8.3. Added. Destruction of an AF Aircraft. Aircraft will be considered destroyed when the man-hours required to repair the aircraft exceed the maximum cost stated in the “major repair man-hours” column of T.O. 1-1-638, *Repair and Disposal of Aerospace Vehicles*. A damaged aircraft

that is not repaired is not automatically classified as a "destroyed" aircraft. The decision not to return a damaged aircraft to service is independent of the mishap class. When the aircraft will not be returned to service for reasons other than damages incurred during the mishap, classify the mishap damage according to the total estimated repair cost required to return the aircraft to service. The investigating board must submit detailed repair cost estimates through command channels to HQ AFSC/SEG for validation when an aircraft that sustained Ground and Industrial damage will not be returned to service but is not considered destroyed.

11.8.4. Damages from Non-Governmental Activities.

11.8.4.1. When damage occurs to Air Force property as a result of non-governmental activities, such as a civilian operated PMV crashing into the installation boundary fence, report only Air Force property damage; e.g., the fence. Do not report any damage to the PMV or injury to the occupants unless otherwise reportable according to this instruction.

11.9. Standard Injury, Illness, and Fatality Costs.

11.9.1. Guidelines.

11.9.1.1. Calculate the cost of Air Force military and DAF civilian injuries and occupational illnesses using **Table 3.1.** The costs listed in **Table 3.1.** are used for safety investigative reporting purposes only and do not necessarily reflect the actual Air Force cost in a specific case. NOTE: Include no lost time injury costs for injured DAF personnel that are treated and released when calculating the total cost of reportable ground mishaps.

11.10. Class A, B, C or HAP Mishaps with Aircraft Involvement.

11.10.1. Message Reports.

11.10.1.1. Marking Messages, Reports, Documents, and Other Safety Material. Air Force mishap messages are subject to limited distribution. Ground and Industrial mishaps involving aircraft contain privileged safety information. **NOTE:** For classified messages add the proper security classification marking from AFI 31-401, Information Security Program Management, and omit the notation "FOR OFFICIAL USE ONLY". For formal privileged safety reports place a footer on each page of Part II (**Figure 11.1.**). Mark the cover of formal privileged safety reports with **Figure 11.1.** and add the following statement; "COPYING OR RELEASING ANY PORTION OF THIS REPORT IS PROHIBITED WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE AIR FORCE CHIEF OF SAFETY."

11.10.1.2. Submit preliminary, status, and final message reports as outlined in **Table 11.1.**, with appropriate routing contained in **Table 11.2.**

11.10.1.3. The preliminary message report must contain only factual information in the narrative portion of the CMR; see instructions for item 8 in **Figure 11.2.**.

11.11. Formal Reports.

11.11.1. Guidelines.

11.11.1.1. **Chapter 5** provides detailed guidance and information on formal safety reports. **Figure 2.3.** provides a sample witness statement format for use when a confidential witness statement is needed. Submit formal ground reports to the addressees in **Table 11.3.** Use memorandums of

transmittal as outlined in paragraph **5.5.6.** and **Figure 5.2.** Mark assembled privileged safety reports with the statement contained in **Figure 11.1.** See AFPAM 91-211, *Air Force Guide to Mishap Investigation*, for specific guidance on assembling a formal report. The following is supplemental information to **Chapter 5** for preparing and submitting formal ground mishap reports:

11.11.2. AF Form 711H, *USAF Mishap Report Checklist and Index*.

11.11.2.1. Use this form to ensure reports are uniform and complete. Place an "X" for each item in columns entitled "Not Applicable," "Applicable Not Attached", or "Attached". When checking the "Applicable Not Attached" block, explain why in the "Remarks" section. Estimate the date the missing attachment will be sent for inclusion in the report. If an attachment will be sent later, insert a page with the proper lettered tab in the report. Later, when the attachment is sent to recipients of the report, it can be put in the report at the proper tab. Omit tabs for those items that are not applicable. In assembling the report, place AF Form 711H on top of Tab A.

11.11.3. Exhibits.

11.11.3.1. Place additional documents as needed at the tabs listed on the AF Form 711H. Include only exhibits supporting the investigation, analysis, findings, and recommendations. Fully discuss them in the analysis at Tab T. When findings and recommendations involve deficiencies or recommended changes to T.O.s, flight manuals, policy directives, instructions, etc., include copies of applicable portions of the publications in Tab T (as the documents appeared at the time of the mishap). Also include copies (not the original) of submitted AFTO 22s or AF Forms 847 as attachments to Tab T.

11.11.4. Assembling the Formal Report.

11.11.4.1. Assemble the report in a three ring binder using standard dividers labeled A through Z. Type on both sides of 8.5 by 11 inch paper. Bind the document along the left long edge but leave a 1.5 inch gutter margin. Arrange tabs in alphabetical order, with Tab A on top. Number all pages in order within the tabs (for example, A-1, A-2, X-1, X-2, Y-1, Y-2).

11.11.4.2. For bulky two-part reports, place Parts I and II in separate binders.

11.11.4.3. Deleted.

11.11.4.4. Deleted.

11.11.4.5. Deleted.

11.11.4.6. Tab Z, SIB proceedings, is optional.

11.11.4.7. Include a computer disk(s) containing the ASCII text or MS Word documents of the formal report in the original report sent to HQ AFSC/SEG.

11.11.5. Marking Reports.

11.11.5.1. For classified pages, use the proper security classification markings from AFI 31-401.

11.11.5.2. Place a header on each page containing the subcategory, cross category and mishap control number (e.g., Ground and Industrial, Combat Training, 19981226001A).

11.11.5.3. Do not place special handling markings on unclassified pages in Part I of two-part formal reports, for example do not use "FOR OFFICIAL USE ONLY" footers.

11.11.5.4. Place a footer on each page in Part II of formal reports using **Figure 2.5.**

11.11.5.5. Privileged Report Covers. Mark the covers of privileged formal reports using **Figure 2.5.** and add the following statement:

COPYING OR RELEASING ANY PORTION OF THIS REPORT IS PROHIBITED WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE AIR FORCE CHIEF OF SAFETY.

11.11.5.6. Deleted.

COPYING OR RELEASING ANY PORTION OF THIS REPORT IS PROHIBITED WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE AIR FORCE CHIEF OF SAFETY.

11.11.6. Forwarding Formal Ground Mishap Reports.

11.11.6.1. Send the original and one copy of all Ground safety reports to HQ AFSC/SEG and appropriate copies to other Air Force agencies according to **Table 11.3.** via registered mail. Use a memorandum of transmittal (**Figure 5.2.**) for each report..

11.11.6.2. Send the complete text of all applicable tabs of the formal report in either ASCII or MS Word document format on an approved electronic recording media, to HQ AFSC/SEG.

11.11.7. What to Include in Formal Reports.

11.11.7.1. Formal reports for Class A and B on-duty ground mishaps will include (as a minimum), but are not limited to the following:

11.11.7.1.1. Part I—Facts:

11.11.7.1.2. Tab A, AF Form 711, *USAF Mishap Report*. Complete AF Form 711 on each ground report (except aircraft involvement and space involvement). In most cases, the instructions on the form explain the required entries.

11.11.7.1.3. Tab B, Preliminary Message report. Place the fully releasable preliminary message report in Tab B. All other message traffic, including the CMR should be placed at the end of Tab T.

11.11.7.1.4. Tab Q, Orders appointing the SIB. Include one copy of orders appointing the SIB (or investigating officer). The orders must include the full name, rank/grade, SSAN, organization, and complete official mailing address for each appointed person.

11.11.7.1.5. Tab R, Diagrams. Use if photographs are not available or specific. Ensure diagrams are self-explanatory, indicating mishap locations in association with structures, facilities, etc.

11.11.7.1.6. Tab S, Photographs. Well-defined 8 by 10 inch glossy photographs help in mishap analysis. Use them to show damage, impact area, etc.

11.11.8. Part II—Privileged Safety Information:

11.11.8.1. Tab T, Investigation, Analysis, Findings, and Recommendations. This is the most important part of the report. It draws on all portions of the report to provide a complete picture of what happened. It is a thorough analysis of all evidence and the findings, causes, and recommendations. Place all privileged status messages and the Final CMR in this tab after the MAJCOM release. See AFPAM 91-211, *Air Force Guide to Mishap Investigation*, for additional information on the layout of this tab.

11.11.8.2. Tab U, Statements and Testimony of Witnesses and Persons Involved. Include a list of witnesses interviewed. Also include those statements the SIB or Investigating Officer feels are pertinent.

11.12. On-Duty Ground Mishaps:

11.12.1. Class A and B on-duty ground mishaps.

11.12.1.1. Require a formal report unless waived by HQ USAF/SE. Formal safety reports present detailed information, both factual and analytical, about mishaps. They are made up of AF Form 711-series forms and attached exhibits. A five-part narrative includes: a brief synopsis or narrative of the mishap, investigation and analysis, findings, causes, and recommendations. Clearly show the scope of the investigation (evidence examined) and analyze the evidence presented (thought process and conclusions). Explain why certain possibilities are eliminated, but others are retained. Investigating MAJCOMs or HQ USAF/SE may direct preparation of a formal report for any mishap, even under circumstances where this instruction does not specifically require one.

11.12.2. The Formal Report.

11.12.2.1. May have one or two parts. Both one- and two-part reports must use AF Form 711 series forms. All formal privileged safety reports must have two parts: Part I, Facts; and Part II, Privileged Safety Information. Part I contains factual information that may be disclosed outside the Air Force; and Part II contains the privileged portions of the formal report and will not be disclosed.

11.12.3. Deleted.

11.12.3.1. Are assembled in one part. They contain both factual information and the investigator's analysis and conclusions.

11.12.4. Formal Reports.

11.12.4.1. Formal reports for Class A and B on-duty ground mishaps will include (as a minimum):

11.12.4.1.1. A CMR final message.

11.12.4.1.2. Diagrams (if photographs are not available or specific).

11.12.4.1.3. Photographs (if needed to enhance mishap narrative).

11.12.4.1.4. Lists of witnesses interviewed and witness statements that the SIB or IO deem pertinent.

11.12.4.1.5. A memorandum of transmittal.

11.12.4.1.6. Preliminary Message Report.

11.12.4.1.7. AF Form 711, **USAF Mishap Report**.

11.12.5. Marking assembled formal reports.

11.12.5.1. Mark reports as outlined in paragraph **11.11.** See **Chapter 5** for additional guidance on preparing message and formal reports.

11.13. Waiving the Formal Report.

11.13.1. Guidelines.

11.13.1.1. HQ AF/SE, in conjunction with the investigating MAJCOM, may waive certain formal reports. (See paragraph **5.5.2.**)

11.14. Class C Ground Mishaps:

11.14.1. Guidelines.

11.14.1.1. All Class C mishaps (except off-duty sports and recreation) will be accomplished using the CMR message format contained in SAS (**Figure 11.3.** provides guidance on preparing the report).

11.14.1.2. Class C off-duty sports and recreation mishaps will be accomplished using the summary mishap (SMR) message format contained in SAS (**Figure 11.4.** contains guidance on preparing the report).

11.15. Class D Ground Mishaps.

11.15.1. Recording Class D ground mishaps.

11.15.1.1. Record mishaps involving injury to on-duty Air Force military and civilian personnel on a log (automated or manual). AF Form 739 is acceptable for logging these injuries.

11.15.2. Filing Class D ground reports.

11.15.2.1. File these reports (both civilian and military) at the unit level.

11.15.3. The Host Ground Safety Staff.

11.15.3.1. The safety staff is the official Air Force office of record for Class D ground safety data and reports.

11.15.4. The Host Base Safety Staff.

11.15.4.1. Must provide an annual OSHA report (AF Form 739 is acceptable), to include tenant organizations, through command channels to HQ AFSC/SEG. Tenant units may be required to report data more frequently by their parent organization. Refer to paragraph **11.19.3.** for annual reporting requirements.

11.16. Reporting Motor Vehicle Mishaps.

11.16.1. GMV and GVO Mishaps.

11.16.1.1. When damage occurs to an Air Force GMV or GVO, use all property damage costs and personnel injuries to determine reportability.

11.16.2. GMVs.

11.16.2.1. GMVs may be owned, leased, or rented by the Air Force.

11.16.3. Owned GMVs.

11.16.3.1. These are Air Force registered GMVs not identified as GVO (“B”, “V”, and “K” series general-purpose vehicles).

11.16.4. Leased GMVs.

11.16.4.1. These are General Services Administration (GSA) vehicles leased on a long- or short-term basis.

11.16.5. Rented GMVs.

11.16.5.1. These are vehicles rented by Air Force officials, such as the base transportation officer. Vehicles authorized on travel orders for DAF personnel performing TDY are also GMVs. Investigators will identify rental vehicles authorized by official travel orders in the narrative..

11.17. Reporting Off-Duty Ground Mishaps.

11.17.1. Off-Duty Class A and B Ground Mishaps.

11.17.1.1. Report off-duty Class A and B mishaps as specified in **Table 11.1.** Send reports to the appropriate agencies listed in **Table 11.2.** using the CMR format in SAS (**Figure 11.3.** provides guidance on preparing a CMR). Defense Message System addresses equivalent to AUTODIN (SARAH LITE) addressees shown in **Table 11.2.** are available through the Global DMS Directory. See paragraph **5.2.4.** for transmission of messages during emergency condition MINIMIZE.

11.17.1.2. The appropriate MAJCOM will approve all Class A and B mishaps before final transmission of the message through DMS or AUTODIN.

11.17.2. Class C off-duty Ground Mishaps.

11.17.2.1. All Class C mishaps (except off-duty sports and recreation) will be accomplished using the CMR message format contained in SAS (**Figure 11.3.** provides guidance on preparing a CMR message). As a minimum, complete a final message within 30 calendar days of the mishap and forward it through higher headquarters to HQ AFSC/SEG as established by the higher headquarters hierarchy in SAS. Defense Message System addresses equivalent to the AUTODIN (SARAH LITE) addressees shown in **Table 11.2.** are available through the Global DMS Directory.

11.17.2.2. Off-duty Class C sports and recreation mishaps will be reported using the Summary Mishap Report (SMR) format contained in SAS. Guidance on preparing a SMR message is provided in **Figure 11.4.** As a minimum, complete a final message report within 30 calendar days of the mishap and forward the message through higher headquarters to HQ AFSC/SEG as established by the higher headquarters hierarchy in SAS. Defense Message System addresses equivalent to the AUTODIN (SARAH LITE) addressees shown in **Table 11.2.** are available through the Global DMS Directory.

11.17.3. Off-Duty Class C Sports and Recreation Mishaps.

11.17.3.1. Report these mishaps as outlined in paragraph **11.5.4.4.** using the format specified in **Table 11.1.**

11.17.4. Class A and B injuries.

11.17.4.1. Report injuries sustained by military members working as part-time NAF employees using the CMR format prescribed in **Figure 11.3.** Instructions for reporting Class C on-duty mishaps are contained in paragraph **11.14.** of this instruction.

11.18. HAP Events.

11.18.1. Guidelines.

11.18.1.1. Reporting official determines the appropriate schedule and format prescribed in **Table 11.1.** based on the circumstances and mishap potential/severity of the event. (**NOTE:** See paragraph**11.6.7.** for additional information).

11.19. Reporting and Logging Occupational Illnesses and Injuries.

11.19.1. Reporting and Logging Requirements**.**

11.19.1.1. Executive Order 12196 requires federal agencies to report occupational mishaps to the Secretary of Labor. Federal Regulation 29 CFR 1960, *Safety and Health Provisions for Federal Employees*, sets requirements and provides standard forms for documenting these mishaps.

11.19.2. Reporting Occupational Illness**.**

11.19.2.1. Base medical services personnel identify, investigate, and report occupational illnesses and injuries. They electronically transmit an epidemiological event record as required by combined publication, *Control of Communicable Disease Manual* to Armstrong Laboratory at Brooks AFB Texas. Some occupational illnesses are originally reported on CA Form 1, *Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation*, CA Form 2, *Notice of Occupational Disease and Claim for Compensation*, and CA Form 6, *Official Supervisor's Report of Employee's Death*, or LS Form 202. The Human Relations Office (HRO) of the Civilian Personnel Flight and Services Squadron forwards copies of all illness reports to the Military Public Health (MPH) office with information copies to the base safety office. Medical personnel, in conjunction with safety personnel, determine if the case is classified as an illness or an injury.

11.19.3. Logging Occupational Illnesses and Injuries**.**

11.19.3.1. Occupational Illness and Injury Logs. Each Air Force base and GSU must maintain a daily record of on-duty civilian illness and injuries. In accordance with DoDI 6055.7, a log of military on-duty and off-duty illnesses and injuries will also be maintained. The MPH office will log occupational illnesses and the host installation safety office will log occupational injuries. Safety and MPH officials will log occupational illnesses and injuries within 6 workdays of notification. The host safety office will maintain copies of both injury and illness logs. Military on-duty, off-duty and civilian on-duty injuries should be maintained on separate logs. The AF Form 739 is an acceptable means of logging on-duty injuries and illnesses.

11.19.3.2. The installation Civilian Personnel Office will forward copies of CA Form1, CA Form 2, and CA Form 6, involving appropriated fund employee injuries and deaths to the installation safety office. Send copies of CA Form 2s, and CA Form 6s involving illnesses and deaths to the base MPH office. The Services Squadron Human Resource Office (HRO) will forward copies of LS-202s to the installation safety office and MPH on all non-appropriated (NAF) employee injuries and illness cases. These reports are used to log and investigate potential occupational injuries and illness. Forward copies of completed CA-1s to the medical treatment facility for filing in the individual's medical record.

11.19.3.2.1. (Added-DOVER) The Civilian Personnel Office (436 MSS/DPCE) will forward copies of CA-1, CA-2, and CA-6 forms for civilian occupational injuries and illnesses to 436 AW or 512 AW Ground Safety within two working days of receipt.

11.19.3.2.2. (Added-DOVER) The NAF Personnel Office will forward copies of LS-202 forms for all occupational injuries and illness to 436th Ground Safety within two working days of notification of civilian injury.

11.19.3.3. Medical Service. Develop and implement procedures to identify and report occupational injuries (military and civilian) to the base safety office. Medical reporting of injuries to Air Force personnel will include the Managed Care Office providing the base safety office with the name, rank, SSAN and organization of assignment of Air Force personnel treated on and off site for injuries. This report must be provided daily.

11.19.3.3.1. (Added-DOVER) 436th Medical Group personnel will prepare AMC Form 441, **Report of Injury/Illness and Treatment**, in triplicate for treatment of all injuries of military, Department of Defense and Non-appropriated Fund personnel, and DOD civilian employees. The patient completes Block I and the attending medical officer completes Block II. Release all copies to the 436th/512th Wing Safety Office the morning of the next normal duty day. 436th Ground Safety notifies host and tenant unit safety representatives of the injury and treatment.

11.19.3.4. AF Form 190, *Occupational Illness/Injury Report*. Report all suspected or confirmed occupational illnesses to MPH for initiation of an AF Form 190. Once an occupational illness is confirmed, the MPH office forwards a completed AF Form 190 to the healthcare provider for filing in the patient's medical records. MPH also sends a copy of the completed AF Form 190 to the Occupational Illness and Data Registry (OIDR) at AL/OEMO, Brooks AFB TX 78235-5000. MPH maintains a log with each patient's name, SSAN, diagnosis, and the date of the occupational illness.

11.19.3.5. AF Form 739. MPH will log CA-2, CA-6, and LS 202 civilian occupational illness claims, and any confirmed occupational illness detected through the medical surveillance system on an AF Form 739 or equivalent log. MPH will forward a copy of the completed log to the host base safety office no later than the third work day of each month. The host base safety office will maintain illness and injury logs to satisfy the OSHA requirement for single-point access to occupational injury or illness logs.

11.19.3.6. Armstrong Laboratory. This facility maintains the OIDR and is the repository for AF Form 190s. It provides quarterly summary reports to MAJCOM/MPH offices that provide feedback on AF Form 190s submitted by the bases. Armstrong Laboratory also prepares a consolidated report of occupational illness reported to the OIDR and submits it to HQ AFMOA/SGPA and HQ AFSC/SEG by 1 November for the previous fiscal year. This information is included in the annual Air Force Occupational Safety and Health Report to the Secretary of Labor.

11.19.3.7. Installation Safety Office. Use the information recorded on the AF Form 739 to prepare the annual summary of occupational injuries contained in the Class D Report. Forward a copy of the report as required by MAJCOM, DRU, or FOA directives, through command channels, to HQ AFSC/SEG not later than 15 November of each year. Report the number of DAF civilian, non-appropriated fund (NAF) civilian, and Air Force foreign national (AFFN) civilian medical treatment cases, transfers or termination of employment due to injury, and lost consciousness cases. Report each category (DAF, NAF, and AFFN) separately. Include Youth Opportunity Program (YOP) injury cases in the DAF category.

11.19.3.8. Summary of Occupational Injuries, Illnesses, and Fatalities (OSHA 200 Report). The host ground safety office prepares an annual fiscal year summary of occupational injuries, illnesses, and fatalities and posts it no later than 15 November for 30 consecutive days. The summary reflects data totals for the host organization, parent command tenants, and other command tenants. The format for displaying this information is at the discretion of the host ground safety office but at a minimum will include the total fatal cases, total lost-time cases, and total no-lost time cases for occupational injuries, illnesses, and diseases. An acceptable format can be found in Appendix A of OSHA 2014, *Record Keeping and Reporting Guidelines for Federal Agencies, 1986*.

11.20. Additional Reporting by the Nearest Installation.

11.20.1. Guidelines.

11.20.1.1. Chapter 1 lists responsibilities of the Air Force installation closest to the scene of a mishap. For ground mishaps, use the following additional guidance:

11.20.1.2. For all mishaps, the safety staff of the nearest Air Force installation notifies the installation or organization experiencing the loss in the mishap by telephone or message. If the mishap involves more than one command, notify each command.

11.20.2. For Class A and B Ground Mishaps.

11.20.2.1. Prepare and transmit preliminary and status message reports unless investigative responsibility is assumed by the MAJCOM experiencing the loss.

11.20.2.2. Deleted.

11.20.2.3. Provide all required assistance to the installation or MAJCOM experiencing the loss so the organization can submit the final message report and the formal report (as appropriate).

11.20.2.4. When preparing a courtesy report, coordinate with the accountable unit to determine message preparation and procedures to alter report ownership.

11.20.2.5. Notify the nearest OSHA Area or Regional Office within 8 hours when an on-duty Air Force mishap results in fatal occupational injuries or illnesses to a DAF or non-Air Force civilian. Also notify the nearest OSHA Area or Regional Office within 8 hours when an on-duty mishap (injury or illness) results in the in-patient hospitalization of three or more DAF or non-Air Force civilians in a single mishap. If unable to contact the nearest OSHA area office within the required 8-hour time frame, contact the OSHA 24-hour toll-free hot line (1-800-321-OSHA). Insure additional mishap reporting is accomplished in accordance with **Table 11.1.**

11.20.3. For Class C Ground Mishaps:

11.20.3.1. Obtain traffic or other training data, and other required information from the organization experiencing the loss.

11.20.3.2. When preparing a courtesy report, coordinate with the accountable unit to determine message preparation and procedures to alter report ownership to the accountable unit.

Figure 11.1. Sample Privileged Warning Statement.

Include the following statement on all Ground (except Preliminary) Mishap Reports.

****

FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION.

UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL

PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHERADVERSE ACTIONS. SEE AFI 91-204, Chapter 2 FOR RESTRICTIONS.

DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FORMISHAP PREVENTION PURPOSES.

****

Figure 11.2. .Format for Preliminary and Initial Status (72 Hour) Message Reports for Ground Class A, B, and C Mishaps and HAP Events.

NOTE: The format reflected in this mishap message report is provided for informational purposes only and may not reflect the message format generated in SAS.

NOTE: Use this guidance to prepare Class A and B Ground mishap preliminary (8-hour) and initial status (72-hour) report messages required by **Table 11.1.** This guidance should also be used to complete preliminary Class C mishaps and HAP events when submissions of these message reports are deemed appropriate by the investigator. Preliminary (8-hour) message reports must include purely factual information only. Ensure no privileged safety information is included (nothing based on witness testimony, board analysis, etc.).

NOTE: SAS messages must be encrypted before transmission through DMS.

SUBJECT: Class, Category, Sub-category, Duty Status, Cross Category, Report Status, and Mishap Event Number (Example: Class B, Ground and Industrial-Industrial/Work Environment (On-Duty), None, Preliminary Report, WXYZ20001231 71001B).

1. Date and time of the mishap. Indicate the date and local time local time (24 hour clock) of an event/mishap.

2. Installation submitting report. Indicate the base code and whether the event/mishap occurred on-base or off-base. ***Note*:** If the base code is unknown enter the name of the base.

3. Duty status. On duty or off-duty.

4. Name of the nearest Air Force installation to the mishap.

5. Location of mishap. If on a military base, give specific location, e.g., Building 555, Munitions Storage Area, Flight Line Parking Spot N23, etc. If the mishap occurred off base, use street and highway references, as well as distance and direction from nearest Air Force installation.

6. Object information.

6.1. Nomenclature: Air Force equipment or facilities identification. For ground mishaps involving aircraft and missiles, include the mission-design-series (MDS) and weapon system serial number. For mishaps involving an aircraft engine, include engine type. For vehicles and equipment, list nomenclature and serial numbers. For facilities, list building number and principal purpose. For mishaps involving explosives, give the complete nomenclature of the item, e.g., M8A1 parachute flare, MK4 Mod 3 impulse car-

tridge, or FMU 56/B fuse. For any mishap involving LANTIRN navigation and targeting pods or engines, include the type equipment and the serial number. (**Note:** Do not include privileged information.)

6.2. Accountable MAJCOM: Indicate the MAJCOM and squadron accountable for the mishap equipment or injured personnel. Normally, this entry shows chain of command for unit of possession or unit of assignment.

6.3. Was object destroyed? (Y or N). Indicate if object was or was not destroyed, summarize damage assessment.

7. Personnel information. Include known information about personnel fatalities and injuries. Do not include names due to next of kin notification considerations. Do not include SSANs on preliminary message reports.

7.1. Grade. Age. AFSC/Job Series.

7.2. Injury class and type.

7.3. Air Force component. (USAF (active duty) DAFC, NAF, AFFN, etc.)

8. Narrative of circumstances. Give a brief description of the mishap and pertinent preceding events. Provide abbreviated, factual information. Do not include information implying cause or containing material gained through interviews with personnel involved or other witnesses. Describe the extent of injuries and Air Force property damage, e.g., building destroyed by fire or explosion, worker fatally injured, etc. Do not delay the report for lack of information. If complete data is not available, provide it in a status report.

9. Initial estimates of collateral damage and injury costs. Describe non-AF property damage and list injuries to non-AF personnel resulting from on-duty AF operations. (List the injury but do not include a dollar value for non-AF personnel injuries. Also, do not include non-AF property damage sustained in mishaps involving off-duty military personnel.) Include status of on-going rescue and recovery operations, hazard containment, and security. Provide information on the level of media interest.

10. Contacts. List the name, unit of assignment, and telephone number (DSN and commercial) of the Interim Safety Board President, if applicable, and cognizant official.

Figure 11.3. Format for Consolidated Mishap Report (CMR) Ground Messages.

NOTE: The format reflected in this message report is provided for informational purposes only and may not reflect the report format generated in SAS.

NOTE: Use this guidance for most Ground Class A, B, and C mishap and HAP event report messages required by **Table 11.1.**. Also use it to report fire related injuries, and ground mishaps with aviation, space, missile or nuclear involvement, and events deemed appropriate by the investigator. For preliminary (8-hour) and initial status (72-hour) reports, use **Figure 11.2.**. For Off-Duty Class C Sports and Recreation mishaps, use **Figure 11.4.**.

FROM: (Originator)

TO: (See **Table 11.2.** and **Table 11.3.**)

SECURITY CLASSIFICATION

NOTE: For classified reports, see AFI 31-401, Information Security Program Management, for appropriate markings.

SUBJECT: Class, Category, Sub-Category, Duty Status, Cross Category, Report Status, and Mishap Event Number (Example: Class A, Ground and Industrial-Industrial/Work Environment, (On-Duty), None, Final Report, WXYZ20001231 20001A).

NOTE: Include the following Privacy Act Statement when a social security account number (SSAN) is included in the report:

****

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C., CHAP 40; 37 U.S.C., CHAP 9; E.O. 9397, NOV 43. PRINCIPAL PURPOSES: USE FOR SAFETY MISHAP REPORTING ONLY. ROUTINE USES: USE FOR SAFETY MISHAP REPORTING ONLY.

DISCLOSURE: DISCLOSURE OF SSN IS VOLUNTARY.

****

NOTE: Include the following statement on all Ground Mishap Reports (except the Preliminary (8-hour) message.

****

FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, Chapter 2 FOR RESTRICTIONS. DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

****

1. Location of mishap:

1.1. Location: (such as Utah Test and Training Range) on which mishap occurred. If mishap occurred off base state "off military property." "Courtesy" reporting should be accomplished by the nearest Air Force installation

1.2. Name of base or military property.

1.3. Duty status: on-duty or off-duty.

1.4. State and country of mishap.

1.5. Latitude and longitude: For traffic-related and off-base mishaps, use street and highway references, as well as distance and direction from the nearest Air Force base.

1.6. Date of the mishap.

1.7. Local time.

2. Accountability.

2.1. MAJCOM:

2.2. Numbered Air Force, ALC.

2.3. Wing/Group.

2.4. Squadron/Unit.

2.5. Base Accountable: (Enter the four letter Home Location Code from SORTS and base name)

2.6. AEF Assigned: (Indicate if mishap is associated with an AEF)

3. Environmental factors:

3.1. Was weather a factor (Y or N)?

3.2. Light condition at time of mishap? [e.g., Dusk (Outdoors)]

3.3. Did mishap involve fire or explosion (Y or N)?

3.4. Meteorological conditions: (rain, snow, ice, etc.)

4. Damage and injury cost estimates:

4.1. Non-AF mishap cost: Estimate of damage to non-Air Force property, including other DoD and non-DoD property resulting from on-duty AF operations.

4.2. Total AF damage cost: Cost of damage to Air Force property, including labor and material

4.3. Total AF injury cost: Cost of injuries to Air Force personnel, including military and DAF civilian employees. Do not include a cost for non-AF civilians.

4.4. Total mishap cost (sum of costs in items 4.1 through 4.3).

4.5. Environmental cost.

5. Personnel involved: Provide the data below on each person involved. If more than one person is involved, provide information in subparagraphs entitled "Worker 1, Operator 1, Passenger 1," etc. Repeat entry 5.X through 5.X.17 for each person involved in the mishap. Replace "X" in the paragraph number with a sequential number for each person involved. Complete all entries for the first individual (5.1 through 5.1.17) before entering information for the second and subsequent individuals (5.2 through 5.2.17, etc.). For DAF personnel injuries, list by degree of injury with the most severe injury listed first.

5.1. Last name, first name, MI of mishap individual: (Data Mask before transmission through DMS.)

5.1.1. SSAN: (Mandatory for Air Force personnel involved in ground mishaps. Do not omit or substitute required information with "available upon request" or similar wording). NOTE: Data Mask before transmission through DMS.

5.1.2. Gender.

5.1.3. Age.

5.1.4. Rank/Grade.

5.1.5. Duty AFSC or job series.

5.1.6. Time on duty prior to mishap. Round time to the nearest hour from the time the individual reported to work until he or she was involved in the mishap.

5.1.7. Activity at time of mishap.

5.1.8. Role in event.

5.1.9. Functional area.

5.1.10. Organization assigned.

5.1.10.1. MAJCOM.

5.1.10.2. Numbered Air Force, ALC.

5.1.10.3. Wing/Group.

5.1.10.4. Base.

5.1.10.5. Squadron/Unit.

5.1.11. Component.

5.1.12. TOX test results (positive, negative, pending, or not accomplished). If positive or not accomplished, explain in the narrative. TOX test information is a special emphasis item and must be indicated in all mishap reports. If pending, up channel test results as soon as known.

5.1.12.1. Substance type.

5.1.12.2. Substance level.

5.1.13. Injury.

5.1.13.1. Injury class.

5.1.13.2. Days hospitalized.

5.1.13.3. Days on quarters

5.1.14. Part of body injured.

5.1.15. Type injury.

5.1.16. Training.

5.1.16.1. Was individual training a factor in the mishap (Y or N)? State if the individual's training or written instructions were or were not a factor in the mishap. Types of training include traffic safety, job task, life support, etc. If training was a factor, answer the following six questions:

5.1.16.2. Was individual trained and, if required, certified to perform task (Y or N)?

5.1.16.3. Was the training program, as designed, adequate to perform task (Y or N)?

5.1.16.4. Did training, as administered, comply with the established training program (Y or N)?

5.1.16.5. Were written instructions available (checklists, TO, etc.) (Y or N)?

5.1.16.6. Were written instructions used (Y or N)?

5.1.16.7. Were written instructions satisfactory (Y or N)?

5.1.17. Safety equipment. List required safety equipment for the task/operation (maximum of three) and state if it was used (Y or N) and if it worked (Y or N). Use the following format: seat belt/yes/yes; parachute/yes/no/; helmet/no/(leave blank).

5.1.18. Rated Officer (Y or N)?

5.1.19. On flying status (Y or N)?

5.1.20. Duty status: (on-or off-duty)?

5.1.21. Further status: (TDY, etc.).

5.1.22. Outcome: (contacted live wire, fell off ladder, etc.).

5.1.23. Fatigue (Y or N)?

5.1.24. Nutrition (Y or No)?

6. Property data. Give the following data on each piece of property involved. If more than one piece of property is involved, provide information in subparagraphs entitled "Object 1, Object 2, etc."

6.1. Property identification. Repeat entry 6.1 for each property type involved. Number as 6.X.1 through 6.X.13.

6.1.1. Organization assigned. If the organization is same as paragraph 2, state "same as paragraph 2."

6.1.1.1. MAJCOM.

6.1.1.2 Numbered Air Force, ALC.

6.1.1.3. Wing/Group.

6.1.2. Description.

6.1.3. Vehicle or equipment serial number or aircraft tail number.

6.1.4. Object or vehicle activity at time of mishap.

6.1.5. Was object destroyed (Y or N)?

6.1.6. Cost to repair or replace.

6.1.7. Persons involved with this object or property.

6.1.7.1. Person's last name. Repeat 6.1.7.1 as 6.1.7.X for each person involved with this object.

6.1.8. Mission-design-series (MDS). For aircraft/missile involved.

6.1.9. Major system failure/damage.

6.1.10. Parts information. Repeat entries 6.1.10.1 through 6.1.10.1.6 as required for all failed parts. Number as 6.1.10.X.1 through 6.1.10.X.6.

6.1.10.1. Failed part.

6.1.10.1.1. Failed part description.

6.1.10.1.2. Failed part number.

6.1.10.1.3. Failed part manufacturer.

6.1.10.1.4. How malfunction code (from applicable T.O.).

6.1.10.1.5. Work unit code (from applicable T.O.).

6.1.10.1.6. Report control number from deficiency report (if applicable).

6.1.11. Lot number of explosive items for mishaps involving missiles or explosives.

6.1.12. Engine information. Repeat entries 6.1.12.1 through 6.1.12.1.3 for each mishap engine. Number as 6.1.12.X.1. through 6.1.12.X.3.

6.1.12.1. Mishap engine.

6.1.12.1.1. Engine installed position number.

6.1.12.1.2. MDS of engine.

6.1.12.1.3. Engine serial number.

6.1.13. Pod Information (LANTIRN, etc.). (Repeat for each mishap pod, e.g., 6.1.13.3 and 6.1.13.4. would report data for second pod, etc.)

6.1.13.1. Equipment designator of pod.

6.1.13.2. Serial Number of pod.

7. Narrative. Give a concise, chronological description of the facts and circumstances leading to the mishap. For areas determined not to be factors in the mishap, give details in the narrative that are not included elsewhere in the report. Include enough information in the final report to show the SIB or investigating officer rationale/reasoning in determining findings and recommendations. In all cases, continue the sequence through the point of occurrence (or discovery) for all damage and injuries or until the event ends. Specify in the narrative if an accident investigation was convened and the specific organization conducting the investigation (e.g., 544 WG conducting an accident investigation). In vehicle mishaps, list traffic courses by type and date of completion.

8. Findings and causes. See paragraph **5.8.** and **5.9.** for general information on determining findings and causes. List as Finding 1, Finding 2, etc. After listing the primary findings and causes, list Other Findings of Significance as OFS 1, OFS 2, etc. Findings must not address new information not previously discussed in the narrative.

9. Preventive action taken or recommended. Give preventive actions taken or recommended. See paragraph **5.10.** for general information on determining recommendations. List as Recommendation 1, Recommendation 2, etc. After mishap recommendations, list Other Recommendations of Significance as ORS 1, ORS 2, etc. In the mishap recommendations, do not recommend briefing personnel on the mishap. List completed preventive actions as Corrective Action 1, Corrective Action 2, etc. Completed briefings may be annotated as completed corrective actions.

10. Cognizant official. Provide name, unit, office symbol, and telephone number (DSN and commercial).

Figure 11.4. Format for Class C Off-Duty Sports and Recreation Summary Mishap Report (SMR) Messages.

NOTE: The format reflected in this message report is provided for informational purposes only and may not reflect the report format generated in SAS.

NOTE: Use this guidance to report Class C off-duty Sports and Recreation mishaps required by **Table 11.1.**

FROM: (Originator)

TO: (See **Table 11.2.**)

SECURITY CLASSIFICATION

NOTE: For classified reports, see AFI 31-401, Information Security Program Management, for appropriate markings.

SUBJECT: Mishap Class, Sports and Recreation, Duty Status, Report Status, and Mishap Event Number (Example: Class C, Sports and Recreation, Off-duty, Final Report, FYBZ200012301 22001C).

NOTE: Include the following Privacy Act Statement on all SMR messages.

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C., CHAPTER 40; 37 U.S.C., CHAPTER 9; EO 9397, NOVEMBER 1943. PRINCIPAL PURPOSE: USE FOR SAFETY MISHAP REPORTING ONLY. ROUTINE USES: USE FOR SAFETY MISHAP REPORTING ONLY.

NOTE: Include the following statement on all Ground CMR messages.

****

FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, **Chapter 2** FOR RESTRICTIONS. DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

****

1. Location of mishap: Identify the specific location where the mishap occurred, e.g., base gym, off-base public street, public park, etc. Include base name, or direction and distance to the nearest AF installation.

2. Local time.

3. Accountability:

3.1. MAJCOM/DRU/FOA.

3.2. NAF.

3.3. Center/Wing (Wing-equivalent Group)

3.4. Squadron.

3.5. Unit.

3.6. Base Code.

4. Total injury cost to AF personnel.

5. Person involved. Provide the following data on the person involved.

5.1. Last Name.

5.1.1. SSAN: (Mandatory for Air Force personnel involved in ground mishaps. Do not omit or substitute the SSAN with "available upon request" or similar wording. (**NOTE:** Data Mask SSAN before transmission through DMS.)

5.1.2. Gender.

5.1.3. Age.

5.1.4. Rank.

5.1.5. Duty AFSC.

5.1.6. TOX test results (positive, negative, pending, not accomplished, or not suspected). Since TOX test results are a special emphasis item, if positive or not accomplished, explain in the narrative. TOX testing information must be indicated in all mishap reports.

5.1.6.1. Substance type.

5.1.6.2. Substance level.

5.7. Days hospitalized.

5.8. Days on quarters.

5.9. Part of the body injured.

5.10. Type of injury.

6. Narrative. Give a short, concise description of the sports activity and circumstances leading up to and including the mishap. NOTE: Use only the "Reason" portion of the CAR from **Attachment 4**, paragraph **A4.5.**. If PPE was required, state requirements and indicate if used and if it worked in the narrative.

7. Cognizant official and investigator, unit, office symbol, and telephone number (DSN and commercial).

Figure 11.5. Instructions to Complete AF Form 739, Occupational Injuries and Illness Log

Record each on-duty occupational injury or illness to Air Force military and civilian personnel within 6 workdays of notification (see paragraph **11.19.** of this instruction for additional information for recording requirements). DoDI 6055.7 requires off-duty military injuries to be recorded. Maintain separate logs for civilian on-duty, military on-duty, and military off- duty injuries. Source data for appropriated fund civilian employee injury and illness claims include the CA Form 1, *Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation*; CA Form 2, *Notice of Occupational Disease and Claim for Compensation*; and CA Form 6, *Authorization for Examination and/or Treatment*. Appropriated fund civilian employees file occupational injury and illness claims through the Civilian Personnel Office of Workers' Compensation Program (OWCP). Source data for non-appropriated fund (NAF) civilian employee occupational injury and illness claims is the LS-201, *Notice of Injury*, filed through the Services Squadron Human Resource Office. Sources for the collection of military injury data include

hospital Admission and Disposition (A&D) sheets, First Aid Injury Logs, Managed Care, and unit notification.

Complete entries on the AF Form 739 as follows:

***NOTE*:** A pull-down menu is available for selected entries/blocks.

1. Column A - Case Number. Enter a case or mishap number.

2. Column B - Date of the Injury/Illness. Enter the month, day, and year of occurrence.

3. Column C - Name and component. Enter the name (Last, First, and Middle Initial), and component (DAF, NAF, YOP, USAF (military personnel), AFFN, etc.) of the individual. A list of components is available on the pull-down menu.

4. Column D - AFSC/Job Series. Enter the Air Force Specialty Code (AFSC) for military personnel or Occupational Series code for civilian employees. See AFMAN 36-503, *Skill Coding*, for civilian skills coding information.

5. Column E - Unit/Office Symbol. Enter the organization and office symbol of the employee.

6. Column F - Class. Enter the mishap class (see paragraph **3.2.** of this instruction). A list of mishap classes is available on the pull-down menu.

7. Column G -Injury/Illness Type. Indicate the most serious injury, e.g., fatality (FT), permanent total (PT) disability, lost workday (LW), etc. A list of injury types is available on the pull-down menu.

8. Column H - Illness Code. Enter the code that most accurately describes the illness. A list of illness codes is available on the pull-down menu.

9. Column I - No Lost Time. Place an "X" in the appropriate block listed below:

9.1. Column I (1)- Loss of Consciousness. Enter an "X" in Column I(1) when the injured individual lost consciousness and the case did not involve a fatality or lost workday.

9.2. Column I(2) - Transferred. Enter an "X" if the mishap individual was transferred to another job due to an occupational injury or illness and the case did not involve lost workdays.

9.3. Column I(3) - Medical Treatment Greater Than First Aid. Enter an "X" for cases of occupational injury or illness not involving fatalities or lost workdays but resulting in treatment greater than first aid (Class D injury/illness). See OMB Bulletin 1220-0029, *Recordkeeping Guidelines for Occupational Injuries and Illness*.

10. Column J - Lost Time. Indicate the total time lost in the appropriate block below:

10.1. Column J (1) - Hours. Enter the total number of hours (1 to 7) lost (Class D injury/illness resulting in less than 8 hours away from work). Do not count the day of injury. Do not count time spent away from work to receive medical treatment or examination(s).

10.2. Column J (2) - Days. Enter full days lost (i.e., 8 hours or greater). If the actual number of days lost is not known, enter an estimate of lost workdays.

11. Column K - Description/Location of Injury/Illness and Activity At Time of Occurrence. Complete this column for all entries. Examples: Lacerated right index finger-cutting a piece of wood, Building 1505, Wood Hobby Shop, SVS; Hearing loss, Building 1450, Pavements and Ground, CES.

12. Totals. Add total number of recorded cases.

13. Certifying Official. Enter the date and signature of the official certifying the accuracy of information entered on the log.

Table 11.1. Reporting/Recording Schedule for Ground Mishaps.

	A	B	C	D
	If the mishap is a	then submit	not later than	by
1	Class A or B on-duty	Preliminary report (see notes 1 and 2)	Within 8 hours of the mishap (see note 10)	Priority message using the format in **Figure 11.2.**, (see note 3)
2		Status report (see note 4)	Within 72 hours of the mishap	Preliminary message format, **Figure 11.2.**
3		Status report (see note 5)	15 calendar days, then as required.	CMR message format, **Figure 11.3.**
4		Final report	Within 30 calendar days (see notes 6 and 7)	CMR format, **Figure 11.3.**
5		Formal report (see note 9)	Within 30 calendar days of the mishap (see notes 6 and 7)	AF Form 711-series and CMR format, **Figure 11.3.** (see note 11)
6	Class A or B off-duty	Preliminary report (see notes 1 and 2)	End of the second duty day following the mishap	Preliminary message format, **Figure 11.2.**, including courtesy reporting by the nearest AF installation (see note 3)
7		Status report (see note 5)	As required	CMR format, **Figure 11.3.**
8		Final report	Within 30 calendar days of the mishap (see notes 6, 7 and 8)	CMR Format, **Figure 11.3.**
9		Formal report (when directed by MAJCOM) (see note 9)	Within 30 calendar days of the mishap (see notes 6, 7 and 8)	AF Form 711-series and CMR format, **Figure 11.3.** (see note 11)
10	Class C on- and off-duty (except off-duty Sports and Recreation)	Preliminary report [optional] (see notes 1 and 2)	As required	Preliminary message format, **Figure 11.2.** (see note 3)

11		Status report (see note 5)	As required	CMR format, **Figure 11.3.**
12		Final report	Within 30 calendar days (see notes 6 and 7)	CMR format, **Figure 11.3.**
13		Formal report (when directed by MAJCOM) (see note 9)	Within 30 calendar days (see notes 6 and 7)	AF Form 711-series and CMR (see note 11)
14	Class C off-duty Sports and Recreation	Preliminary report [optional] (see notes 1 and 2)	As required	Priority message using the format in **Figure 11.2.** (see note 3)
15		Status report (see note 5)	As required	CMR format, **Figure 11.3.**
16		Final report	Within 30 calendar days (see notes 6, 7 and 8)	Summary Mishap Report (SMR) (**Figure 11.4.**
17		Formal report (when directed by MAJCOM) (see note 9)	Within 30 calendar days (see notes 6, 7, and 8)	AF Form 711-series and CMR as directed by MAJCOM) (see note 11)
18	HAP event	Preliminary report [optional] (see notes 1 and 2)	As soon as possible	Preliminary message format, **Figure 11.2.** (see note 3)
19		Status report (see note 5)	As required	CMR format, **Figure 11.3.**
20		Final report	Within 30 calendar days (see notes 6 and 7)	CMR format, **Figure 11.3.**
21		Formal report (if required by higher headquarters or HQ USAF/SE) (see note 9)	Within 30 calendar days (see notes 6 and 7)	AF Form 711-series and CMR as directed by higher headquarters or HQ USAF/SE (see note 11)
22	Class D or X	Log entries	Within 6 work days of notification	AF Form 739 or equivalent log
23		Annual summary	15 November through MAJCOM channels to HQ AFSC/SEG	Message or memorandum

***NOTES*:**

1. See paragraph **5.2.** for instructions during MINIMIZE.

2. Use non-privileged, unclassified **Figure 11.2.** format for Preliminary report.

3. Overseas commands use IMMEDIATE precedence.

4. Use the format in **Figure 11.2.** for the initial (72-hour) status report. Include new information discovered since the Preliminary message and identify SIB members or single investigating officer. Include the safety privilege statement on all status reports. (see **Chapter 2** of this instruction for additional information).

5. Include information not previously reported. It is not necessary to use the entire **Figure 11.3.** format for status reports.

6. Do not delay final reports awaiting test results. If the test results significantly change the outcome of a final report, send a status report describing the changes. Use the format in **Figure 11.3.** to modify a previously transmitted CMR final report.

7. For extension of due date, send request to the investigating MAJCOM/DRU/FOA. The MAJCOM will evaluate the request and forward valid requests to HQ AFSC/SEG for approval.

8. Mishaps reported in a SMR format that are later upgraded to Class A or B mishaps will require a status report to change the classification of the mishap and a final CMR report.

9. Do not send extra forms to HQ AFSC, MAJCOM/DRU/FOAs, ANG, or AFRC if they are mailed in formal reports.

10. For Air Force or non-Air Force civilians, ensure OSHA is notified in accordance with **paragraph 1.1.8.7.**

11. AF Form 711-series may be obtained through the Air Force Safety Center (AFSC/SEF, Aviation Safety) web page at: **http://www-afsc.saia.af.mil/**

Table 11.2. Addressees for Ground Message Reports.

	A	B	C
	Organization (see notes 3 and 5)	Office Symbol	For
1	HQ USAF KIRTLAND AFB NM	SE	All Class A and B mishaps
2	HQ AFSC KIRTLAND AFB NM	SEG	All mishap and HAP reports
3	HQ USAF WASHINGTON DC	SEI/XO	All Class A mishaps
4	HQ AFSOC HURLBURT FLD FL	SE	Class A, B and C mishap and HAP reports
5	HQ AETC RANDOLPH AFB TX	SE	
6	HQ AMC SCOTT AFB IL	SE	
7	HQ PACAF HICKAM AFB HI	SE	
8	HQ AFMC WRIGHT PATTERSON AFB OH	SE	
9	HQ ACC LANGLEY AFB VA	SE	
10	HQ AFSPC PETERSON AFB CO	SE	
11	HQ USAFA USAF ACADEMY CO	SE	
12	HQ USAFE RAMSTEIN AB GE	SE	
13	ANG ANDREWS AFB MD	DOSG	
14	HQ AFRC ROBINS AFB GA	SE	
15	Intermediate commands	as required	

16	Home base of operator or crew (if other than the organization submitting the report)		
17	Home base of aircraft or command of assignment (if other than that of the reporting unit)		
18	Military base of departure		
19	344 TRS LACKLAND AFB TX	TTEB	
20	HQ USAF WASHINGTON DC	RE/REO	All AFRC Mishaps
21	HQ AFMC WRIGHT PATTERSON AFB OH	SE/DR	All mishaps involving material deficiencies, and Tech Order changes.
22	HQ AFFSA ANDREWS AFB MD	XV	Mishaps involving air traffic control services
23	MAJCOM concerned	DOF	
24	Intermediate commands	DOF	
25	AFWA OFFUTT AFB NE	SE	Mishaps involving weather events or services
26	SMC LOS ANGELES AFB CA	AXZ	Mishaps involving space vehicles, boosters, systems, and support systems; and ballistic missile systems and/or components
27	OO-ALC HILL AFB UT	LMES	
28	HQ AFSPC PETERSON AFB CO	SE	
29	ASC WRIGHT PATTERSON AFB OH	ENVS	Mishaps involving aircraft, non-ballistic missiles, or explosives
30	OO-ALC HILL AFB UT	WMCS SES	Mishaps involving explosives or egress (CAD/PAD) items required for ejection (See note 5)
31	AAC EGLIN AFB FL	WM	
32	ALC Safety and Materiel Safety Offices: OO-ALC HILL AFB UT SA-ALC KELLY AFB TX WR-ALC ROBINS AFB GA OC-ALC TINKER AFB OK AAC EGLIN AFB FL	SE/SES/YPS SE/LDE SE/SEM SE/LARM WM	Aircraft, explosives, and missile mishaps; ground mishaps involving TO, materiel, vehicle, or equipment; and other mishaps involving deficiencies in the areas listed above

33	Appropriate ALC engine manager (see note 4) OC-ALC TINKER AFB OK SA-ALC KELLY AFB TX 361 TRS SHEPPARD AFB TX	LP/SE/LARM LP/SE LFCS TSRJ	Class A and B mishaps involving power plants
34	AAC EGLIN AFB FL	SES/SEW	Mishaps involving conventional air-launched missiles and explosives
35	HQ AFOTEC KIRTLAND AFB NM	SE	Class A aircraft, missile, and space mishaps and all OT&E mishaps
36	311 HSW BROOKS AFB TX SA-ALC KELLY AFB TX	YACL LFCS	Mishaps involving life support systems
37	COMNAVSAFECEN NORFOLK NAS VA	Code 10/11/13/14	Mishaps involving US Navy personnel or facilities and mishaps involving aircraft or missiles common to USAF and USN (**Table 7.3.** and **Table 8.3.**)
38	COMNAVAIRSYSCOM WASHINGTON DC		Mishaps involving missiles common to USAF and USN (**Table 8.3.**)
39	CDRUSASC FT RUCKER AL	CSSC-SE	Mishaps involving US Army personnel or facilities and mishaps involving aircraft or missiles common to USAF and USA (**Table 7.3.** and **Table 8.3.**)
40	COMDT COGARD WASHINGTON DC		Mishaps involving US Coast Guard personnel or facilities and mishaps involving aircraft common to USAF and USCG (**Table 7.3.**)
41	HQ SECDEF WASHINGTON DC	USD (ATL) (ES/FP)	Preliminary report for mishaps involving fatality, in-patient hospitalization of three or more civilian personnel, or property damage of $1,000,000 or more
42	SAF WASHINGTON DC	MIQ	Preliminary and final report for Class A and B mishaps
43	AFIP WASHINGTON DC	OAFME	Preliminary and final report for Class A and B mishaps involving injury or death.
44	HQ AFCESA TYNDALL AFB FL	CEXF	Preliminary and final report for mishaps involving fire suppression or crash and rescue operations
45	SA-ALC KELLY AFB TX	SF/LFCS	Mishaps involving fuels or related products
46	DET 63 ASC INDIAN HEAD MD	CC	Mishaps involving EOD operations or activities

***NOTES*:**

1. Include all mishaps involving aircraft assigned to associate reserve programs (C-5, C-141, KC-10, and C-9).

2. Air Force Directory (AFDIR) 33-131, Message Address Directory was rescinded. Reference **http://www.nctn.navy.mil/**dpvs/dpvs.html for current message addresses prior to each message transmission. Do not send privilege safety messages to the addressees at lines 39-43 at any time.

3. Send messages only to appropriate ALC SPDs or engine IMs specified in TO 00-25-115, Logistics Maintenance Engineering Management Assignment, not indiscriminately to all SPDs or IMs.

4. Include MAJCOMs that are common users of the mishap materiel (aircraft, engines, equipment, weapons, munitions, ordnance devices, explosives, missiles, vehicles, etc.) as message addressees when exchange of information would enhance mishap prevention efforts. Also use the Address Indicator Group (AIG) for the weapon system if one exists. MAJCOM/DRU/FOAs may also add AIGs specific to their command.

AIG 9380	A-10
AIG 9381	C-17
AIG 9383	C-5
AIG 9384	F-111
AIG 9385	Ground Safety (HQ AFSC and MAJCOM Use Only)
AIG 9386	Helicopters
AIG 9387	C-130
AIG 9388	C-12
AIG 9389	F-4
AIG 9390	B-52
AIG 9392	KC-135
AIG 9393	F-22

AIG 9394	T-1
AIG 9395	T-38/F-5
AIG 9397	T-37
AIG 9398	C-141
AIG 9399	F-16
AIG 9401	T-39/C-21
AIG 9404	Worldwide SE/SEW
AIG 9405	Aero Clubs
AIG 9406	B-1
AIG 9407	F-15
AIG 9409	Safety Crosstell

* **Note:** If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG(s).

5. Include the aircraft armament system program director (SPD) or equivalent as an addressee when explosives or missile mishaps involve aircraft armament systems.

6. MAJCOMs will approve the release of all Class A and B mishap reports before transmittal through the Defense Message System (DMS) or AUTODIN (SARAH LITE message).

7. Ground mishap messages (except 8-hour Preliminary) will be encrypted before transmittal through DMS.

8. Defense Message System addresses equivalent to the AUTODIN (SARAH LITE) addressees shown in this table are available through the Global DMS Directory.

Table 11.3. Routing Class A and B Ground Formal Safety Reports.

	A	B	C
	Forward	To	For
1	Original and one copy of the formal report by priority mail within 30 calendar days	HQ AFSC/SEG 9700 G Ave SE Kirtland AFB NM 87117-5670	Review, take appropriate action, and file
2	One copy of formal report by priority mail	HQ USAF/SEI 1400 Air Force Pentagon, Rm 5E161 Washington DC. 20330-1400	Review
3	One copy of formal report	Organization of person who had the mishap (see note 6)	Review, take appropriate corrective action, and file. MAJCOMs specify endorsement requirements and their suspense dates.
4		Organization that sustained the loss if different from organization in line 3	
5		Host base safety office	
6		Intermediate commands of units specified in lines 3 and 4	
7		MAJCOM concerned	Review, take appropriate corrective action and file. Endorse transmittal correspondence to HQ AFSC/SEG within 90 days of mishap. Provide copies of endorsement to each formal report addressee.
8		ANGRC/DOS or HQ AFRC/SE if ANG or AFRC asset involved	
9		Gaining MAJCOM if ANG or AFRC asset involved	
10		Appropriate State Headquarters and the Adjutant General (TAG) if ANG aircraft involved	
11		Air Logistics/r Product Center item manager as specified in TO 00-25- 115 if failure or malfunction of materiel, suspected design deficiency, DR, TDR, or TO change involved (see notes 1, 2, and 3)	Review and take appropriate corrective action. Forward action memorandum or endorsement with a copy of TDR, photos, test results, and when established, MIP interim or closing action to HQ AFSC/SEG and a copy to HQ AFMC/SE within 90 days of the mishap. (see note 1)

12		Each agency or organization tasked in the recommendations (see note 6)	Review, take appropriate corrective action, and file.
13		HQ AFMC/SE Wright Patterson AFB OH 45433 (see note 2)	Review and take appropriate corrective action. Endorsement concurrence will be in DB-10. If HQ AFMC disagrees with ALC/PCTR or non-concurs, endorsement will be provided to each formal report addressee and HQ AFSC/SEG within 90 days of mishap.
14	One copy of formal report	HQ AFOTEC/SE Kirtland AFB NM 87117 if OT&E involved or upon written request	Review, take appropriate corrective action, and file. Endorse transmittal correspondence to HQ AFSC/SEG within 90 days of mishap, and provide copies of endorsement to each formal report addressee.
15		HQ AFCESA/DF Tyndall AFB FL 32403 if fire suppression or crash/ rescue involved	
16		HQ AFMC/SE Wright Patterson AFB OH 45433 if systems, vehicles, or equipment under management of AFMC involved	Review and take appropriate corrective action. Endorsement will be provided to each formal report addressee and HQ AFSC/SEG.
17		ASC/SE Wright Patterson AFB OH 45433	Review for ìlessons learnedî to be included in design processes and file.
18	One copy of AF Form 711GA	HQ AFMOA/SGPA Bolling AFB DC 20332-6188 (See note 5)	Review, take appropriate corrective action, and file.

NOTES:

1. ALC action correspondence is not required unless the safety report contains findings or recommendations involving materiel failure or malfunction, depot-level maintenance, design deficiencies, or technical order deficiencies.

2. For all mishaps requiring an action by an AFMC organization, send one copy to HQ AFMC/SE, Wright Patterson AFB OH 45433-5006, as well as the tasked agency.

3. Address elements are for reference only. See AFDIR 37-135 for current mail addresses. Air Force Directory (AFDIR) 33-131, Message Address Directory was rescinded. Reference

http://www.nctn.navy.mil/dpvs/dpvs.html for current message addresses prior to each message transmission.

4. When routing formal reports to Air Logistics Centers, send the reports to the Materiel Safety Offices at the applicable ALC for internal distribution and tracking. Use the following addresses:

a. OC-ALC/LARM Tinker AFB OK 73145

b. OO-ALC/SES Hill AFB UT 84056

c. SA-ALC/LACS Kelly AFB TX 78241

d. SM-ALC/LAFS McClellan AFB CA 95652

e. WR-ALC/SEM Robins AFB GA 31098-1864

***NOTE*:** SPD and ALC support may not be collocated. Check **Table 7.3.** for applicability.

5. In mishaps with significant medical contribution or resulting in a medical condition or physical injury, send one copy of the formal report with an AF Form 711GA.

6. Do not send a report to an agency outside the USAF. Prepare those copies of the report and send them to HQ AFSC/SEG for forwarding. Refer to paragraphs **5.5.6.3.** and **6.1.4.2.** for additional guidance.

CHAPTER 12

NUCLEAR REACTOR SYSTEM AND RADIOLOGICLAL MISHAPS AND SAFETY DEFICIENCIES

12.1. Scope and Objectives.

12.1.1. General Information:

12.1.1.1. All nuclear reactor system and radiological accidents and incidents are reportable under this instruction. Nuclear safety deficiencies, which could result in a mishap, are also reportable under this instruction.

12.1.1.2. DoDD 3150.8, *DoD Response to Radiological Accident*, requires immediate notification of appropriate officials of a nuclear mishap. CJCSM 3150.03, *Joint Reporting Structure, Event and Incident Reports*, AFMAN 10-206, *Reporting Instructions*, and this chapter implement the requirement.

12.1.1.3. Reporting nuclear reactor system and radiological safety deficiencies supports the objectives of AFI 91-109, *Air Force Nuclear Reactor Program*, AFI 91-110, *Nuclear Safety Review and Launch Approval for Space or Missile Use of Radioactive Material and Nuclear Systems*, and AFI 40-201, *Management of Radioactive Materials in the Air Force*. These objectives are to prevent nuclear mishaps, to minimize their effects if they should occur, and to reduce the occurrence of other nuclear safety deficiencies. Deficiency reports bring actual or potential problems to the immediate attention of agencies that can evaluate the situation and correct the problems.

12.2. Safety Investigations:

12.2.1. General Information.

12.2.1.1. All nuclear reactor system and radiological mishaps will be investigated according to **Chapter 4**.

12.2.1.2. All nuclear reactor system and radiological safety deficiencies will be reported as per **Table 12.3.**.

12.2.2. Investigating Officer Criteria. For nuclear reactor or radiological mishaps, select a nuclear surety officer who knows the nuclear system or materials and the related hazards involved.

12.2.2.1. Deleted.

12.2.2.2. Deleted.

12.2.2.3. Deleted.

12.2.3. Nuclear Reactor or Radiological Mishap SIB Primary Members:

12.2.3.1. SIB President.

12.2.3.2. Investigating Officer.

12.2.3.3. HQ AFSC Representative.

12.2.3.4. Nuclear Expert knowledgeable of the reactor or radiological system.

12.2.3.5. Medical Officer or health physicist knowledgeable in radiation effects and contamination.

12.2.3.6. Nuclear Surety Officer.

12.2.4. Nuclear Reactor/Radiological Mishap SIB Additional Primary Members:

12.2.4.1. Department of Energy (DOE) Representative, if DOE-DoD agreements apply for the system involved.

12.2.4.2. Medical Officer for human factors and other medical aspects (if applicable).

12.2.4.3. Additional specialists, if required by the nature of the mishap.

12.2.5. Nuclear Reactor or Radiological Mishap SIB Non Primary Members:

12.2.5.1. SIB Recorder. An officer or senior noncommissioned officer familiar with administrative procedures.

12.2.5.2. Safety Advisor, if a trained safety officer is not already a member of the SIB.

12.2.5.3. Representatives from other federal agencies, as advisors or consultants, if appropriate.

12.2.5.4. Deleted.

12.2.6. Deleted.

12.2.6.1. Deleted.

12.2.6.2. Deleted.

12.2.6.3. Deleted.

12.2.6.4. Deleted.

12.2.6.5. Deleted.

12.2.6.6. Deleted.

12.2.7. Deleted.

12.2.7.1. Deleted.

12.2.7.2. Deleted.

12.2.7.3. Deleted.

12.2.8. Deleted.

12.2.8.1. Deleted.

12.2.8.2. Deleted.

12.2.8.3. Deleted.

12.3. Statistical Comparisons:

12.3.1. General Information:

12.3.1.1. While the results of safety investigations play a direct role in the mishap prevention process, the indiscriminate use of statistical comparisons between units can jeopardize accurate reporting.

12.3.1.2. Since nuclear mishaps are rare, statistical comparison is inappropriate. Do not make statistical comparisons of different commands or units using nuclear mishap reports as a source.

12.3.1.3. Since the criteria for the submission of safety deficiency reports are so broad, in many instances whether or not to report an event becomes a matter of the commander's judgment. Therefore, comparing nuclear safety statistics between commands and operating units may not provide accurate trend information for managerial analysis. Use safety deficiency reports only to identify potential problems and corrective measures. Do not publish statistical comparisons of different commands or units using safety deficiency reports as a source.

12.4. Release of Information.

12.4.1. General Information:

12.4.1.1. Nuclear safety investigation reports are limited-use reports, which contain both privileged and non-privileged safety information. Although the general rules for controlling and handling limited-use privileged safety report information apply, special rules exist for sharing nuclear safety reports with agencies outside the Air Force.

12.4.1.2. HQ USAF/SE may approve the release of extracts of nuclear safety reports to certain agencies subject to the rules of paragraph **2.3.** These US governmental agencies have statutory jurisdiction, such as the Defense Threat Reduction Agency (DTRA), and operations offices or authorized contractors of the DOE.

12.4.1.3. In the interest of mishap prevention, nuclear safety reports are provided to the Unified Commanders as deemed appropriate and necessary for the theater commanders to accomplish their roles in nuclear surety. The Unified Commanders will ensure the information is treated as privileged and not released or distributed outside their respective headquarters without first obtaining permission from HQ USAF/SE. The Air Force releases this information only to reach its nuclear surety goals.

12.4.1.4. Deleted.

12.5. General Reporting Requirements and Procedures:

12.5.1. General Reporting Requirements:

12.5.1.1. Reports required by a MAJCOM neither supersede nor nullify this instruction's reporting requirements.

12.5.1.2. This instruction does not supersede or nullify reporting requirements under other directives.

12.5.1.3. When a nuclear safety deficiency involves another mishap category (any class) described in this instruction, submit separate reports.

12.5.1.4. When appropriate, report procedural deficiencies according to T.O. 00-5-1, *Air Force Technical Order System*, using AFTO Form 22.

12.5.1.5. When appropriate, report materiel failures according to T.O.s 00-35D-54, *USAF Materiel Deficiency Reporting and Investigating System*, and 36-1-42*, Technical Manual—Policies Governing Warranty Procedures For Air Force Vehicles*, and 11N-5-1, *Unsatisfactory Reports.*

12.5.1.6. All nuclear reactor system and radiological mishaps and safety deficiency reports are licensed reports as required by AFI 33-324, *The Information Collections And Reports Management Program; Controlling Internal, Public, And Interagency Air Force Information Collections*.

12.5.1.6.1. All forms in the AF Form 711-series are licensed under RCS: HAF-SE(AR)9404.

12.5.1.6.2. All other reports are collectively licensed under RCS: HAF-SE(AR)9406.

12.5.1.7. Deleted.

12.5.1.7.1. Deleted.

12.5.1.7.2. Deleted.

12.5.1.7.3. Deleted.

12.5.1.8. Deleted.

12.5.2. General Reporting Procedures:

12.5.2.1. Use the appropriate flagword when reporting nuclear weapon system mishaps and safety deficiencies, and nuclear reactor system or radiological mishaps and safety deficiencies.

12.5.2.2. If the event status changes after submitting an original report, submit another report using the new flagword. Upgrade the flagword only when time-critical responses are required. Do not downgrade the flagword of a nuclear system mishap report without the concurrence of the HQ AFSC/SEW because this would decrease the time-criticality of responses.

12.5.3. Types of Reports.

12.5.3.1. Guidelines. There are four types of reports which may be submitted; PRELIMINARY, SUPPLEMENTAL, ONE-TIME, and FINAL. Use the following guidance to determine what type of report to submit:

12.5.3.2. PRELIMINARY. Submit a preliminary report when it is impossible to provide all required information before the reporting deadline. Furnish the missing information as soon as possible in supplemental reports or in a final report. Preliminary reports remain open until appropriate corrective action is taken or positively identified. *NOTE:* If safety deficiencies require evaluation by another agency such as the weapon design agency or an Air Force item management agency, the report will remain open until that agency's evaluation and concurrence to close the report is received.

12.5.3.3. SUPPLEMENTAL. Submit a supplemental report to furnish additional information concerning any previous report.

12.5.3.4. ONE-TIME. Submit a one-time report when all required information is available and corrective action has either been taken or positively identified prior to the reporting deadline (e.g., failed item repaired at unit level, failed item sent to depot for repair, repetitive occurrences of a known failure, etc.).

12.5.3.5. FINAL. Submit a final report when all required information becomes available after the initial reporting deadline and corrective action has been taken or positively identified.

12.5.4. Deleted.

12.5.4.1. Deleted.

12.5.4.2. Deleted.

12.5.4.3. Deleted.

12.5.4.4. Deleted.

12.6. Nuclear Reactor System and Radiological Reporting Criteria:

12.6.1. PINNACLE FADED GIANT:

12.6.1.1. A nuclear reactor system or radiological accident, as defined by the following criteria:

12.6.1.2. Nuclear criticality or event resulting in significant damage to the reactor core, or a significant release of fission products from the reactor core.

12.6.1.3. Release of radioactive material such that, had an individual been present for 24 hours, the individual could have received an intake five times the federal annual occupational limit of 5 rems.

12.6.1.4. Exposure of an individual's whole body to 25 roentgen equivalent man (rem) or more of radiation; exposure of the eye to 75 rems or more of radiation; or exposure of any extremity to 250 rems or more of radiation.

12.6.2. BEELINE FADED GIANT:

12.6.2.1. A nuclear reactor system or radiological incident, as defined by the following criteria:

12.6.2.2. Events or acts caused by humans or nature (e.g., fire, explosion, projectile impact, sabotage, earthquake, flood, tornado, hurricane, or riot), damaging a nuclear reactor system.

12.6.2.3. Exposure of an individual's whole body to 5 rems or more of radiation; exposure of the eye to 15 rems or more of radiation; or exposure of any extremity to 50 rems or more of radiation.

12.6.2.4. Release of radioactive material so that, had an individual been present for 24 hours, the individual could have received an intake in excess of the federal annual occupational limit.

12.6.2.5. Deleted.

12.6.2.6. Public hazard, actual or perceived.

12.6.3. MISSING PENNY:

12.6.3.1. A deviation from prescribed safety and security standards for a nuclear reactor system or radiological activity (i.e. a nuclear reactor system or radiological safety deficiency), as defined by the following criteria:

12.6.3.2. Radiological Events:

12.6.3.2.1. Release of radioactive material posing a threat to life, health, or property.

12.6.3.2.2. Uncontrolled release of radioactivity to radiologically unrestricted areas above the allowable limits specified in Title 10, *Code of Federal Regulations*, Part 20 (10 CFR 20).

12.6.3.2.3. Exposure of any individual exceeding one occupational dose limit.

12.6.3.3. Nuclear reactor system events:

12.6.3.3.1. Violation of safety limits (as identified in technical specifications) not resulting in an accident or incident.

12.6.3.3.2. Abnormal degradation in reactor fuel, fuel cladding, coolant boundary, or containment boundary resulting in a measurable release of radioactive material.

12.6.3.3.3. Operation with any safety system setting less conservative than specified in the technical specifications. This includes the limiting safety system settings (LSSS) and the reactor protective system (RPS) settings.

12.6.3.3.4. Automatic or manual scram as a result of exceeding the LSSS or RPS settings, or the actuation of an engineered safety feature relating to the safety of the public, operating personnel, or facility.

12.6.3.3.5. Operation in violation of any limiting condition for operation (as specified in the technical specifications).

12.6.3.3.6. Malfunction of a reactor, experiment, or experimental facility safety system component which could or does render a required safety system (as identified in the technical specifications) incapable of performing its intended safety function. Do not report a malfunction discovered during normal surveillance tests or checks.

12.6.3.3.7. Unanticipated or uncontrolled change in reactivity greater than $1.00 (one dollar).

12.6.3.3.8. Condition which could or did result in operating the reactor or maintaining the decommissioned or entombed reactor in a manner less safe than conditions analyzed in the facility safety analysis report or other guidelines and restrictions.

12.6.3.3.9. Inadequate implementation of administrative or procedural controls which could create a credible possibility of an unsafe condition with regard to reactor operations or maintaining the integrity of the decommissioned or entombed reactor facility.

12.6.3.3.10. Event or condition (internal or external) posing a threat to the safety of the nuclear reactor (operational or decommissioned), or significantly hampering the ability of facility personnel to perform duties required for the safe operation of the reactor.

12.6.4. Deleted.

12.6.4.1. Deleted.

12.6.4.2. Deleted.

12.6.4.3. Deleted.

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12.6.4.6.1. Deleted.

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12.6.5.2.11. Deleted.

12.6.5.2.12. Deleted.

12.6.5.2.13. Deleted.

12.6.5.3. Deleted.

12.6.5.3.1. Deleted.

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12.6.5.3.2.1. Deleted.

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12.6.5.3.2.3. Deleted.

12.6.5.3.3. Deleted.

12.6.5.4. Deleted.

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12.6.5.7. Deleted.

12.6.5.7.1. Deleted.

12.6.5.7.2. Deleted.

12.7. Nuclear Reactor System Mishap and Radiological Mishap Reports.

12.7.1. Reporting Schedules.

12.7.1.1. Report nuclear reactor system and radiological mishaps according to **Table 12.2.**

12.7.1.1.1. Deleted.

12.7.1.1.2. Deleted.

12.7.1.2. Deleted.

12.7.1.3. Deleted.

12.7.2. Preparing Nuclear Reactor System and Radiological Mishap Reports:

12.7.2.1. The format for nuclear reactor system and radiological mishap reports is shown in **Figure 12.1.**

12.7.2.2. MAJCOMs may supplement this instruction to include as addressees any internal organizations with a need to know and may use AIGs to include addressees (within the command only) as recipients of selected messages.

12.7.2.3. MAJCOMs may send reports conveying significant safety information peculiar to the system to MAJCOMs possessing like systems.

12.7.2.4. Include the original report control number in the subject line of supplemental and final reports. Number supplemental reports sequentially (Supplemental Report 1, Supplemental Report 2, etc.).

12.7.2.5. Include items 1 through 4 from **Figure 12.1.** in all nuclear reactor system and radiological mishap reports to facilitate recording and correlating data. List other items as either “no change” or “not applicable” (as appropriate) in the supplemental and final reports.

12.7.2.6. Include the name, rank, organization, SIB position, and full official mailing address of each voting member in the first supplemental report for a mishap resulting in an SIB.

12.7.2.7. Include important findings of the investigation in the supplemental reports. Use the reports to keep addressees informed on the progress of the investigation and to advise them of any unsafe conditions or materiel failures.

12.7.2.8. As a minimum, send nuclear reactor system and radiological supplemental reports until all on-site investigations are completed.

12.7.2.9. Use the same principles for writing the narrative portion of the final report as for the formal report (see **Chapter 4** and **Chapter 5** for guidance).

12.7.2.10. Provide a final report unless the initial report was a one-time report.

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12.7.2.12. Deleted.

12.7.2.13. Deleted.

12.7.2.13.1. Deleted.

12.7.2.13.2. Deleted.

12.7.2.14. Deleted.

12.7.3. Deleted.

12.7.3.1. Deleted.

12.7.3.2. Deleted.

12.7.3.3. Deleted.

12.7.3.4. Deleted.

12.8. Nuclear Reactor System and Radiological Safety Deficiency Reports:

12.8.1. Reporting Schedules.

12.8.1.1. Report nuclear reactor system and radiological safety deficiency reports according to **Table 12.3.**.

12.9. Preparing Nuclear Reactor System and Radiological Safety Deficiency Reports:

12.9.1. Guidelines.

12.9.1.1. The format for nuclear reactor system and radiological safety deficiency reports is shown in **Figure 12.2.** Do not include privileged safety information in the safety deficiency reports or mark them as limited-use reports. Refer to **Table 12.1.** for addressees.

12.9.2. Deleted.

12.9.2.1. Deleted.

12.9.2.2. Deleted.

12.9.2.3. Deleted.

12.9.2.3.1. Deleted.

12.9.2.3.2. Deleted.

12.9.3. Deleted.

12.9.3.1. Deleted.

12.10. Nuclear Reactor System and Radiological OPREP-3 Reports:

12.10.1. Prepare and submit OPREP-3 Reports.

12.10.1.1. Report as prescribed by AFMAN 10-206 and JCS Pub 1-03.6. Send copies of the OPREP-3 reports to the addressees listed in **Table 12.1.**, as required by AFMAN 10-206. Do not include privileged safety information in OPREP-3 reports.

12.10.1.2. Deleted.

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12.10.1.4. Deleted.

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12.10.3. Deleted.

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12.10.3.3.10. Deleted.

12.11. Nuclear Reactor System and Radiological Mishap Formal Reports.

12.11.1. Guidelines**.**

12.11.1.1. Submit formal reports according to this instruction for nuclear reactor system and radiological accidents and incidents, unless directed otherwise by HQ AFSC/SEW. HQ AFSC/SEW and the USAF Radioisotope Committee shall jointly review formal reports on radiological events.

12.11.2. Reporting Schedules.

12.11.2.1. Submit formal reports for reactor and radiological mishaps according to **Table 12.2.**

12.11.2.2. Deleted.

12.11.2.3. Deleted.

12.11.2.4. Deleted.

12.11.2.5. Deleted.

12.11.2.6. Deleted.

12.11.2.7. Deleted.

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12.11.2.9. Deleted.

12.11.2.10. Deleted.

12.11.3. Preparing Nuclear Reactor System/Radiological Formal Mishap Reports:

12.11.3.1. Prepare formal reports according to **Chapter 4** and **Chapter 5** and these instructions. Use continuation pages, if needed.

12.11.3.2. Prepare the report on plain white paper, using the title "Nuclear Reactor System (or Radiological) Accident/Incident Report." Provide an adequate level of detail by including or condensing all information provided in message reports. Where appropriate, include the photographs referenced in message reports.

12.11.3.3. Refer to **Table 12.2.** for addressees.

12.11.3.4. Special Markings. Use the following markings on formal reports:

12.11.3.5. Do not stamp unclassified pages in Part I with markings indicating special handling requirements or identifying them as ìFOR OFFICIAL USE ONLY.î

12.11.3.6. Mark the covers or two-part, limited-use formal reports with the following statements:

//

FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, **Chapter 2** FOR RESTRICTIONS.

DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

//

NOTE: Omit the "FOR OFFICIAL USE ONLY" marking on classified pages, but show the limited-use report markings and all markings prescribed by AFI 31-401.

12.11.3.6.1. Display both the above statement and the following statement on the front cover of the formal report:

COPYING OR RELEASING ANY PORTION OF THIS REPORT IS PROHIBITED WITHOUT THE EXPRESS WRITTEN PERMISSION OF HQ USAF/SE.

12.11.3.7. The format for nuclear reactor system and radiological mishap formal reports is shown in **Figure 12.3.**

12.12. Deleted.

12.12.1. Deleted.

12.12.1.1. Deleted.

12.13. Deleted.

12.13.1. Deleted.

12.13.1.1. Deleted.

12.14. Deleted.

12.14.1. Deleted.

12.14.1.1. Deleted.

12.15. Deleted.

12.15.1. Deleted.

12.15.1.1. Deleted.

12.15.2. Deleted.

12.15.2.1. Deleted.

12.15.3. Deleted.

12.15.3.1. Deleted.

12.15.3.2. Deleted.

12.15.3.3. Deleted.

12.15.3.4. Deleted.

12.15.3.5. Deleted.

12.15.3.6. Deleted.

12.15.3.6.1. Deleted.

12.15.3.7. Deleted.

Figure 12.1. Format for Nuclear Reactor System and Radiological Mishap Reports.

From: Message originator.

To: List the addressees in **Table 12.1.**, followed by the appropriate system AIGs, if any.

Security Classification. For classified messages, use the security markings prescribed by AFI 31-401.

Subject and Control Number. Show the report control number in the subject line. Ensure this number, which becomes the single common identifier of the event, includes the following: type of message and reporting flagword (e.g., Supplemental Report 1, FADED GIANT); year, month, and day of mishap using six digits (e.g., 89-02-20); unit (e.g., SM-ALC); and unit report number (e.g., -1). Include the report control number specified in the preliminary report (with the type of message updated) in the subject line of all supplemental and final reports.

Special Markings. Insert the following statement:

////////////

etc.). List each individual's name (last name, first name, and middle initial), military or civilian grade, social security number, duty title and AFSC, degree of injury (N-none, TT-temporary total, PP-permanent partial, PT-permanent total, F-fatal, or M-missing) and lost workdays lost due to injury.

Item 6. Damage, Injury, and Cost Estimates. Describe briefly all damage to US Air Force and non-USAF property and equipment, as well as any personnel injuries. Enter the best estimate available, and update in later reports as required.

If nuclear material was involved, describe the type and extent of any contamination, measured intensities, rate of decay, decontamination procedures established, security and disposition of the nuclear material, and the extent of personnel exposure to radiation or radioactive material.

Include the status of required medical and security assistance, when appropriate.

Describe the disposition of items damaged, destroyed, or malfunctioning.

In the final report, summarize damages, injuries, and costs at the close of the investigation (see paragraph **3.4.** to determine mishap costs).

Item 7. Factual Information.

Refer to the paragraph from this chapter under which the report is being submitted.

Describe the type of operation being performed at the time of occurrence or discovery. Include the name of the technical order or procedure being used and the paragraph number, if applicable.

For nuclear reactor systems, describe the system operating parameters and circumstances leading to the event. Include the following information:

Operating mode (as defined in the technical specifications) at the time of the event.

Percent of permitted thermal power at which the reactor was operating when the event occurred.

Item 8. Summary of Circumstances. Use the following general guidance to summarize the sequence of events:

Present the summary chronologically, starting with the earliest related point and continuing until the time of occurrence.

Write the summary so it provides an explanation of the event without referring to the rest of the report or other documents. Record facts, conditions, and circumstances just as the investigators discovered them.

Tell how, but not necessarily why, the event occurred. Do not discuss the importance of facts or how these facts relate to conclusions drawn from the investigation.

Use technical order references to clarify ambiguities.

Define abbreviations.

Add the following information to the summary of circumstances:

When appropriate, describe weather conditions and the type of lighting. For all involved individuals, include their certification dates (if certification is required), descriptions of experience, and the dates they last performed similar operations. Describe workload schedules and furnish a list of supervisory personnel who were present.

Describe the operation being performed or any other related details experienced when the event occurred or was discovered.

Describe how and when the event was detected.

For nuclear reactor systems, identify the reactor protection system and operator actions taken to control the situation.

Describe the extent and nature of any fire or explosion.

Item 9. Other Reports or Notifications Submitted. Provide the type of report and the unit-assigned number of related reports submitted separately.

List the date-time group of any OPREP-3 messages.

Give all materiel deficiency report control numbers according to T.O. 00-35D-54.

Give reference numbers for AFTO Form 22 reports, as well as any other applicable reports.

If agencies outside the USAF were notified, briefly describe the reason for notification, who was notified, how they were notified, and date and time of notification.

Provide details if a news release was or will be made.

Item 10. Technical and Engineering Evaluations of Material by DoD Agencies. Summarize any technical and engineering evaluations of material by DoD agencies.

Item 11. SIB. List the SIB members or investigating officer by name (last name, first name, and middle initial), military or civilian grade, duty title and AFSC, organization, and SIB position. Include a full official mailing address for each voting member.

Item12. Diagrams. Provide a list of any diagrams supplied to other organizations, and give their status (e.g., date drawn, date mailed, and recipients).

Item 13. Photographs. Provide a list of any photographs sent to other organizations, and give their status (e.g., date photographed, date mailed, and recipients).

Item 14. Investigation, Analysis, Findings, Causes, and Recommendations. Draw on the rest of the report to form a complete picture of the event. Preliminary reports may give a best initial judgment of the causes. Final reports shall contain a thorough analysis of all evidence, and then provide the findings, causes, and recommendations. Record the opinions of the SIB members or investigating officer in this section, and ensure either acceptance or rejection of all evidence in the report, including fatigue or stress

factors. Identify and describe all causes according to paragraphs **5.10.** through 5.13. Except in the case of a formal minority report from the SIB, avoid any conflicting findings, causes, or recommendations. (Refer to **Chapter 5** for more details on this part of the report).

Analyze the occurrence for safety implications, and then include the following information (as applicable) in the analysis of effects and consequences:

For nuclear reactor systems, maximum and minimum operating conditions and parameters during temporary fluctuations, equipment malfunction, and operator error.

Damage to systems, components, and structures.

Personnel injuries and exposures.

Quantity and composition of radioactive materials released (existing background levels and release levels).

Consequences (actual or potential) on public health and safety.

Recommended Corrective Action. Discuss any proposed corrective action to prevent recurrence.

Failure Data. Determine if equipment failure started the event or if the equipment failed as a result of the accident, incident, or safety deficiency. Next, provide a record of the previous failures and malfunctions of the affected systems and components or similar equipment. Identify the equipment or components (e.g., component manufacturer and name plate data).

Item 15. Action Taken. List any actions taken to remedy the malfunction, damage, or error; to provide safety and security, and to prevent recurrence.

Item 16. Additional Information. Provide any pertinent information on materiel deficiency reports or service reports and other reports required by this instruction.

Item 17. Report Preparer. Give the name, grade, title or position, and telephone number of the person submitting the report.

Figure 12.2. Format for Nuclear Reactor System/Radiological Safety Deficiency Reports.

Item 1. Title. Use the title "MISSING PENNY Report."

Item 2. Report Number. Sequentially assign an event number (begin with 001 for each calendar year and for each reactor unit using the following format: reactor unit-year-sequential number). Example: MNRC-1998-001.

Item 3. Dates:

Item 3a. Report Date. Show the date in abbreviated form (e.g., 20 Jan 89).

Item 3b. Occurrence Date. Show the date in abbreviated form (e.g., 20 Jan 89).

Item 4. Location:

Item 4a. Base. Identify the installation where the MISSING PENNY occurred.

Item 4b. Facility. Give the name of the organization for radiological events or the name of the reactor facility, including unit number at multiple reactor unit sites for nuclear reactor system events.

Item 5. Operation. Describe the operations underway at the time of the safety deficiency. For nuclear reactor systems, give the operating mode (as defined in the technical specifications) at the time of the event.

Item 6. Power Level. For nuclear reactor system safety deficiencies, give the percent of permitted thermal power at which the reactor was operating when the event occurred. This item is not applicable to radiological safety deficiencies.

Item 7. Findings/Causes. Identify all the findings and causes of the MISSING PENNY using paragraphs **5.7.** and **5.8.** of this instruction.

Item 8. Abstract. Provide a brief description of major occurrences during the event. Include all actual component or system failures, all relevant operational errors or procedural violations, and any significant corrective action taken or planned as a result of the event.

Item 9. Release Levels. Give the recorded levels of release for radionuclides exceeding permissible limits.

Item 10. Historical Background and Normal Operating Levels. Provide historical background of radionuclides. These levels are determined by environmental radiological monitoring prior to operating the nuclear reactor. For nuclear reactor systems, provide normal operating levels of radiation in the vicinity of the event.

Item 11. Component Identification. Identify the component and manufacturer, if known, for those components contributing to the event.

Item 12. Text. Provide enough detail for readers familiar with handling radioactive materials or the design of nuclear reactors to understand what occurred (causes of the event, reactor status [when applicable] before the event and sequence of occurrences during the event). Explain how systems, components, and personnel performed, but do not address specific hardware problems in excessive detail (paragraphs **5.7.** through **5.8.**). Describe unique characteristics of the facility or operation influencing the event, either favorably or unfavorably. Describe the event from the perspective of those involved (e.g., in the case of a reactor operator: what the operator saw, did, and understood or misunderstood).

Figure 12.3. Format for Nuclear Reactor System and Radiological Mishap Formal Reports.

Item 1. Reactor, Device, or Material involved.

Item 1a. Reactor. If the event occurred at a reactor facility, identify the reactor by name, location, and unit (if a multiple reactor unit site). Maintain identification consistency with any previous FADED GIANT reports.

Item 1b. Device. If the mishap involved a nuclear power source or other device, identify by type, model, and serial number. Maintain identification consistency with any previous FADED GIANT reports.

Item 1c. Material. Identify the type and quantity of radioactive material involved.

Item 2. Type of Operation. Provide a brief description (one or two sentences) of the operation in process at the time of the event. For nuclear reactor systems, include the operating mode (as defined in the technical specifications) and the percent of permitted thermal power at which the reactor was operating.

Item 3. Nuclear Material Information:

Item 3a. Provide information on the type and extent of contamination, measured intensities, rate of decay, and established decontamination procedures. Discuss these factors individually in separate subparagraphs. When several radioactive species with different radiological significance are involved, list and describe each of the species separately.

Item 3b. Provide historical background and normal operating levels for each of the radioactive species addressed in item 3a.

Item 3c. Describe the disposition of contaminated material.

Item 4. Related Factors. Include the findings and causes discussed in paragraphs 3.12. through 3.15. Identify any component involved in the event.

Item 5. Comments. Use this paragraph to provide comments. Ensure the comments do not include those in Item 11 of the basic AF Form 711. Include immediate, intermediate, continuing, or long-range corrective action and the estimated completion date in Item 11 of the basic form.

Figure 12.4. Deleted.

Figure 12.5. Deleted.

Table 12.1. Addressees for Nuclear Reactor System and Radiological Mishap and Safety Deficiency Reports.

	A	B	C	D
	Organization (see note)	Office	Reports	Remarks
1	HQ USAF WASHINGTON DC	SE	FADED GIANT	OPREP-3 addressee
2	HQ AFSC KIRTLAND AFB NM	CC/SEW	FADED GIANT	
3	MAJCOM or command concerned	as required	and MISSING	
4	Numbered Air Force or intermediate command	as required	PENNY	

5	AFSFC LACKLAND AFB TX	SFO		OPREP-3 addressee; Security-related reports only
6	HQ AFMC WRIGHT-PATTERSON AFB OH	SEW/DRAW		Materiel failure, malfunction, damage and T.O. deficiency related reports only
7	System Program Director Air Logistics/ Product Center (see TO 00-25-115)	SE		
8	Item Manager Air Logistics Center OC-ALC TINKER AFB OK OO-ALC HILL AFB UT SA-ALC KELLY AFB TX SM-ALC MCCLELLAN AFB CA WR-ALC ROBINS AFB GA	as required SEW/LARM SEW/SES/SG SEW/LARW SEW/FMIC SEW/SEM		Materiel failure, malfunction, damage and T.O. deficiency related reports involving general-use support equipment
9	HQ AFMOA BOLLING AFB DC	SGO		Radiological related reports only. AFI 40-201 provides additional requirements

NOTE: Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

Table 12.2. Reporting Schedule for Nuclear Reactor System and Radiological Mishap Reporting.

	A	B	C	D	E

	Report	submit	by	to	Remarks
1	OPREP-3	as required by AFMAN 10-206	appropriate precedence message (see AFMAN 10-206)	addressees in **Table 12.1.** and as required by AFMAN 10-206	do not include privileged safety information
2	Preliminary (use format in **Figure 12.4.**)	within 8 hours	appropriate precedence message	addressees in **Table 12.1.**	include the term ìpreliminaryî in subject line
3	Supplemental (use format in **Figure 12.4.**)	Accident: daily or as directed by HQ AFSC/SEW Incident: every 10 days or when information changes significantly			include the term ìsupplementalî in subject line
4	Final (use format in **Figure 12.4.**)	within 30 calendar days			include the term ìfinalî in subject line; send requests for due date extension to investigating MAJCOM and info HQ AFSC/SEW
5	Formal	within 30 calendar days	AF Form 711-series		send requests for due date extension to investigating MAJCOM and info HQ AFSC/SEW

Table 12.3. Reporting Schedule for Nuclear Reactor System and Radiological Safety Deficiency Reports.

	A	B	C	D	E
	Report	submit	by	to	Remarks

1	MISSING PENNY (use free form format)	within 24 hours of discovery	routine precedence message	HQ AFSC/ SEW	Report Items **12.6.3.2.1.**, **12.6.3.2.2.**, **12.6.3.3.1.**, and **12.6.3.3.2.**
2		within 48 hours of discovery			Report Items **12.6.3.2.3.**, and **12.6.3.3.3.** through **12.6.3.3.10.**
3	MISSING PENNY (use format in **Figure 12.2.**)	within 45 days of discovery	letter	addressees in **Table 12.1.**	Report all Missing Penny events listed in paragraph **12.6.3.**

Table 12.4. Deleted.

Table 12.5. Deleted.

Table 12.6. Deleted.

CHAPTER 13

NUCLEAR WEAPON SYSTEM ACCIDENT, INCIDENT, AND DEFICIENCY REPORTING

13.1. General Information.

13.1.1. All nuclear weapon system accidents and incidents are categorized as nuclear mishaps and are reportable under this instruction. Nuclear safety deficiencies, which could result in a mishap, are also reportable under this instruction. Reports required by a MAJCOM neither supersede nor nullify this instruction's reporting requirements. This instruction does not supersede or nullify reporting requirements under other directives.

13.1.2. DoDD 3150.8, *DoD Response to Radiological Accidents*, requires immediate notification of appropriate officials of a nuclear accident or incident. CJCSM 3150.03, *Joint Reporting Structures, Event and Incident Reports*, CJCSI 6241.02*, United States Message Text Formatting Policy And Procedures,* DoD 3150.8-M, *Nuclear Weapon Accident Response Procedures*, DoDI 6055.7, *Accident Investigation, Reporting, and Record Keeping*, and AFMAN 10-206, *Reporting Instructions*, and this chapter implement this requirement.

13.1.3. The requirement for reporting nuclear weapon system safety deficiencies supports the objectives of AFI 91-101, *Air Force Nuclear Weapons Surety Program*. These objectives are to prevent nuclear mishaps, to minimize their effects if they should occur, and to reduce the occurrence of other nuclear safety deficiencies. Deficiency reports bring actual or potential problems to the immediate attention of agencies that can evaluate the situation and correct the problem.

13.1.4. This chapter establishes and implements the requirements for reporting and investigating nuclear weapon system accidents, incidents, and safety deficiencies for the purposes of mishap prevention.

13.1.5. Whether or not to report an event remains a matter of the commander's judgment. Prepare and submit OPREP-3 reports as prescribed by AFMAN 10-206 and CJCSI 6241.02. For nuclear weapon system mishaps and nuclear weapon system safety deficiencies send copies of the OPREP-3 reports to the addressees in **Table 13.1.**, as required by AFMAN 10-206. Do not include privileged safety information in OPREP-3 reports.

13.1.6. While the results of safety investigations play a direct role in the mishap prevention process; the indiscriminate use of statistical comparisons between units can jeopardize accurate reporting and are inappropriate due to the rare nature of nuclear mishaps. Do not make statistical comparisons of different commands or units using nuclear mishap reports as a source.

13.1.7. Because the criteria for the submission of nuclear weapon system safety deficiency reports are so broad, comparing nuclear safety statistics between commands and operating units may not provide accurate trend information for managerial analysis. Use nuclear weapon system safety deficiency reports only to identify potential problems and corrective measures. Do not publish statistical comparisons of different commands or units using nuclear weapon system safety deficiency reports as a source.

13.1.8. Use the appropriate flagword, e.g., DULL SWORD, BENT SPEAR, etc. when reporting nuclear weapon system mishaps and safety deficiencies.

13.1.9. If the event status changes after submitting an original report, submit another report using the new flagword. Upgrade the flagword only when time-critical responses are required. Do not downgrade the flagword of a nuclear weapon system mishap report without the concurrence of HQ AFSC/SEW because this would decrease the time-criticality of responses.

13.1.10. When a nuclear safety deficiency involves another mishap category (any class) described in this instruction, submit separate reports.

13.2. Nuclear Weapon System Report Types.

13.2.1. For the purposes of this chapter, a nuclear accident, incident, or safety deficiency involving a nuclear weapon system involves but is not limited to such items as nuclear safety certified software and hardware; codes and code materials; Prime Nuclear Airlift Force (PNAF) movements; and nuclear safety rules and procedures associated with the security, operations, maintenance, storage, and transportation of a nuclear weapon system. *A nuclear weapon system is defined to be a combat delivery vehicle with its nuclear weapon or weapons and associated support equipment, noncombat delivery vehicles, facilities, and services. A nuclear weapon is a complete assembly in its intended ultimate configuration which, upon completion of the prescribed arming, fusing, and firing sequence, is capable of producing the intended nuclear reaction and release of energy. A nuclear component is defined to be weapon components composed of fissionable or fusionable materials that contribute substantially to nuclear energy released during detonation. Nuclear components include radioactive boosting materials.*

13.2.2. Nuclear Weapon System Accident:

13.2.2.1. NUCFLASH is the reporting flagword used to identify a nuclear weapon system accident that could create the risk of war (see paragraph **13.3.1.** for criteria).

13.2.2.2. BROKEN ARROW is the reporting flagword used to identify a nuclear weapon system accident that could not create the risk of war (see paragraph **13.3.2.** for criteria).

13.2.2.3. EMPTY QUIVER is the reporting flagword used to identify loss, theft, seizure, or destruction of a nuclear weapon or nuclear component. Loss includes, but is not limited to, intentional nuclear weapon jettisoning according to approved Air Force procedures, or inadvertent release of a nuclear component.

13.2.3. Nuclear Weapon System Incident:

13.2.3.1. BENT SPEAR is the reporting flagword used to identify a nuclear weapon system incident which involves the criteria outlined in paragraph **13.3.3.**

13.2.4. Nuclear Weapon System Deficiency:

13.2.4.1. DULL SWORD is the reporting flagword used to identify a nuclear weapon system deficiency that does not fall in the nuclear weapon system accident or incident categories but meets one or more of the criteria outlined in paragraph **13.3.4.**

13.2.5. There are four types of reports which may be submitted. Use the following guidance to determine what type of report to submit:

13.2.5.1. PRELIMINARY: Submit a preliminary report when it is impossible to provide all information before the reporting deadline. Furnish the missing information as soon as possible in supplemental reports or in a final report. Preliminary reports remain open until appropriate corrective

action is taken or positively identified. *NOTE: If safety deficiencies require evaluation by another agency such as the nuclear weapon design agency or an Air Force item management agency, the report will remain open until that agency's evaluation and concurrence to close the report is received.*

13.2.5.2. SUPPLEMENTAL: Submit a supplemental report to furnish additional information concerning any previous report.

13.2.5.3. ONE-TIME: Submit a one-time report when all required information is available and corrective action has either been taken or positively identified prior to the reporting deadline (e.g., failed item repaired at unit level, failed item sent to depot for repair, repetitive occurrences of a known failure, etc.).

13.2.5.4. FINAL: Submit a final report when all required information becomes available after the initial reporting deadline and corrective action has been taken or positively identified.

13.3. Reporting Criteria.

13.3.1. NUCFLASH: Includes accidental, unauthorized, or unexplained events meeting any of the following criteria:

13.3.1.1. Accidental, unauthorized, or unexplained actual or possible nuclear detonation by US forces or US-supported allied forces.

13.3.1.2. Accidental or unauthorized launch of a nuclear-armed or nuclear-capable missile by US forces or US-supported allied forces.

13.3.1.3. Unauthorized flight or deviation from an approved flight plan by a nuclear-armed or nuclear-capable aircraft of US forces or US-supported allied forces that could be perceived as a hostile act.

13.3.2. BROKEN ARROW: A reporting flagword identifying a nuclear weapon system accident which could not create the risk of war. This includes accidental, unauthorized, or unexplained events and the following:

13.3.2.1. Accidental or unauthorized launching, firing, or use by U.S. forces or U.S. supported allied forces of a nuclear capable weapons system.

13.3.2.2. An accidental, unauthorized, or unexplained nuclear detonation.

13.3.2.3. Non-nuclear detonation (no nuclear yield) or burning of a nuclear weapon or nuclear component.

13.3.2.4. Radioactive contamination.

13.3.2.5. Public hazard, actual or perceived.

13.3.2.6. Jettisoning of a nuclear weapon or nuclear component.

13.3.3. EMPTY QUIVER: Includes loss, theft, seizure, or destruction of a nuclear weapon or nuclear component. Loss includes, but is not limited to, intentional nuclear weapon jettisoning according to approved Air Force procedures, or inadvertent release of a nuclear component.

13.3.4. BENT SPEAR: Includes mishaps not in the accident category but meeting any of the following criteria:

13.3.4.1. Radioactive contamination from burning, theft, seizure, or destruction of a radioactive limited life component.

13.3.4.2. Evident damage to a nuclear weapon or nuclear component that requires major rework, replacement, or examination or recertification by the DOE. (Report minor damage as a DULL SWORD, see paragraph **13.3.5.**)

13.3.4.3. Events requiring immediate action in the interest of nuclear surety (such as render safety procedures or failed positive measures) or which could result in adverse national or international public reaction or premature release of information (such as attempted theft or seizure of a nuclear weapon). *NOTE: Includes damage to a nuclear weapon carrier that could lead to loss of, or damage to, nuclear components.*

13.3.4.4. An event indicating a nuclear weapon or nuclear warhead has been armed.

13.3.4.5. Events which could lead to a nuclear weapon system accident and thus warrant the informational interest of, or action by, any of the following agencies:

13.3.4.5.1. Appropriate Military Department or Service.

13.3.4.5.2. Office of the Assistant to the Secretary of Defense (Nuclear and Chemical and Biological Defense Programs).

13.3.4.5.3. Office of the Assistant Secretary of Defense (Strategy and Threat Reduction).

13.3.4.5.4. Office of the Assistant Secretary of Defense (Public Affairs).

13.3.4.5.5. Federal Emergency Management Agency (within the CONUS).

13.3.5. DULL SWORD: Problems that do not meet any of the criteria in the following subparagraphs and are recognizable failure modes where specific diagnostic and corrective actions are outlined in current technical data are not reportable. Safety deficiencies not included in the accident or incident categories, but meeting any of the following criteria shall be reported:

13.3.5.1. General criteria: The following criteria apply to all nuclear weapon systems, nuclear weapons, and nuclear components.

13.3.5.1.1. Malfunction, failure, or anomaly that results in damage to the nuclear weapon system due to sources from electrical energy (e.g., lightning, over voltage, and power fluctuations). *NOTE: Report actual or suspected exposure of a nuclear weapon or nuclear component to sources of electrical or electromagnetic energy.*

13.3.5.1.2. Malfunction, failure, or anomaly involving any nuclear weapon, nuclear weapon system, or nuclear component where an inspection is initiated to determine if the problem exists with like pieces of equipment.

13.3.5.1.3. Malfunction, failure, or anomaly involving the command and control system which results in indications (suspected, false, or actual) of critical function (release, launch, or arming) activation.

13.3.5.1.4. Exposure of a nuclear weapon or nuclear component to any natural phenomenon over which man has no control (e.g., flood, earthquake, lightning, etc.) whereby there is a possibility of damage to the nuclear weapon. If there is any doubt as to the condition of the nuclear weapon, report the incident.

13.3.5.1.5. Malfunction, failure, or anomaly during operations or testing, which did, or could, result in a safety or coded device to arm or be left in an unsafe condition.

13.3.5.1.6. Malfunction, failure, or anomaly that results in suspected or unconfirmed radioactive contamination.

13.3.5.1.7. Violations involving nuclear weapon system safety rules (published in AFI 91-100 series) or nuclear weapon system technical order procedures (e.g., weapon maintenance, loading, delivery, etc.).

13.3.5.1.8. Units that are organized and trained to transport, store, maintain, provide security for, or employ nuclear weapon systems must report any safety deficiency on items listed individually in T.O. 00-110N-16, *USAF Nuclear-Certified Equipment and Software*, T.O. 21M-LGM30F-12-1, *Minuteman Nuclear Surety Procedures*, or T.O. 21-LG118A-12-1, *Peacekeeper Nuclear Surety Procedures*. All other units will report safety deficiencies involving these items when:

13.3.5.1.8.1. Directed by HQ AFSC/SEW.

13.3.5.1.8.2. Directed by the MAJCOM.

13.3.5.1.8.3. The unit considers the deficiency or situation could have an adverse effect on the nuclear safety, security, or reliability of the nuclear weapon system.

13.3.5.1.9. Nuclear weapon system technical order procedure inadequacies or other problems that the unit perceives could lead to a violation of nuclear weapon system safety rules. *NOTE: When appropriate, report procedural deficiencies according to T.O. 00-5-1, Air Force Technical Order System, using AFTO Form 22.*

13.3.5.1.10. Minor damage to a nuclear weapon or nuclear component resulting from errors committed during the assembly, testing, loading, or transporting of the nuclear weapon while in Air Force custody (includes electrical components, mechanically activated components, explosives, or radioactive materials). *NOTE: Materiel deficiencies/failures (e.g., dents, scratches, scuffs, chips, rips, tears, cuts, splits, etc.) which are not safety related will be reported as applicable with T.O.s 00-35D-54, USAF Materiel Deficiency Reporting and Investigating System, 36-1-42, Technical Manual – Policies Governing Warranty Procedures for Air Force Vehicles, or 11N-5-1, Unsatisfactory Reports.*

13.3.5.1.11. Problems involving individuals under the Personnel Reliability Program (PRP) will be reported as DULL SWORDS only when these individuals have been allowed access to a no-lone zone. Report all other instances involving PRP certified individuals in accordance with AFI 36-2104.

13.3.5.1.12. Abnormal status of any indicator on a nuclear weapon according to applicable technical publication guidance.

13.3.5.1.13. Loss, theft, seizure, or destruction of a training weapon. *NOTE: For defects or failures involving a training weapon (such as TYPE 3A/5A), request guidance from the item manager in a maintenance assistance request.*

13.3.5.1.14. Tamper control (Two-Person Concept) violations of a no-lone zone permitting the opportunity to tamper with, or damage a nuclear weapon, nuclear weapon system, or certified component.

13.3.5.1.15. Tampering (actual or suspected), break-in (actual or attempted), or any security system malfunction or failure occurring during air logistical movement operations or at a nuclear weapon operational, maintenance, or storage facility. *NOTE: Does not include false or nuisance alarms or security system failures which are properly reported and responded to.*

13.3.5.1.16. Tamper detection violations involving safety-wired and sealed switches, covers, handles, or levers and Tamper Detection Indicators (TDIs) allowing access (actual or suspected) to a certified component. *NOTE: Does not include instances where a known cause damaged a TDI, and Two-Person Concept control was maintained or at least one of two TDIs used in a single location to protect a certified component remained undamaged.*

13.3.5.1.17. Frequent occurrences of a deficiency normally not reportable but having the potential to cause a nuclear mishap or safety deficiency.

13.3.5.1.18. Any problem or situation involving a nuclear weapon or nuclear component which requires an emergency response to assess or enhance security/provide fire protection, or in the commander's judgment, affects nuclear surety.

13.3.5.1.19. Report the physical loss or damage of a code component for any National Security Agency (NSA) product listed in T.O. 00-110N-16, T.O. 21M-LGM30F-12-1, or T.O. 21-LG118A-12-1 to DIRNSA/V62, Ft George G. Meade MD 20755, according to AFI 33-212, *Reporting COMSEC Incidents.*

13.3.5.2. Ground-Launched Missile Systems:

13.3.5.2.1. Malfunction, failure, or anomaly involving certified equipment or software listed in T.O. 00-110N-16, T.O. 21M-LGM30F-12-1, or T.O. 21-LG118A-12-1 discovered during operations.

13.3.5.2.2. Loss or compromise (actual or suspected) of certified critical components listed in T.O. 21M-LGM30F-12-1, *Minuteman Nuclear Surety Procedures*, or T.O. 21-LG118A-12-1, *Peacekeeper Nuclear Surety Procedures*. The DULL SWORD should indicate whether loss or compromise has occurred and follow-on actions required to recertify compromised critical components or to conduct a code change for a compromised code. *NOTES: (1) Does not include momentary loss of Two-Person Concept control if the duration does not permit tampering with a certified critical component or removal of codes without detection. (2) HQ AFSC/SEW makes the final determination if appropriate action was taken, therefore if recertification procedures are not provided in appropriate technical orders, or doubt exists regarding what action to take, request guidance from HQ AFSC/SEW before submitting a DULL SWORD report.*

13.3.5.2.3. Applicable security or command and control problems involving the E-6B aircraft when configured to perform the Airborne Launch Control System mission (see paragraphs 2.3.4.2.1. and 13.3.4.2.2.).

13.3.5.3. Aircraft and Air-Launched Missile Systems:

13.3.5.3.1. Damage, malfunction, failure, or anomalies involving a nuclear certified aircraft's weapon suspension, release, or critical function monitoring system.

13.3.5.3.2. Malfunction, failure, or anomaly involving software or hardware listed in T.O. 00-110N-16 discovered during operations or testing. This includes use of non-certified hardware or software with nuclear weapon systems.

13.3.5.3.3. Unplanned, unexpected, or inadvertent release, launch, or jettison of a training weapon or non-nuclear store from any nuclear-capable station of a nuclear certified aircraft.

13.3.5.3.4. Problems involving the positioning or securing of nuclear weapon loads on non-combat delivery vehicles (cargo aircraft) during air logistical operations. Specifically, consider unsafe conditions resulting from violations of, or inadequacies with, loading procedures, and defects or failures in the nuclear cargo restraint system.

13.3.5.3.5. Damage, malfunction, failure, or anomaly involving the missile's arming and control or propulsion system when mated with a nuclear warhead.

13.3.5.4. Nuclear Certified Support Equipment: Damage, malfunction, failure, or anomaly involving non-combat delivery vehicles or support equipment listed in T.O. 00-110N-16 discovered during operations or inspections. This includes the use of non-certified support equipment, which would normally require nuclear safety certification, with nuclear weapon systems. Specific areas of concern include:

13.3.5.4.1. Stability, steering or brake system problems that affect the safe steering, stopping, towing, or holding in park of a tow or transport vehicle (cargo, loading, or lifting). *NOTE: (1) Does not include minor problems such as dents, flat tires, corrosion, or electrical accessory malfunctions and failures resulting from fair wear and tear.*

13.3.5.4.2. Defects or failures in vehicle structural members (including the pintle hooks and mounting structure, fifth wheels) that support the load or transmit the towing or braking force.

13.3.5.4.3. Inadequate restraint of loads attributed to trailer tiedown points or tiedown patterns.

13.3.5.4.4. Unsafe condition or improper operation of the hydraulic, mechanical, and structural components of lift vehicles (e.g., forklifts and K-loaders) resulting in unresponsive operation, uncontrolled raising or lowering, or improper cargo restraint.

13.3.5.4.5. Unsafe condition or improper operation of installed equipment lifting devices (e.g., overhead hoists, cranes, monorail hoist systems, and storage vaults) resulting in situations such as limit switch failure, over-speed operation, or uncontrolled raising or lowering operations.

13.3.5.5. Nuclear Certified Test Equipment: Damage, malfunction, failure, or anomaly involving test equipment listed in T.O. 00-110N-16, discovered when verifying proper operation of critical function circuits, or when directly interfaced with nuclear or operationally certified critical components.

13.4. Preparing and Submitting Nuclear Weapon System Reports.

13.4.1. Addressees. The addressees for ALL nuclear weapon system reports are listed in Table 2.1. MAJCOMs may supplement this list to include as addressees any internal organizations with a need-to-know and may use AIGs to add addressees within the command as recipients of selected safety message reports. Do not include addressees outside of MAJCOM AIG listings.

13.4.1.1. Send reports conveying significant safety information peculiar to the nuclear weapon system to other US Air Force MAJCOMs possessing like systems.

13.4.2. Reporting Schedules. Report a nuclear weapon system mishap according to **Table 13.2.** Report DULL SWORDS according to **Table 13.3.** *NOTE: DULL SWORDS that involve nuclear weapons in a non-operational status or require evaluation by the design agency must be submitted within 3 workdays (see note 3, **Table 13.3.**).*

13.4.2.1. All nuclear safety message reports are collectively licensed under RCS: HAF-SE(AR)9406. All nuclear safety mishap reports also require a formal AF Form 711-series report. These formal reports are licensed as "Safety Investigation Reports", RCS: HAF-SE(AR)9404. Both types must be filed during declared or war emergency conditions (emergency status code C-2).

13.4.2.2. During MINIMIZE, send only preliminary and supplemental reports on nuclear weapon system mishaps, and DULL SWORDS resulting in a significant degradation of nuclear surety, or having a serious operational impact (such as a possible code compromise), by electronic transmission.

13.4.2.3. Send all other reports by first-class mail within 7 working days until MINIMIZE is canceled. MAJCOMs may consolidate reports from their units and subsequently mail them to addressees outside their command within 15 working days.

13.4.3. Format. The format for nuclear weapon system mishap reports is shown in **Figure 13.1.** The format for DULL SWORDS is shown in **Figure 13.2.** Prepare formal reports for nuclear weapon system mishaps according to instructions in **Chapter 4** and **Chapter 5**, paragraph **13.4.3.10.**, and **Figure 13.3.**

13.4.3.1. Include items 1 through 4 in all nuclear weapon system mishap reports (**Figure 13.1.**) and items 1 through 2 (**Figure 13.2.**) in all DULL SWORD reports.

13.4.3.2. For supplemental and final reports, use the date of the preliminary report.

13.4.3.3. For supplemental reports, list other items as either "no change" or "not applicable" (as appropriate).

13.4.3.4. Number each supplemental report using the original report control number, and include report control numbers for all other related reports. The report control number is the single common identifier and consists of the reporting unit designation, flagword, two-digit calendar year of occurrence, and reporting unit's sequence number.

13.4.3.5. Flag changes when any information in a particular report is changed from the previous report. For example, change "the maintenance team" to "the (new) periodic (end) maintenance team" to indicate a word was added.

13.4.3.6. In the narrative add new information as subparagraphs to follow-on reports, rather than changing previous information.

13.4.3.7. Complete all items in the final report to make it a stand-alone document, repeating information included in earlier reports.

13.4.3.8. For the narrative, corrective action, status, and recommendation entries, provide enough information to show the rationale used to establish closing actions.

13.4.3.9. For nuclear weapon system mishaps or DULL SWORDS investigated by a SIB:

13.4.3.9.1. Include important findings of the investigation in the supplemental reports. Use the reports to keep addressees informed on the progress of the investigation and to advise them of unsafe conditions or materiel failures.

13.4.3.9.2. Send supplemental reports for nuclear weapon system mishaps or DULL SWORDS investigated by a SIB at least until on-site investigations are completed.

13.4.3.10. Special Markings for Formal Reports:

13.4.3.10.1. Mark each unclassified page in Part II with the following: *NOTE: Omit the "FOR OFFICIAL USE ONLY" marking on classified pages, but show the limited-use report markings and all markings prescribed by AFI 31-401.*

//

FOR OFFICIAL USE ONLY.

THIS REPORT CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS.

SEE AFI 91-204, Chapter 2 FOR RESTRICTIONS.

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13.4.3.10.2. Display both the above statement and the following statement on the front cover of the formal report:

COPYING OR RELEASING ANY PORTION OF THIS REPORT IS PROHIBITED WITHOUT THE EXPRESS WRITTEN PERMISSION OF HQ USAF/SE.

13.4.4. Closing Out Nuclear Weapon System Reports:

13.4.4.1. NUCFLASH, BROKEN ARROW, EMPTY QUIVER, and BENT SPEAR reports are closed upon approval of the formal report. *NOTE: BENT SPEAR reports that do not require a formal report are closed in the same manner as DULL SWORD reports. Since DULL SWORDS do not require a formal report, document all information relating to the event in the DULL SWORD report.*

13.4.4.2. While one-time DULL SWORD reports are closed upon submission of the report, preliminary reports remain open until a final report is submitted. However, if relevant information becomes available after the report is closed, use the format in **Figure 13.2.** to provide this information in a supplemental report.

13.4.4.3. When other agencies provide corrective action for DULL SWORDS, the originating organization will submit the final report to formally close the preliminary report.

13.4.4.4. For open reports where positive corrective action has been taken or defined, the MAJCOM or unit (through the MAJCOM) can administratively close these reports using a single message that identifies the reports to close and the associated corrective actions.

13.5. Release of Information.

13.5.1. Nuclear safety investigation reports are limited-use reports, which contain both privileged and non-privileged safety information. Although the general rules for controlling and handling limited-use privileged safety report information apply, special rules exist for sharing nuclear safety reports with agencies outside the Air Force.

13.5.2. HQ USAF/SE may approve the release of extracts of nuclear safety reports to certain agencies subject to the rules of paragraph **2.3.** These US governmental agencies have statutory jurisdiction, such as the Defense Threat Reduction Agency (DTRA), and operations offices or authorized contractors of the NNSA.

13.5.3. In the interest of mishap prevention, nuclear safety reports are provided to the Unified Commanders as deemed appropriate and necessary for the theater commanders to accomplish their roles in nuclear surety. The Unified Commanders will ensure the information is treated as privileged and not released or distributed outside their respective headquarters without first obtaining permission from HQ USAF/SE. The Air Force releases this information only to reach its nuclear surety goals.

13.5.4. A special case involves the Air Force's Airborne Launch Control System hosted on the Navy's E-6B aircraft. Nuclear safety reports involving the E-6B, configured to perform the ALCS or NC2 mission, will be provided to specific Navy organizations for the purpose of mishap prevention. These organizations will ensure the information is treated as privileged and not released outside the organizations without first obtaining permission from HQ USAF/SE.

13.6. Investigating Nuclear Weapon System Mishaps.

13.6.1. All nuclear weapon system mishaps will be investigated according to **Chapter 4.**

13.6.2. Investigating Officer Criteria: Select a maintenance officer, nuclear surety officer, or officer qualified in storage, maintenance, transportation, operating, or loading and mating of the nuclear weapon system involved.

13.6.3. Nuclear Weapon System Mishap SIB Primary Members:

13.6.3.1. SIB President.

13.6.3.2. Investigating Officer.

13.6.3.3. HQ AFSC Representative.

13.6.3.4. Officer qualified in the operation of the nuclear weapon carrier.

13.6.3.5. Aircraft or missile maintenance officer qualified in storage, maintenance, transportation, or loading and mating of the nuclear weapon system.

13.6.3.6. Nuclear Surety Officer.

13.6.4. Nuclear Weapon System Mishap SIB Additional Primary Members:

13.6.4.1. Department of Energy (DOE) Representative, if DOE-DoD agreements apply for the system involved.

13.6.4.2. Medical Officer for human factors and other medical aspects (if applicable).

13.6.4.3. Additional specialists, if required by the nature of the mishap.

13.6.5. Nuclear Weapon System Mishap SIB Non-Primary Members:

13.6.5.1. SIB Recorder. An officer or senior noncommissioned officer familiar with administrative procedures.

13.6.5.2. Representatives of the nuclear weapon system program management or item management organization, if these organizations participate.

13.6.5.3. Safety Advisor, if a trained safety officer is not already a member of the SIB.

13.6.5.4. Representatives from other federal agencies, as advisors or consultants, if appropriate.

Figure 13.1. Format for Nuclear Weapon System Mishap Reports.

From: Message originator.

To: List addressees from **Table 12.1.**

Security Classification. Use the proper security markings prescribed by AFI 31-401 for classified messages.

Subject and Control Number. Use the subject line to identify the report control number. The report control number is the single common identifier and consists of the reporting unit designation, mishap flagword, two-digit fiscal year of occurrence, and reporting unit's sequence number.

The reporting unit assigns sequence numbers consecutively from 1 October to 30 September of each fiscal year for each flagword category (such as 888WG BROKEN ARROW 93-1). If a mishap occurs on 30 September and the report is prepared in October of the following fiscal year, number it according to the fiscal year of occurrence. At the beginning of the report subject line, identify the report type (preliminary, supplemental, final, or one-time). Examples are PRELIMINARY 999WG BROKEN ARROW 90-1; SUPPLEMENTAL REPORT NO. 4, 999WG BENT SPEAR 92-2; or FINAL 999WG BENT SPEAR 91-3.

Special Markings. Insert the following statement:

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as well as the distance and compass direction from the nearest US military installation. During flight, give an approximate location.

Item 3. Material Involved:

Nuclear Weapon or Nuclear Component. For nuclear weapons, provide the standard nomenclature, modification number, and serial number for each weapon involved. If only a nuclear component is involved, provide the illustrated parts breakdown nomenclature, part number, and serial number for each item involved; the next major assembly to which each component is installed; and the nuclear weapon supported (e.g., CF1504 Cable Assembly, PN 123456-01, SN 1234, MC3681 Shape Component, B61).

Aircraft, Missiles, or Reentry Vehicles. Give the Mission-Design-Series (MDS) and serial number. For reentry vehicles, give the Mark (MK) number and the serial number. During aircraft or air vehicle flights give the mission identification number.

Ground Vehicles and Support Equipment (Including DOE-Provided Items), Test and Handling Equipment, and Other Nuclear Safety Certified Equipment Listed in TO 00-110N-16. Give the nomenclature, manufacturer, serial number, national stock number, part number, and TO page number (such as, 40-ton trailer; Ramrod Ironworks; SN 42-23245; NSN 7100-01-345-6789; PN 20-1234; TO 00-110N-16, 15 Feb 89, C4, IMC 16, page 1-103).

Nuclear Logistic Movements. Provide the mission identification number for missions involving security deficiencies or aircraft flight mishaps.

Critical Components. Use TO 21M-LGM30F-12-1 or TO 21-LG118A-12-1 to obtain the information contained in the COMPONENT and OTHER DESIGNATION columns on each critical component.

Item 4. MAJCOM/DRU/FOA, NAF, Center/Wing (Wing-equivalent Group), Group, Squadron, Unit, and Base Code. Identify the owning organization for the material listed in Item 3 at the time of the event or its discovery. If the reporting organization is not the owning organization, identify each organization (such as, ACC (Owning), 989EMS, 678WG Christy AFB MS; AMC (Reporting), 234WG/SE Wells AFB AL).

Item 5. Damage, Injury, and Cost Estimates. Describe all damage to US Air Force and non-US Air Force property and equipment, as well as any personnel injuries. Provide a detailed account and the best estimate available to allow a clear understanding of the extent of the mishap. Describe the disposition of items damaged, destroyed or malfunctioning, as applicable, for each report submitted. Summarize damage, injury, and cost in the final report. Paragraph **3.4.** covers determination of mishap costs.

Item 6. Narrative. Identify the problem and provide pertinent facts. Describe the operation being performed at the time of occurrence or discovery, or the circumstances leading to the mishap. Include enough information to provide a complete and clear understanding of the sequence of events and circumstances, degree of damage, etc. (See paragraph **5.9.**). If applicable, include information on personnel involved, equipment in use, weather conditions, type of activity the operation was supporting, and technical order references. Include ranks and AFSCs if required for clarity but do not identify personnel by name. State if the conclusions are probable or confirmed, and give enough information to form a clear picture of all probable or confirmed causes. Include in the supplemental and final reports any information not available when the preliminary report was prepared.

Item 7. Findings and Causes. Record the opinions of the SIB or investigating officer, but do not repeat the narrative. (Paragraphs **5.11.** and **5.12.** describe findings, cause determination, and cause methodology.)

Item 8. Actions Taken or Recommended. Describe any actions taken or recommended, and give the rationale for those actions. When appropriate, include corrective actions for personnel errors such as retraining or recertification. Do not include disciplinary actions.

Item 9. Other Reports or Notifications Submitted. Identify the type of report and the unit-assigned number of related reports submitted separately. List the date-time group of OPREP-3 messages. List any other message or written reports submitted on this event. If non-US Air Force agencies were notified, briefly give the reason for notification, who was notified, how they were notified, and date and time of notification.

Provide details if a news release was or will be made on the event.

Item 10. Photographs. Provide a list of organizations receiving photographs. Advise if photographs of nuclear weapons or nuclear components were taken and when they will be available for mailing. Specific guidance and forwarding instructions are provided in TO 11N-5-1, *Unsatisfactory Reports*. Photographs required for evaluation of Air Force designed components will be requested by the evaluation agency on an as needed basis. Do not refer to the unit on the photographs.

Item 11. Additional Information. Include any additional information providing insight into the event not required by another item.

Item 12. Point of Contact. Give the name, grade, title or position, and telephone number of a knowledgeable point of contact. Ensure the individual, who may also be the report preparer, has immediate access to local records used in preparing the report.

Item 13. Report Preparer and Approver. Give the name, grade, title or position, and telephone number of the person submitting the report, and the person who approved it for release.

Figure 13.2. Format for Nuclear Weapon System Safety Deficiency Reports.

From: Message originator.

To: List addressees from **Table 12.1.**

Security Classification. Use the proper security markings prescribed by AFI 31-401 for classified messages.

SUBJECT: REPORT TYPE, REPORTING UNIT DESIGNATION, FLAGWORD, TWO-DIGIT CALENDAR YEAR OF OCCURRENCE, AND REPORTING UNIT'S SEQUENCE NUMBER.

NOTE: The reporting unit assigns sequence numbers consecutively from 1 October to 30 September of each year for each flagword category. If the deficiency occurs on 30 September and the report is prepared in October of the following year, number it according to the year of occurrence. Report all voided and unused DULL SWORD numbers to HQ AFSC/SEW as soon as possible.

Examples:

PRELIMINARY 509 BW DULL SWORD 96-001

SUPPLEMENTAL REPORT NO. 1, 5 BW DULL SWORD 96-008

FINAL 5 BW DULL SWORD 96-008

ONE-TIME 509 BW DULL SWORD 96-010

Special Markings. Insert the following statement:

////////////

Item 1a. War Reserve Bomb, Warhead, or Component. For nuclear weapons, provide the standard nomenclature, modification number, and serial number for each weapon involved. If only a nuclear component is involved, provide the illustrated parts breakdown nomenclature, part number, and serial number of the item involved; the next major assembly to which the component is installed; and the nuclear weapon supported (such as, CF1504 Cable Assembly, PN 123456-01, SN 1234, MC3681 Shape Component, B61).

Item 1b. Training Items. Self-explanatory.

Item 1c. Support, Test, and Handling Equipment. For support, test, handling, and other nuclear safety certified equipment listed in TO 00-110N-16, give the national stock number, part number, serial number (if applicable), and manufacturer's name.

Item 1d. Carrier. For an aircraft or missile, give the MDS and serial number. During aircraft and missile flights, give the mission identification number; for ground vehicles, give the nomenclature and serial number; and for reentry vehicles, give the Mark (MK) number and serial number.

Item 2. Type of Operation. Check the box reflecting the operation in progress at the time of the mishap or its discovery. Provide a full description if ìotherî is checked.

Item 3. Damage. Describe the damage to the item and provide photographs, if possible.

Item 4. Nuclear Material Information:

Type and Extent of Contamination, Measured Intensities, Rate of Decay, and Decontamination Procedures Established. Separate this portion of the report into sections, and discuss each factor individually.

Disposition of Nuclear Material Involved. Indicate shipping destination or when it was disposed of (if unknown, so state), and give any other actions taken or planned.

Item 5. Aircraft, Missile, or System Information. Describe the aircraft, missile, or system (as appropriate) configuration at the time of the event or its discovery. For aircraft weapon systems, include the position of all weapon-related switches.

Item 6. Miscellaneous Information:

Provide details if a fire occurred.

Provide details if the nuclear weapon's high explosive detonated.

Include information on any component for which a materiel deficiency report was submitted according to

T.O. 00-35D-54 (include the report control number).

Give the technical order number, title, date, pages, and step numbers if technical order noncompliance occurred.

Item 7. Accident-Related Factors. Provide factors related to the accident, and include the findings and causes discussed in paragraphs 5.11 and 5.12.

Item 8. Comments. Use this paragraph for comments on the accident or incident, and ensure the comments are other than those included in Item 11 of the basic AF Form 711. Include immediate, intermediate, continuing, or long-range corrective actions and the "get well" date in Item 11 of the basic form. Give the status of individuals under the Personnel Reliability Program and the positions they occupy (critical or controlled).

Table 13.1. Addressees for Nuclear Weapon System Reports.

	A	B	C	D
	Organization	Office	Reports	Remarks
1	HQ USAF KIRTLAND AFB NM	SE SEW	NUCFLASH, BROKEN ARROW, EMPTY QUIVER, BENT SPEAR, and DULL SWORD	OPREP-3 addressee
2	HQ USAF WASHINGTON DC	SEI, ILMW XONO		
3	HQ AFMC WRIGHT-PATTERSON AFB OH	SEW DRRW		
4	NWPSC KIRTLAND AFB NM	WN/WNL/WNLT/WNE		
5	MAJCOM or command concerned	as required		
6	Numbered Air Force or intermediate command	as required		
7	USSTRATCOM OFFUTT AFB NE	J416		
8	AFSFC LACKLAND AFB TX	SFO		OPREP-3 addressee Security-related reports only
9	HQ AFMOA BOLLING AFB DC	SGO	NUCFLASH and BROKEN ARROW	OPREP 3 addressee
10	USSTRATCOM	J443	BENT SPEAR and DULL SWORD	

11	US NAVY CNO WASHINGTON DC CINCPACFLT PEARL HARBOR HI COMNAVAIRPAC SAN DIEGO CA COMPATWINGSPAC BARBERS POINT HI COMSTRATCOMM WING ONE TINKER AFB OK COMNAVSAFECEN NORFOLK VA NAVAIRWARCEN ACDIV PATUXENT RIVER MD NAVAIRWARCEN WPNDIV DET ALBUQUERQUE NM	(see note 2) I27102	BENT SPEAR and DULL SWORD	Security, command and control related reports involving the E-6B aircraft configured to perform the ALCS mission only
12	System Program Director Air Logistics/ Product Center ASC WRIGHT-PATTERSON AFB OH	as required (see note 3) YP/FBA/YC/YS		Materiel failure, malfunction, damage, and TO deficiency related reports only

13	Item Manager Air Logistics Center OC-ALC TINKER AFB OK OO-ALC HILL AFB UT WR-ALC ROBINS AFB GA	as required (see note 3) SEW/LARM/ LAMR/ LHRM/LALR SEW/LMES/LF-S SEW/SEM/ LEEV		Materiel failure malfunction damage and/ or T.O. deficiency related reports involving general-use support equipment (not FSG 11 or NOCM) only
14	OO-ALC HILL AFB UT	LMR/LMES/SEW		Ballistic missile component, system, reentry systems, reentry vehicles or booster related reports only
15	HQ AFIC KELLY AFB TX	SE	BENT SPEAR and DULL SWORD	COMSEC or crypto equipment related reports only
16	AFCSC KELLY AFB TX	MMIVC		
17	363 TRS SHEPPARD AFB TX	TTMTM-N		Materiel failure, malfunction, damage, and TO deficiency related reports only

18	344 TRS LACKLAND AFB TX	TTLS		Materiel failure, malfunction, damage, and TO deficiency related reports only
19	OO-ALC HEATH OH	LMG	DULL SWORD	Ballistic missile related reports involving guidance systems, computer faults, or chromate leaks only
20	AAC EGLIN AFB FL	WM		Materiel failure, malfunction, damage, or T.O. deficiency related reports involving munitions handling equipment or vehicles used to transport or lift nuclear weapons
21	896 MUNS NELLIS AFB NV	CC/LGWQ	DULL SWORD	Reports involving nuclear weapons or associated DOE test and handling equipment only

22	898 MUNS KIRTLAND AFB NM	CC/LGWQ		
23	DTRA KIRTLAND AFB NM	NSO		
24	HQ USAF WASHINGTON DC	SP		Security related reports involving air logistical movements only
25	MAJCOM owning security force	SP		
26	MAJCOM of host base	SP		
27	HQ AMC SCOTT AFB IL	SE/SP/XO TACC/DOO		
28	HQ AMC SCOTT AFB IL	SE/XO/LGA/LGT TACC/DOO		Materiel failure, malfunction, or damage involving aircraft and munitions handling equipment used in air logistical movements only
29	HQ AMC SCOTT AFB IL	DOA		Reports involving air logistical movements only

NOTES:

1. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

2. Use the following mailing addresses for US Navy reports:

Chief of Naval Operations 2000 Navy Pentagon Washington DC 20350-2000	Commander Strategic Communications Wing One 7641 Mercury Road Tinker AFB OK 73145-8701
Commander In Chief US Pacific Fleet 250 Makalapa Drive Pearl Harbor HI 96890-7000	Commander Naval Safety Center 375 A Street Norfolk VA 23511-4399
Commander Naval Air Force US Pacific Fleet NAS North Island PO Box 357051 San Diego CA 92135-7051	Commander Naval Air Warfare Center Aircraft Division MS 2/516 (3rd Floor) Patuxent River MD 20670-5304
Commander Patrol Wings US Pacific Fleet Naval Air Station Barbers Point HI 96862-4415	Officer In Charge NAVAIRWARCENWPNSDIV DET 2050 Second Street SE Kirtland AFB NM 87117-5000

3. Provide reports involving specific weapon systems or certified support equipment to the appropriate system program office or air logistics centers (e.g., for F-16 related reports, send to F-16 program office/ item manager).

Table 13.2. Reporting Schedule for Nuclear Weapon System MishapReports.

	A	B	C	D	E
	Report	submit	by	to	Remarks
1	OPREP-3 (use format in AFMAN 10-206)	As required by AFMAN 10-206	Appropriate precedence message	Addressees in **Table 12.1.** and as required by AFMAN 10-206	Do not include privileged safety information
2	Preliminary (use format in **Figure 12.1.**)	Within 8 hours	Appropriate precedence message	Addressees in **Table 12.1.**	Include the term "preliminary" in subject line

3	Supplemental (use format in **Figure 12.1.**)	Accident: daily or as directed by HQ AFSC/SEW Incident: every 10 days or when information changes significantly			Include the term "supplemental" in subject line
4	Final (use format in **Figure 12.1.**)	Within 30 calendar days			Include the term "final" in subject line; send requests for due date extension to investigating MAJCOM and info HQ AFSC/SEW
5	Formal	Within 30 calendar days	AF Form 711-series		Send requests for due date extension to investigating MAJCOM and info HQ AFSC/SEW

Table 13.3. Reporting Schedule for Nuclear Weapon System Safety Deficiency Reports.

	A	B	C	D	E
	Report	submit	by	to	Remarks
1	Preliminary or one-time (use format in **Figure 12.2.**)	Within 15 workdays (see notes 1 and 3)	Routine precedence message (notes 1 and 2)	Addressees in **Table 12.1.**	Include the term "preliminary" or "one-time" in subject line
2	Supplemental (use format in **Figure 12.2.**)	As required after preliminary report is submitted			Include the term "supplemental" in subject line

3	Final (use format in **Figure 12.2.**)	Within 90 calendar days if not submitted as a one-time report			Include the term "final" in subject line; send requests for due date extensions to using MAJCOM and info HQ AFSC/SEW

NOTES:

1. For a possible code compromise, send a preliminary message within 24 hours with an IMMEDIATE priority precedence.

2. See paragraph **12.7.1.** for MINIMIZE instructions. A DULL SWORD event may sometimes warrant a higher priority, but do not use priorities solely to meet time suspenses.

3. Submit DULL SWORD reports that involve weapons in non-operational status or require evaluation by the design agency within 3 workdays.

CHAPTER 14

MISCELLANEOUS AIR OPERATION MISHAPS

14.1. General Information.

14.1.1. Definition.

14.1.1.1. A mishap resulting in a fatality or injury to Air Force personnel where intent for flight exists but not involving a DoD aircraft.

14.1.1.2. These mishaps involve intent for flight in non-DoD aircraft (commercial, foreign, and civil aircraft) and Aero Club aircraft. It is a separate category and is not a ground or aircraft mishap. All reports under this category are non-privileged reports.

14.1.1.3. Aero Club aircraft may support the United States Air Force Survival, Recovery, and Reconstitution Plan, search and recovery operations, and other operational missions. When an Aero Club aircraft is participating in an Air Force operational mission it is considered a DoD aircraft and will be investigated under the provisions of **Chapter 7**.

14.2. Accountability.

14.2.1. Guidelines.

14.2.1.1. In all cases, the assigned command of the injured person or damaged Aero Club aircraft is the accountable command. If personnel from two or more MAJCOMs are injured, HQ AFSC will assign the mishap to only one command.

14.3. Mishap Classification.

14.3.1. Guidelines.

14.3.1.1. Miscellaneous Air Operation mishaps are classified according to **Chapter 3** criteria.

14.4. Investigation Responsibility.

14.4.1. Commercial, Foreign, and Civil Aircraft.

14.4.1.1. The chief of safety for the assigned unit of the injured Air Force personnel will determine the safety personnel who will investigate the mishap. Any Air Force investigation conducted under this chapter will *not* take precedence over or interfere with host nation or federal investigations of non-Air Force aircraft mishaps.

14.4.2. Other DoD Service, non-AF aircraft.

14.4.2.1. Other DoD Service mishaps involving Air Force personnel will be investigated and reported by that Service, with a copy of the mishap report coming to the Air Force.

14.4.2.2. Other non-DoD US government non-AF aircraft are investigated and reported according to this chapter.

14.4.3. Aero Club Aircraft.

14.4.3.1. The chief of safety of the installation possessing the Aero Club aircraft will assign a flight safety officer to investigateall Aero Club mishaps. For mishap prevention purposes, all Aero

Club aircraft are considered appropriated fund assets. Any Air Force investigation conducted under this chapter fulfills the Air Force mishap reporting requirements of AFI 34-217, and 91-202, but shall *not* take precedence over, or interfere with, civil aviation authorities or agencies investigating an Aero Club mishap. However, if, at the time of the mishap, the Aero Club aircraft was participating in an Air Force operational mission, the Air Force, and not the civil aviation authorities, will normally have primary responsibility over the investigation since it is considered a DoD aircraft.

14.4.4. Civil Air Patrol Aircraft.

14.4.4.1. Mishaps involving Civil Air Patrol USAF members or Air Force contractors flying Civil Air Patrol owned assets on approved Air Force missions will be handled per this AFI.

14.4.4.2. Mishaps involving Civil Air Patrol volunteers or CAP Corporation employee's will be handled by the NTSB/FAA.

14.5. Aero Club Mishap Investigation Procedure.

14.5.1. The Aero Club Manager. Notifies the installation safety office of any mishap as soon as possible. The safety office reports Aero Club mishaps according to AFI 91-204 and, if required by NTSB regulation, notifies the NTSB. The manager notifies HQ AFSVA/SVPAR according to AFMAN 34-232.

14.5.1.1. An Air Force flight safety officer (FSO) conducts an official investigation on each reportable Aero Club mishap according to AFI 91-204. The FSO works closely with applicable ground safety, NTSB, FAA, or host country investigators.

14.5.1.2. FSO will impound all applicable Aero Club member training and checkout records, other relevant Aero Club records, flight plans, etc, as well as the aircraft wreckage and aircraft components until the investigation is completed and the report is approved. The aircraft wreckage and documents gathered during the investigation must be preserved until release is obtained from AFLSA/JACT, pursuant to AFI 51-503, Chapter 10..

14.5.1.3. The mishap investigator must advise witnesses they have no guarantee of confidentiality because the report is not protected by claim of privilege.

14.5.1.4. FSO will request technical assistance from HQ AFSVA/SVPAR in accordance with AFI 34-217.

14.6. Reporting.

14.6.1. General Information.

14.6.1.1. All reports are FOUO.

14.6.1.2. Aero Club mishap reports are non-privileged.

14.6.1.3. FSOs prepare message reports using CMR format in **Figure 14.1.** and **Figure 14.2.** Example of a subject line will be SUBJECT: CLASS A, B, or C, Miscellaneous Air Operations, Foreign Aircraft, Collision with Ground, Preliminary, 19960903ZYCA001A.

14.6.1.4. All reports will be forwarded to HQ AFSC/SEF and HQ AFSVA/SVPAR.

14.7. Follow-up Actions.

14.7.1. Installation Commander.

14.7.1.1. The installation commander endorses all mishap reports and then sends them through channels to the MAJCOM commander.

14.7.1.2. The MAJCOM safety staff prepares an endorsement on mishap reports and obtains release from the command section. The MAJCOM safety staff then forwards the reports to HQ AFSC and HQ AFSVA/SVPAR.

14.7.1.3. HQ AFSC renders the final evaluation on all mishaps involving injury to personnel in accordance with this document. HQ AFSVA/SVPAR renders the final evaluation on all Aero Club non-injury related mishaps.

14.8. Using or Releasing Mishap Reports Without Authorization.

14.8.1. General Information.

14.8.1.1. You may not use reports as evidence to support a disciplinary action or to determine pecuniary liability. Aero Club mishap reports may be used to determine Air Force liability in adjudicating tort claims against the Air Force or in defending the United States in civil litigation.

14.8.1.2. The releasing authority for Aero Club AFI 91-204 mishap reports is the Air Force Chief of Safety (AF/SE).

14.8.1.3. Refer all requests for release to HQ AFSC/JA, 9700 Avenue G SE, Suite 237, Kirtland AFB NM 87117-5671.

14.8.1.4. Non-injury related reports are maintained at HQ AFSVA/SVPAR. Refer requests for release to HQ AFSVA, Directorate of Management Systems, Resource Management Division, 9504 IH 35 North, Suite 250, San Antonio TX 78233-6636.

Table 14.1. Mishap Reporting Schedule for Miscellaneous Air Operations.

	A	B	C
	Submit	Not later than	By
1	Preliminary report	Within 8 hours	Priority message. See **Figure 14.1.**
2	Status report	As required	Abbreviated CMR format. See **Figure 14.2.**
3	Final report	30 calendar days	Abbreviated CMR format. See **Figure 14.2.**
4	Formal Report	30 calendar days	If required by convening authority or AF/SE

NOTE

1. Not required unless requested by AF/SE or convening authority.

Table 14.2. Miscellaneous Air Operations Message Addressees.

	A	B	C
	Organization	**Office Symbol**	**For**
1	HQ USAF KIRTLAND AFB NM	SE	All mishaps
2	HQ USAF WASHINGTON DC	XO/SEI	
3	All MAJCOMs	SE/SV	
4	Intermediate Command (Injured personnel or damaged equipment)		
5	Home unit of personnel (if other than organization submitting report)		
6	HQ AFSVA RANDOLPH AFB TX	SVPAR	
7	HQ AFMOA BOLLING AFB DC	SGO	Class A and all physiological mishaps and events
8	SECDEF WASHINGTON DC	OSD(A&T/ES)/SH	Preliminary report for mishaps involving fatality, in-patient hospitalization of three or more persons, or property damage of $1,000,000 or more
9	SAF WASHINGTON DC	MIQ	Preliminary and final report for Class A and B mishaps
10	AFIP WASHINGTON DC	OAFME	Preliminary and final report for Class A and B mishaps involving injury or death.
11	HQ AFFSA ANDREWS AFB MD	XV	Mishaps involving air traffic control services
12	AFWA OFFUTT AFB NE	SE	Mishaps involving weather events or services
13	HQ USAF WASHINGTON DC	XOW	
14	HQ AFFSA ANDREWS AFB MD	XO	Mishaps involving instrument procedures of flight in actual or simulated IMC
15	AIG 9405		All Mishaps

Figure 14.1. Preliminary Message Format.

FROM: (Originator)

TO: (see **Table 14.2.**)

UNCLAS

SUBJECT: CLASS, MISCELLANEOUS AIR OPERATIONS, REPORT STATUS, AND MISHAP EVENT NUMBER

1. Date and time of mishap. Give date (YYYYMMDD) and local time (24 hour clock).

2. Base submitting report. Was mishap on base? (Y or N).

NOTE: If base code is unknown, use clear text of base name.

3. Duty Status.

4. Name of nearest base to mishap.

5. Location of mishap. If on a military base, give specific location, e.g., departure end of runway 23. If mishap occurred off base, use street and highway references, as well as distance and direction from nearest military base.

6. Give latitude and longitude of mishap in minutes and degrees to 2 decimal places (if available).

7. Object information.

7.1. Nomenclature of object.

7.2. Accountability.

7.2.1. *MAJCOM/DRU/FOA of equipment or of personnel.

7.2.2. NAF.

7.2.3. Center/Wing (Wing-equivalent Group).

7.2.4. Group.

7.2.5. Squadron.

7.2.6. Unit.

7.2.7. Base code.

7.3. Was mishap within 10 NM of base? (Y or N).

7.4. Was object destroyed? (Y or N) (If No, summarize damage assessment).

8. Personnel Information. Include known information about personnel fatalities and injuries. Do not include names due to next of kin notification considerations. Do not include SSANs on preliminary messages. Include information on crewmembers and bystanders.

8.1. Grade: Age: AFSC: (if applicable).

8.2. Injury Class and Type:

8.4. For crewmembers include qualifications.

9. Narrative of circumstances. Give brief description of mishap. Provide abbreviated, factual information. Do not include information implying cause or containing material gained through testimony from crewmembers or other witnesses. Describe extent of damage, e.g., “Building destroyed by fire or explosion,” “Missile destroyed,” etc. Include mission information, including mission type and mishap weather.

10. Initial estimates of collateral damage and injury costs. Describe damage to non-Air Force property and non-Air Force injuries. Include status of on-going rescue and recovery operations, hazard containment, and security. Provide information on the level of media interest.

11. Level of NTSB and/or FAA involvement.

12. Interim Safety Board President and cognizant official and telephone number (DSN and commercial).

Figure 14.2. Abbreviated CMR Format.

NOTE: BOLD ITALIC reflects minimum information that must be included in this abbreviated message format.

NOTE: Use the Look-Up Table at **Attachment 5** for items followed by an asterisk (*).

FROM: (ORIGINATOR)

TO: (See **Table 14.2.**)

UNCLAS

FOR OFFICIAL USE ONLY

SUBJECT: CLASS, MISCELLANEOUS AIR OPERATIONS, REPORT STATUS, and MISHAP EVENT NUMBER.

1. ***Location of mishap***:

1.1. ***Location***: (Identify the specific location where mishap occurred, e.g., east end of hangar; hospital lobby; off-base private residence, etc. Include base name)

1.2. ***Duty Status***: on duty or off duty.

1.3. ***State and country of mishap***.

1.4. ***Date of mishap.***

1.5. ***Local Time***.

2. ***Accountability***:

2.1. ***MAJCOM/DRU/FOA***. *

2.2. ***Numbered Air Force***.

2.3. ***Center/Wing (Wing-***equivalent Group).

2.4. ***Group***.

2.5. ***Squadron***

2.6. ***Unit***.

2.7. ***Base code***.

3. ***Environmental factors***:

3.1. ***Weather was a factor*** (Y or N).

3.2. ***Day or night***.

4. ***Damage and injury cost estimates***:

4.1. ***Mishap cost NONAF***: Estimate of damage to non-Air Force property, including other DoD and non-DoD property.

4.2. ***AF cost damage***: Cost of damage to AF property, including labor and material.

4.3. ***Cost total injury***: Cost of injuries to AF personnel, including military and civilian.

4.4. ***Total mishap cost*** (sum of costs in items 4.1 through 4.3).

5. ***Personnel involved***: Give the following data on each person involved. If more than one person is involved, provide information in subparagraphs entitled "Person 1," "Person 2," etc. Repeat entry 5.1 through 5.1.17 for each person involved in the mishap. Number as 5.X through 5.X.17.

5.1. ***Last name of mishap individuals***.

5.1.1. ***SSAN***. (**Mandatory** for all Air Force personnel involved).

5.1.2. ***Gender***.

5.1.3. ***Age.***

5.1.4. ***Grade****.

5.1.5. ***Duty AFSC or job series***.

5.1.6. *Time on Duty.*

5.1.7. ***Activity at time of mishap***.*

5.1.8. ***Role in event***.*

5.1.9. ***Organization assigned***. If the organization is same as paragraph 2, state "same as paragraph 2."

5.1.9.1. ***MAJCOM/DRU/FOA***.*

5.1.9.2. ***Numbered Air Force.***

5.1.9.3. ***Center/Wing (Wing-equivalent Group)***

5.1.9.4. ***Group.***

5.1.9.5. ***Squadron.***

5.1.9.6. ***Unit.***

5.1.9.7. ***Base***

5.1.10. ***Component***.*

5.1.11. ***TOX testing*** (positive, negative, pending, not suspected, or not accomplished). Since TOX test results are a special command interest item, if positive or not accomplished, explain in narrative. TOX testing information must be identified in all mishaps.

5.1.11.1. ***Substance type***.*

5.1.11.2. ***Substance level***.

5.1.12. ***Injury class***.*

5.1.12.1. ***Days Hospitalized***.

5.1.12.2. ***Days on Quarters***.

5.1.13. ***Part of body injured***. *

5.1.14. ***Type injury***.*

5.1.15. ***Was individual training a factor in the mishap*** (Y or N)? Types of training include traffic safety, job task, life support, etc. If training was a factor, explain in short narrative or findings.

5.1.16. ***Safety equipment***.* Select available safety equipment (maximum of three) from **Attachment 5**, and state if it was used (Y or N) and if it worked (Y or N). Use following format: seat belts/yes/yes; parachute/yes/no/; helmet/no/(blank).

6. ***Property data***. *(Complete Para 6 if Property or object is involved)*.

Give following data on each piece of property involved. If more than one piece of property is involved, provide information in subparagraphs entitled "Object 1," "Object 2," etc.

6.1. ***Property identification (if property involved)***. Repeat all of entry 6.1 for each item if more than one of the same type is involved. Number as 6.X.1 through 6.X.6. (e.g. truck and bicycle).

6.1.1. ***Organization assigned***. If the organization is same as paragraph 2, state "same as paragraph 2."

6.1.1.1. MAJCOM/DRU/FOA.*

6.1.1.2. NAF.

6.1.1.3. Center/Wing (Wing-equivalent Group).

6.1.1.4. Group.

6.1.1.5. Squadron.

6.1.1.6. Unit.

6.1.1.7. Base.

6.1.2. ***Description***.

6.1.3. ***Vehicle or equipment serial (ID) number***.

6.1.4. ***Object or vehicle activity at time of mishap***.*

6.1.6. ***Cost to repair or replace***.

7. ***Narrative***. If the who, what, when, where and why are not adequately addressed in other portions of the report, give a short, concise, chronological description of the facts and circumstances leading to the mishap. List traffic safety courses by type and date of completion.

8. ***Findings and causes***.

9. ***Preventive action recommended or taken.*** Repeat entries 9.1 through 9.X as necessary.

10. ***Level of NTSB and/or FAA involvement.*** Status of their investigation and reporting if applicable.

11. ***Cognizant official or investigator***, unit, office symbol, and telephone number (DSN and commercial).

CHAPTER 15

UNMANNED AERIAL VEHICLE MISHAPS

15.1. UAV Mishap Categories.

15.1.1. UAV Mishaps.

15.1.1.1. Those mishaps that do not involve aircraft and result in damage to an Air Force Unmanned Aerial Vehicle (UAV) and Aerostats as defined in this Instruction. If a UAV is destroyed and destruction was not a desired objective of the planned mission, it is considered a UAV mishap. If destruction was a desired objective of the planned mission, it is a mishap only if destruction occurs outside authorized range airspace and/or if collateral damage results. UAV mishaps are further sub-categorized as Tactical UAV, Full Scale Aerial Target RPV (FSAT RPV), Sub-scale RPV, and Buoyant UAV, based upon the type of vehicle involved. If more than one UAV is involved, use the sub-category that appears first in the list above, with a cross-reference to the other sub-category. *Example: Class A Tactical UAV mishap, Full Scale RPV-Involved.* Use other appropriate cross-category references per **Chapter 3**. Mishaps involving UAV turbine engines in which the damage is confined to the engine are reported with an Engine-Confined sub-category per paragraph **7.1.5.**

15.2. Definitions.

15.2.1. Air Force UAV.

15.2.1.1. UAVs are defined as all unmanned weight-carrying devices supported in flight by dynamic action or buoyancy that are owned or leased by the Air Force. An aerostat is considered an UAV. (See **Attachment 1** for a detailed definition which includes ownership provisions.)

15.2.2. Operational UAV.

15.2.2.1. A UAV is considered Operational from the time any internal system is activated for the purposes of achieving flight until the UAV has been recovered and the last internal system is de-activated. (The intent of this definition is to remove mishaps involving damage from handling, maintenance, transportation, etc. from the UAV category.)

15.2.3. Tactical UAV.

15.2.3.1. A UAV that uses aerodynamic forces to provide lift, can fly autonomously or be piloted remotely, and is intended to be recovered. Tactical UAVs takeoff and land on runways or similarly prepared landing strips, and can provide their controllers a real time/near real time view from the vehicle. A Tactical UAV is normally used for reconnaissance. An example of a Tactical UAV is the RQ-1 Predator.

15.2.4. Full Scale Aerial Target Remotely Piloted Vehicle (FSAT RPV).

15.2.4.1. A UAV that is or was formerly capable of carrying a person. It is usually an aircraft that has been modified to a remotely piloted configuration and is being operated unmanned. Normally used as a target, decoy, sensor platform or test bed. An example of an FSAT RPV is the QF-4. When an FSAT RPV is carrying a person, it is considered an Aircraft under this Instruction.

15.2.5. Sub-scale RPV.

15.2.5.1. Any UAV that carries a Missile MDS designator. A Sub-scale RPV is normally used as an aerial target, decoy, or ECM platform. Examples of Sub-scale RPVs are the BQM-34 Firebee and MQM-107 Streaker.

15.2.6. Buoyant UAV.

15.2.6.1. Any UAV supported in flight by buoyancy, including tethered Aerostats and other unmanned balloons.

15.2.7. Expended RPV.

15.2.7.1. An FSAT RPV or Sub-scale RPV is considered expended when destruction is a planned mission objective and Intent for Flight has been achieved per the definition in paragraph **7.1.1.2.**

15.2.8. Expended RPV Mishap.

15.2.8.1. Destruction of an Expended RPV, when destruction occurs outside authorized range airspace, and/or collateral damage results, is an Expended RPV Mishap. Destruction of an Expended RPV inside authorized range airspace without collateral damage is not a mishap and does not require reporting under this Instruction.

15.2.9. Critical Profile.

15.2.9.1. An FSAT RPV or Sub-scale RPV mission may be declared a Critical Profile mission when planned mission requirements result in a high mishap risk. See paragraph **15.5.** for details.

15.3. Classifying UAV Mishaps.

15.3.1. Guidelines.

15.3.1.1. Classify UAV mishaps according to the severity of the resulting damage. See paragraph **3.2.** for general classification guidance. Mishap classification is based upon cost of damage to Air Force and non-Air Force equipment and property. See paragraph **3.4.** for guidance to determine the mishap damage cost. For Expended RPV mishaps, calculate collateral damage, but do not include the RPV cost in the damage cost.

15.4. Investigating and Reporting UAV Mishaps.

15.4.1. Guidelines.

15.4.1.1. Although all UAV mishaps must be reported in the UAV category, the procedures for conducting the investigation are detailed in chapters for other categories of mishaps.

15.4.2. Tactical UAVs.

15.4.2.1. The MAJCOM Commander is the convening authority for all Tactical UAV mishaps. Investigate Tactical UAV mishaps using the procedures and report formats for Aircraft mishap investigations in **Chapter 7**. The reporting category is Tactical UAV. The MAJCOM convening authority may waive **Chapter 7** provisions if needed due to unique RPV considerations (Send copy of completed waiver message to HQ AFSC/SEF). The following exceptions to the SIB composition and qualifications in **Chapter 7** apply:

15.4.2.2. Core Required Primary SIB Members:

15.4.2.2.1. Board President. A lieutenant colonel or higher-ranking officer meeting the requirements of **Chapter 4**.

15.4.2.2.2. IO. Qualified per **Chapter 7**.

15.4.2.2.3. Tactical UAV Operator. Select a fully qualified UAV operator for the involved UAV.

15.4.2.2.4. Maintenance Member. A fully qualified maintenance officer or senior NCO with at least two years maintenance experience on the mishap UAV type, if such experience level is available.

15.4.2.3. Additional Required Primary SIB Member.

15.4.2.3.1. Sensor Operator. Select a fully qualified sensor operator for the involved UAV if sensor operations are involved.

15.4.3. Full Scale Aerial Target RPV.

15.4.3.1. Investigate and report all manned FSAT RPV mishaps using the procedures and report formats for Aircraft mishaps in **Chapter 7**. The reporting category is FSAT RPV UAV. The MAJCOM convening authority may waive **Chapter 7** provisions if needed due to unique RPV considerations (send copy of completed waiver message to HQ AFSC/SEF). When the circumstances of a mishap or an event are applicable to a manned flight in the same aircraft and would have endangered a pilot if the RPV had been manned, consider that aspect in determining the scope of the investigation. It is the unit commander's responsibility to monitor all FSAT RPV operations for relevance to manned flight, and recommend investigations when appropriate. If "Intent for Flight" exists under the definition in **paragraph 7.1.1.2.,** mishaps must be investigated. Class C reporting may be used at the discretion of the MAJCOM convening authority. See **paragraph 15.5.** for Critical Profile mission exceptions. When an SIB is formed for an FSAT RPV mishap, the following exceptions to the SIB composition and qualifications in **Chapter 7** apply:

15.4.3.1.1. Tailored SIB Members:

15.4.3.1.2. Board President. A lieutenant colonel or higher-ranking officer meeting the requirements of **Chapter 4**.

15.4.3.1.3. Investigating Officer. Qualified per **Chapter 7**.

15.4.3.1.4. FSAT RPV Operator. Select a fully qualified RPV operator for the involved RPV.

15.4.3.1.5. Maintenance Member. A fully qualified maintenance officer or senior NCO with at least two years maintenance experience on the mishap RPV type, if such experience level is available.

15.4.3.2. Conditional Required Primary SIB Member:

15.4.3.2.1. Pilot Member. A pilot currently qualified to fly the mishap RPV in manned configuration, if the circumstances of the mishap are applicable to a manned flight in the same aircraft and would have endangered a pilot if the RPV had been manned.

15.4.4. Sub-scale RPV.

15.4.4.1. The MAJCOM Commander is the convening authority for all Sub-scale RPV Class A mishaps. Commands may delegate convening authority for other mishaps. Investigate and report

Sub-scale RPV mishaps using the procedures and report formats for Missile mishap investigations in **Chapter 8**. The reporting category is Sub-scale RPV UAV. Contact AFSC/SEW if waivers to **Chapter 8** provisions are needed due to unique RPV considerations. See paragraph**15.5.** for Critical Profile mission exceptions. When a SIB is formed for a Sub-scale RPV mishap, the SIB composition exceptions in paragraph**15.4.2.** apply.

15.4.5. Buoyant UAV.

15.4.5.1. Investigate and report Buoyant UAV mishaps using the procedures and report formats for Aircraft mishap investigations in **Chapter 7**. The reporting category is Buoyant UAV.

15.5. Critical Profile RPV Missions.

15.5.1. Critical Profile Notification and Approval.

15.5.1.1. When informed of a proposed Critical Profile mission, the using command re-evaluates the mission to determine if risks/benefits warrant mission execution. If so, owning MAJCOM concurrence and HQ AFSC notification are also required prior to flight. Notify AFSC/SEW for Sub-scale RPV and AFSC/SEF for FSAT RPV Critical Profiles. To expedite this process, RPV units provide written notification of the Critical Profile request, a short risk assessment, and notification of intent to fly (if appropriate) NLT one week prior to mission execution. Acceptance from the owning and using MAJCOMs and lack of objection from AFSC constitutes execution authority. Within one week, verbal concurrence is required prior to flight, followed by written documentation of concurrence. Using and owning MAJCOMs establish approval authorities based on the risks associated with various critical profiles.

15.5.2. Critical Profile Mission Criteria.

15.5.2.1. Designate RPV missions as Critical Profile missions when the following criteria are met in mission plans. MAJCOMs and units may expand these criteria or use more restrictive criteria for designating Critical Profiles.

15.5.2.2. Any required track meeting the user's need that places the RPV within 10 seconds (for Sub-scale) or 60 seconds (for FSAT) of the predefined range boundary. Base time on a turn to 90 degrees convergence at the anticipated air speed.

15.5.2.3. Any required altitude meeting the user's need that places the RPV at or below the minimum altitude at which the system was designed to operated reliably.

15.5.2.4. Any presentation placing the RPV at or beyond line-of-sight control or tracking capabilities.

15.5.2.5. Any presentation requiring the RPV to maneuver at the limits of its aerodynamic capabilities or in excess of known subsystem limitations.

15.5.2.6. Any required presentation which saturates control system capabilities, including the RPV controller.

15.5.2.7. For FSAT RPV missions, when economics do not justify man-rating an FSAT for an operational check flight prior to unmanned flight; but an Expended RPV mission is nevertheless desired.

15.6. Forms prescribed.

15.6.1. AFI 91-204 Forms.

15.6.1.1. AF 711, *USAF Mishap Report*. AF 711B, *Aircraft Flight Mishap Report*. AF 711C, *Aircraft Maintenance and Material Report*. AF 711F, *Nuclear Accident/Incident Report*. AF 711GA, *Life Sciences Report of an Individual Involved in an AF Flight/Flight Related Mishap*. AF 711GBPA, *Life Sciences Report of an Individual Involved in an AF Accident/Incident, Section B-Missile/Explosives/Nuclear*. AF 711GC, *Life Sciences Report of a Class C Physiological Mishap*. AF 711H, *USAF Mishap Report Checklist and Index*. AF 711I, *USAF Mishap Report Index Tab, Part One – Facts*. AF 711J, *USAF Mishap Report Index Tab, Part Two – Board of Investigator Analysis*. AF Form 739, *Occupational Injuries and Illness Log for Civilian Personnel*.

FRANCIS C. GIDEON, JR., Major General, USAF
Chief of Safety

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFPD 35-1, *Public Affairs Management*

AFPD 36-27*, Social Actions*

AFPD 91-2*, Safety Programs*

AFI 10-601*, Mission Needs and Operational Requirements Guidance and Procedures*

AFI 11-202, Volume 3*, General Flight Rules*

AFI 11-215*, Flight Manuals Program*

AFI 11-401*, Flight Management*

AFI 13-202*, Overdue Aircraft*

AFI 16-402*, Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*

AFI 21-103*, Equipment Inventory, Status and Utilization Reporting*

AFI 23-101*, Centrally Managed Equipment*

AFI 31-401*, Information Security Program Management*

AFI 32-2001*, The Fire Protection Operations and Fire Prevention Program*

AFI 32-4001*, Disaster Preparedness Planning and Operations*

AFI 33-212*, Reporting COMSEC Incidents*

AFI 34-217*, Air Force Aero Club Program*

AFI 34-501*, Mortuary Affairs Program*

AFI 34-1101*, Assistance to Families of Persons Involved in Air Force Aviation Mishaps*

AFI 36-2104*, Nuclear Weapons Personnel Reliability Program*

AFI 36-3002*Casualty Services*

AFI 37-131*, Air Force Freedom of Information Act Program*

AFI 37-138*, Records Disposition-Procedures and Responsibilities*

AFI 40-201*, Managing Radioactive Materials in the Air Force*

AFI 44-120*, Drug Abuse Testing Program*

AFI 48-125*, USAF Personnel Dosimetry Program*

AFI 51-503*, Aircraft, Missile, Nuclear, and Space Accident Investigations*

AFI 65-503*, US Air Force Cost and Planning Factors*

AFI 65-601, Volume 1, *Air Force Budget Policies and Procedures*

AFI 65-601, Volume 2, *Budget Management for Operations*

AFI 91-101, *Air Force Nuclear Weapons Surety Program*

AFI 91-109*, Air Force Nuclear Reactor Program*

AFI 91-110*, Nuclear Safety Review and Launch Approval for Space or Missile Use of Radioactive Material and Nuclear Systems*

AFI 91-202*, The Air Force Mishap Prevention Program*

AFI 91-301*, The Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOOT) Program*

AFJI 91-206*, Participation in a Military or Civil Aircraft Accident Safety Investigation*

AFMAN 10-206*, Operational Reporting*

AFMAN 32-4004*, Emergency Response Operations*

AFMAN 34-232*, Air Force Aero Club Operations*

AFMAN 36-503*, Skill Coding*

AFMAN 37-139*, Records Disposition-Schedule*

AFPAM 91-211, *Air Force Guide to Mishap Investigation*

AFPAM 91-212*, Bird Aircraft Strike Hazard (BASH) Management Techniques*

AFDIR 37-135*, Air Force Address Directory*

DoDD 5100.52, *DoD Response to an Accident or Significant Incident Involving Radioactive Material*, *21 December 1989*

DoDI 6055.7*, Mishap Investigating, Reporting, and Recordkeeping*, *10 April 1989*

JCS Publication 1-03.6*, Joint Reporting Structure, Event/Incidents Report, November 1980*

JCS Publication 6-04.22*, USMTF Message Preparation Instructions, October 1992*

NATO Air Standard 85/2A, *Investigation of Aircraft/Missile Accidents/Incidents*

NATO STANAG 3101*, North Atlantic Treaty Organization Exchange of Accident/Incident Information Concerning Aircraft and Missiles*, *22 September 1989*

NATO STANAG 3102*, Flight Safety Cooperation*, *5 June 1990*

NATO STANAG 3531, *Safety Investigation and Reporting of Accident/Incidents Involving Military Aircraft and/or Missiles*, *4 October 1991*

Abbreviations and Acronyms

AB—Afterburner

AETC—Air Education and Training Command

AF—Air Force

AF/SE—Air Force Chief of Safety

AF/SEI—Issues Division, Office of the Chief of Safety

AFFN—Air Force Foreign Nationals

AFI—Air Force Instruction

AFIP—Armed Forces Institute of Pathology

AFJI—Air Force Joint Instruction

AFL—Air Force at Large

AFLSA—Air Force Legal Services Agency

AFMAN—Air Force Manual

AFMC—Air Force Materiel Command

AFMOA—Air Force Medical Operations Agency

AFOSI—Air Force Office of Special Investigations

AFOTEC—Air Force Operational Test and Evaluation Center

AFPAM—Air Force Pamphlet

AFPD—Air Force Policy Directive

AFPEO—Air Force Program Executive Offices

AFRC—Air Force Reserve Command

AFSC—Air Force Safety Center

AFSC—Air Force Specialty Code

AFSC/JA—Assistant for Legal Matters

AFSC/SEF—Aircraft Safety

AFSC/SEG—Ground Safety

AFSC/SEP—Safety Policy, Plans and Programs

AFSC/SEW—Weapons, Space and Nuclear Safety

AFSPC—Air Force Space Command

AFTO—Air Force Technical Order

AGL—Above Ground Level

AIB—Accident Investigation Board

AIG—Address Indicating Group

ALC—Air Logistics Center

ALMAG—Air Launched Missile Analysis Group

ANG—Air National Guard

ANGUS—Air National Guard Of The United States

ARC—Air Reserve Component

ASAP—Aerospace Safety Automation Program

ASC—Aeronautical System Center

ATC—Air Traffic Control

BAC—Blood Alcohol Count

BASH—Bird/Wildlife-Aircraft Strike Hazard

C—Celsius

CAD—Cartridge Actuated Device

CAP—Civil Air Patrol

CAR—Category-Agent-Reason Methodology

CE—Civil Engineering

CINC—Commander In Chief

CIV—Civilian

CMR—Consolidated Mishap Report

COMBS—Contractor Operated And Maintained Base Supply System

CONUS—Continental United States

COP—Continuation Of Pay

CPI—Crash Position Indicator

CUT—Coordinated Universal Time

CVR—Cockpit Voice Recorder

DAACO—Drug and Alcohol Abuse Control Officer

DAF—Department of the Air Force

DAFC—Department of the Air Force Civilian

DB—Data Base

DCMC—Defense Contract Management Command

DD FORM—Department of Defense Form

DET—Detachment

DLA—Defense Logistics Agency

DME—Distance Measuring Equipment

DO—Director of Operations

DoD—Department of Defense

DoDD—Department of Defense Directive

DoDI—Department of Defense Instruction

DOE—Department of Energy

DOT—Department of Transportation

DP—Director of Personnel

DR—Deficiency Reports

DRU—Direct Reporting Unit

DSN—Defense Switched Network

DSWA—Defense Special Weapons Agency

DT&E—Development, Test and Evaluation

ECM—Electronic Counter Measures

EEC—Electronic Engine Control

EOD—Explosive Ordnance Disposal

EPAF—European Participating Air Forces

EST—Eastern Standard Time

FAA—Federal Aviation Administration

FAX—Facsimile Machine

FBI—Federal Bureau of Investigation

FCF—Functional Check Flight

FDR—Flight Data Recorders

FEB—Flying Evaluation Board

FECA—Federal Employees Compensation Act

FL—Flight Level

FLT—Flight

FM—Finance

FOA—Field Operating Agency

FOD—Foreign Object Damage

FOIA—Freedom of Information Act

FOT&E—Follow-On Test And Evaluation

FOUO—For Official Use Only

FP—First Pilot

FT—Fatal Injury

G—Measurement of Force Equal to the Force of Gravity

GM—General Manager

GMV—Government Motor Vehicle

GP—Group

GS—General Schedule

GSA—General Services Administration

GSU—Geographically Separated Unit

GVO—Government Vehicle Other

HAP—High Accident Potential

HC—Chaplain

HO—Historian

HQ—Headquarters

HUD—Heads-up Display

ICAO—International Civil Aviation Organization

ICBM—Intercontinental Ballistic Missile

IM—Item Manager

IMC—Instrument Meteorological Conditions

IOT&E—Initial Operational Test and Evaluation

IP—Instructor Pilot

JA—Judge Advocate

JP—Jet Propellant

KIAS—Knots of Indicated Airspeed

LAG—Launch Analysis Group

LGC—Contracting

LGK—Electronics Maintenance

LGM—Maintenance

LGS—Supply

LGT—Transportation

LGW—Munitions

LOX—Liquid Oxygen

LSSS—Limiting Safety System Settings

MAAF—Mishap Analysis and Animation Facility

MAJCOM—Major Command

MARS—Mid-Air Retrieval System

MDS—Mission Design Series

MFR PN—Manufacturer's Part Number

MK—Mark

MOFE—Memorandum of Final Evaluation

MPH—Military Public Health

MRP—Mishap Review Panel

MSE—Missile Support Equipment

MSL—Mean Sea Level

MSTG—Material Safety Task Group

MTMC—Military Traffic Management Command

NAF—Non-Appropriated Fund or Numbered Air Force

NATO—North Atlantic Treaty Organization

NCO—Non-Commissioned Officer

NOAF—Non-Air Force

NOM—Name Of Part (Nomenclature)

NONAF—Non-Air Force

NSA—National Security Agency

NSN—National Stock Number

NTSB—National Transportation Safety Board

OBA—Operating Budget Authority

OC/LAB—Other Centers/Laboratories

OFS—Other Findings of Significance

OIDR—Occupational Illness and Data Registry

OL—Operating Location

OPREP—Operational Report

ORS—Other Recommendations of Significance

OSHA—Occupational Safety and Health Administration

OT&E—Operational Test and Evaluation

OWCP—Office of Workmen's Compensation Program

PA—Public Affairs

PACAF—Pacific Air Forces

PAD—Propellant Actuated Device

PCS—Permanent Change of Station

PEO—Program Executive Office

PMV—Private Motor Vehicle

PO—Post Office

PP—Permanent Partial

PRN—Person

PT—Permanent Total

QA—Quality Assurance

REM—Roentgen equivalent man

R&D—Research & Development

RCN—Report Control Number

RCR—Runway Condition Reading

ROTC—Reserve Officer Training Corps

RPI—Rated Position Identifier

RPS—Reactor Protective System

RPV—Remotely Piloted Vehicle

SC—Communications and Information

SE—Chief of Safety

SF—Security Forces

SG—Surgeon General

SIB—Safety Investigation Board

SJA—Staff Judge Advocate

SMC—Space and Missile Systems Center

SN—Serial Number

SPD—System Program Director

SQ—Squadron

SSAN—Social Security Account Number

SSW—South-Southwest

STANAG—Standardization Agreement

SV—Services

TCTO—Time Compliance Technical Order

TDI—Tamper Detection Indicator

TDPFO—Temporary Duty Pending Further Orders

TDR—Teardown Deficiency Report

TED—Transfer Effective Date

TO—Technical Order

TOX—Toxicological

TT—Temporary Total

UAV—Unmanned Aerial Vehicle

UCMJ—Uniform Code of Military Justice

UNCLAS—Unclassified

USA—United States Army

USAF—United States Air Force

USAFE—United States Air Forces in Europe

USC—United States Code

USCG—United States Coast Guard

USN—United States Navy

VMC—Visual Meteorological Conditions

VTR—Videotape Recording

WG—Wing

WUC—Work Unit Codes

YOP—Youth Opportunity Program

Terms

ADDENDUM—Additional written comments made by the MAJCOM/CC and attached to the SIB's formal report or final mishap message.

AERO CLUB AIRCRAFT—These are all aircraft assigned to the respective Aero Club. The Aero Club through, purchase, lease, or loan from the government may have acquired these aircraft. Aero Clubs are authorized excess DoD and GSA aircraft on a loan basis. *NOTE:* Air Force Aircraft on-loan to Aero Club are Aero Club aircraft and reported under the provisions of **Chapter 13** not **Chapter 7**.

AIR FORCE AT LARGE—This term is use in two separate cases in this document. For Category-Agent-Reason Methodology this includes exchange students, military members in a non-pay status while waiting for appellate review if they have no written or verbal orders to return to an Air Force installation, prior service personnel on leave before reporting to initial permanent duty assignment, personnel on terminal leave, etc. For Mishap reporting categorization it includes aircraft leased to manufacturers for demonstration purposes (code XY) if the lessee does not assume the risk of loss. It is also used for unified or joint command mishaps where the flying hours are not assigned to a specific major command.

AIR RESERVE COMPONENTS (ARC)—All units, organizations, and members of the ANG and AFRC (10 U.S.C. 261) on active duty, on active duty for training, or in drill status, and ANG and AFRC technicians; include ANG and AFRC property and equipment. Military status starts upon beginning duty for military pay and ends when duty stops. (All references to Air Force military personnel and property also apply to ARC military personnel and property).

AIRCRAFT MISHAP—An unplanned event or series of events involving an Air Force Aircraft that: a) results in damage to an Air Force Aircraft; and/or b) if a flight crewmember is onboard for any reason, results in damage to any property, and/or injury, illness or death. The term "onboard" includes all interior and exterior aircraft surfaces. See paragraph 1.16. for non-reportable mishaps and paragraph **3.2.** for mishap classifications, which determine reporting requirements. There are three types of Aircraft Mishaps. Aircraft Flight, Aircraft Flight-Related, and Aircraft Ground Operations.

AIRCRAFT FLIGHT MISHAP—An aircraft mishap in which there is Intent for Flight and there is reportable damage to an aircraft. Explosives, Chemical Agent, or Missile events which cause damage to an aircraft with Intent for Flight are categorized as Aircraft Flight mishaps to avoid dual reporting.

AIRCRAFT FLIGHT-RELATED MISHAP—An aircraft mishap in which there is Intent for Flight and no reportable damage to the aircraft itself; but the mishap involves a reportable injury, fatality, or reportable property damage. These mishaps may involve non-aircrew fatality, injury, or collateral damage

AIRCRAFT GROUND OPERATIONS MISHAP—An Aircraft mishap in which there is not Intent for Flight. This sub-category does not include mishaps in which: damage occurs to an unattended parked aircraft; damage is caused by weather, natural phenomena (such as an earthquake), or a building fire; or damage occurs to an aircraft while it is being handled as cargo.

BEELINE/FADED GIANT—A nuclear reactor system or radiological incident as defined by the criteria in paragraph **12.10.2.**

BENT SPEAR—A reporting flagword identifying a nuclear weapon system incident. This includes mishaps not in the accident category but meeting any of the criteria in paragraph **13.3.4.**.

BROKEN ARROW—A reporting flagword identifying a nuclear weapon system accident which could not create risk of war. This includes accidental, unauthorized, or unexplained events. See paragraph **13.3.2.**.

CAUSAL FINDING—Causal findings are those which, singly or in combination with other causal findings, logically result in damage or injury. They are identified with the word "cause" at the start of the text of the finding, and must contain category-agent-reason information.

CAUSE—A cause is a deficiency the correction, elimination, or avoidance of would likely have prevented or mitigated the mishap damage and/or injuries.

CHEMICAL AGENTS—Includes chemical compounds intended for use in military operations to kill, seriously injure, or incapacitate persons through its chemical properties. Excluded are riot control agents, chemical herbicides, smoke, and flame producing devices. Pesticides, insecticides, and industrial chemicals, unless selected by the DoD Components for chemical warfare purposes, are also excluded..

CHEMICAL AGENT MISHAP—Any unintentional or uncontrolled release of a chemical agent from a chemical weapon that results in reportable damage to property from contamination, or costs are incurred for decontamination or individuals exhibit physiological symptoms of agent exposure. See **Chapter 10**

for specific guidance.

COLLATERAL DAMAGE—Damage or injury caused by a mishap other than the damage, destruction, or injury to the mishap equipment or personnel.

COMBAT TRAINING MISHAP—Mishaps resulting from peacetime combat simulated exercises, obstacle/confidence course injuries, base exercises, and IG exercises that test combat capability. Also includes vehicle, equipment, or other property damage that occur during combat training.

COMMERCIAL CARRIER MISHAP—Mishap occurring during commercially licensed ground transport operations resulting in injury, illness, or damage to Air Force resources. Examples of commercial carriers are commercial buses, taxicabs, streetcars, ships, and trains.

COMPETENT MEDICAL AUTHORITY—Allopathic (MD), osteopathic (DO), and chiropractic practitioners, as well as podiatrists, optometrists, dentists, and clinical psychologists. The term competent medical authority includes these medical practitioners only to the extent of their operations within the scope of their practice as defined by state law and subject to regulation by the Secretary of Labor. Competent medical authority also includes nurse practitioners and physician assistants under supervision of licensed medical practitioners.

CONTRACTOR MISHAP—A mishap resulting from contractor operations which involve injury to Air Force personnel or damage to government-owned resources. Injury to contractor personnel or damage to contractor equipment is not reportable under this instruction.

CONVENING AUTHORITY—The individual who has the authority to order a mishap investigation with a single investigator or board.

CRITICAL PROFILE—A mission profile exceeding system limitations based on system specifications or other program documentation.

DEPARTMENT OF DEFENSE AIRCRAFT (AIR FORCE AIRCRAFT)—All manned weight-carrying devices supported in flight by buoyancy or dynamic action and are owned or leased by the DoD Components (including Reserve forces and National Guard). Includes aircraft that are operated and exclusively controlled or directed by a DoD Component. Includes aircraft furnished by the Government or on bailment to a non-DoD organization for modification, maintenance, repair, test, contract training, or experimental project for a DoD Component, when the Government has assumed ground and flight risk. Includes aircraft under test by a DoD Component. (This includes aircraft furnished by a contractor or another Government Agency when operated by a DoD aircrew in official status and a DD Form 250, "Material Inspection and Receiving Report," has been executed to certify that the Department of Defense has accepted the aircraft.). Excludes aircraft leased, on bailment, or loaned to contractors, commercial airlines, other Government Agencies, or foreign governments, when the lessee has assumed risk of loss. Excludes civil aircraft owned by civil operators and accomplishing contract air missions for the DoD Components. Excludes factory-new production aircraft until successful completion of the post-production acceptance flight. Excludes flying club aircraft or privately owned aircraft on DoD installations.

DEPARTMENT OF DEFENSE CIVILIAN PERSONNEL—DoD Civil Service employees (including Reserve Component military reserve technicians and Reserve technicians, unless in a military duty status); non-appropriated fund employees (excluding military personnel working part-time to avoid dual reporting); Corps of Engineers Civil Works employees; Youth or Student Assistance Program employees; foreign nationals employed by the DoD Components; and Army-Air Force Exchange Service employees.

DEPARTMENT OF DEFENSE MILITARY PERSONNEL—All U.S. military personnel on active duty under the provisions of 10 U.S.C. (reference (h)); Reserve Component personnel, National Guard personnel under the provisions of 32 U.S.C. (reference (i)); Service Academy cadets; Reserve Officer Training Corps cadets when engaged in directed training activities; foreign national military personnel assigned to the DoD Components.

DEPARTMENT OF THE AIR FORCE (DAF) CIVILIAN PERSONNEL—Includes Senior Executive Service (SES), general schedule (GS) and wage board (WG) employees, including ANG and AFRC technicians, unless in military duty status. Includes non-appropriated fund (NAF) employees who are not military personnel working part time. Includes Youth Opportunity Program and Student Assistance Program employees. Includes foreign-national civilians employed by Air Force in direct or indirect hire status. Foreign-national, direct-hire employees are the same as DAF civilian employees. Foreign-national, indirect-hire employees are the same as DAF civilian employees only when the Air Force has supervisory or work performance control. This includes Air Force responsibility for any compensation claims arising from employment injury.

DEPARTMENT OF THE AIR FORCE MILITARY PERSONNEL—These are Air Force personnel on active duty with the Air Force or ANG and AFRC personnel on military duty status. Includes Air Force Academy cadets and Reserve Officer Training Corps (ROTC) cadets engaged in directed training activities. Includes members of other US military services serving on extended active duty with the Air Force or foreign-national military personnel assigned to the Air Force.

DISABILITY—Disabilities resulting from mishap injuries are divided into two categories, permanent total disability and permanent partial disability. (See definitions of these major categories for more detail).

DULL SWORD—A reporting flagword identifying a nuclear weapon safety deficiency. This includes mishaps not falling into the accident or incident categories, but meeting any of the criteria in paragraph **13.3.5.**

EJECTION ATTEMPT—Completion of the action by the aircrew to initiate the ejection system, regardless of the outcome. For single motion systems, this only requires pulling the handle. For dual motion systems, both raising the sidearm and squeezing the trigger must be accomplished.

EJECTION EPISODE—A sequence of events beginning with the ejection attempt (or inadvertent initiation) and ending after landing. This normally consists of three parts (ejection, descent, and landing). However, ground impact or mechanical malfunction may arrest it at any stage.

EJECTION SYSTEM—A mechanical device designed to forcefully separate the crew from the aircraft and return them to the earth's surface. Examples are an ejection seat, and extraction system, or a crew module.

EMPTY QUIVER—The loss, theft, seizure, or destruction of a nuclear weapon or component. Loss includes, but is not limited to, intentional weapon jettisoning according to approved Air Force procedures or inadvertent release of a nuclear component.

EXPLOSIVES MISHAP—Unplanned damage to or functioning of an explosive item; or damage, illness, or injury caused by an explosive item or when precision guided munitions fail to complete their intended mission. See **Chapter 10** for specific guidance..

EXPLOSIVES—Includes (but is not necessarily limited to) all items of U.S. titled (owned by the U.S. Government through DoD Components) ammunition; propellants (solid and liquid); pyrotechnics;

explosives; warheads; explosive devices; and chemical agent substances and associated components presenting real or potential hazards to life, property, or the environment. Dummy (inert) ordnance shall be considered as an explosive device any time it is used in training or test situations to simulate an actual item. Excluded are nuclear warheads and associated devices, except for considerations of storage and stowage compatibility, blast, fire, and non-nuclear fragment hazards associated with the explosives. Riot control agents, smoke and incendiaries are categorized as explosives. The terms "explosives," "explosives weight," "net weight," and other related terms refer to the fillers of explosive items. Fillers may be explosive mixtures, propellants, pyrotechnics, or toxic chemical agents. Liquid fuels and oxidizers when not used with missiles, rockets, and other such weapons or explosives items, such as JP-4, hydrazine, and liquid oxygen (LOX), are not explosives..

FATAL INJURY—Injuries resulting in death, either in the mishap or at any later time, to include within 30 days subsequent to the medical discharge, retirement, or separation from the service, due to complications arising from mishap injuries.

FINDINGS—Findings are the conclusions of the SIB or investigator. They are single statements, in chronological order, of each significant event or condition sustaining the sequence leading to the mishap.

FIRE MISHAP—An accident with reportable damage to real property or equipment or reportable injury to DoD personnel resulting from fire, but does not involve a MDS weapon system or explosives. This accident category also includes non-DoD personnel when DoD property or equipment fires caused the injury.

FIRST AID—Any one-time treatment or follow-up visit for observation of minor scratches, cuts, burns, and splinters which do not ordinarily need medical care. Such one-time treatment and follow-up visits for observation are first aid, even though provided by physicians or registered professional personnel. ***NOTE***: Use Office of Management and Budget (OMB) Bulletin 1220-0029, Recordkeeping Guidelines for Occupational Injuries and Illnesses, as a guide for determining whether medical treatment or first aid was rendered.

FOD MISHAPS—Reportable mishaps confined to turbine engine damage as a result of external foreign objects.

FRIENDLY FIRE—A circumstance in which members of a U.S. or friendly military force are mistakenly or accidentally killed or injured in action by U.S. or friendly forces actively engaged with an enemy or who are directing fire at a hostile force or what is thought to be a hostile force.

GOVERNMENT MOTOR VEHICLE (GMV)—A motor vehicle that is owned, leased, or rented by a DoD component; a rental vehicle authorized by travel orders; a vehicle primarily designed for over-the-road operations; and a vehicle whose general purpose is the transportation of cargo or personnel. Examples of GMVs are passenger cars, station wagons, vans, ambulances, buses, motorcycles, trucks, and tractor-trailers. Vehicles on receipt to, and operated by, non-DoD persons or agencies and activities, such as the U.S. Postal Service or American Red Cross, are not GMVs. (**NOTE:** GMVs being operated during a combat training exercise that cause injury or property damage are categorized as Combat Training mishaps.).

GOVERNMENT MOTOR VEHICLE (GMV) MISHAP—A motor vehicle accident involving the operation of a GMV as defined in this instruction.

GOVERNMENT VEHICLE OTHER (GVO)—Vehicles designed primarily for off-the-highway operation such as tracked vehicles, forklifts, road graders, agricultural-type wheeled tractors, and aircraft

tugs. Also includes special purpose vehicles (as defined in Transportation series instructions; “C”, “D/M”, “E”, and “L” series).

GOVERNMENT VEHICLE OTHER (GVO) MISHAP—A vehicle accident involving the operation of a GVO as defined in this instruction, but not involving a GMV.

GROUND AND INDUSTRIAL MISHAP—These mishaps occur in the industrial work environment of the employer’s premises and other locations where employees are engaged in work-related activities or are present as a condition of employment. The work environment includes not only physical locations, but also the equipment or materials used by an employee during the course of their work. Ground and Industrial mishaps include, parked aircraft that are damaged by external sources such as cargo handling equipment; wind, hail, earthquake, or other natural phenomena; operating systems on a aircraft that cause reportable property damage or injury; when an aircrew member is on board and there is reportable injury, with or with out property damage. ***NOTE*:** The key factors in determining if the mishap is categorized as Ground and Industrial are: aircraft with property damage, except parked aircraft, its Aircraft Ground Operations. No reportable property damage, with injury, except with an aircrew member on board, its Ground and Industrial.

GUIDED MISSILE—All missiles propelled through air or water that are unmanned, guided by internal or external systems, and self-propelled. This term includes individual major missile components such as stages, guidance and control sections, payloads other than nuclear reentry vehicles; system equipment required to place the missile in an operational status while at the launch or launch control facility or on the launching aircraft; and system equipment required to launch and control the missile. Examples are intercontinental ballistic missiles; surface-to-air, air-to-air, and air-to-surface guided missiles; and torpedoes. This term includes all missiles that are owned in whole or in part by a DoD Component and operationally controlled by a DoD Component. Also includes missiles on bailment or loan to a non-DoD Agency for modification, testing, or as an experimental project for a DoD Component. Also includes missiles under test by a DoD Component.

GUIDED MISSILE MISHAP—An accident involving guided missiles or missile support equipment. Missiles that are damaged or destroyed after launch from an aircraft but there is no aircraft damage will be classified as a missile mishap.

HIGH ACCIDENT POTENTIAL (HAP) EVENTS—Significant aircraft, missile, space, explosives, miscellaneous air operations, or ground occurrences with a high potential for causing injury, occupational illness, or damage if they recur. These events do not have reportable mishap costs. If the event meets reportable mishap criteria, do not designate it as a HAP. Do not use the HAP designation with any class of mishap.

INADVERTENT EJECTION—Inadvertent initiation (mechanical or human) of the ejection system during flight by any stimulus except impact forces or thermal cook off. This includes initiation by windblast forces, but excludes impact with trees, ground, or water.

INJURY—Traumatic bodily harm, comprising such conditions as fractures, lacerations, sprains, strains, dislocations, concussions, and compressions, which results from an unplanned event. Classify single exposure incidents occurring in the work place or within a single duty shift as injuries when they involve foreign objects in the eye, such as a piece of metal, or chemical burns to the eye or skin, such as those.

IN-FLIGHT SHUTDOWN (IFSD)—Any engine shutdown in-flight, either due to an engine malfunction or by the aircrew following flight manual procedures.

NON-RECOVERABLE IN-FLIGHT SHUTDOWN—Any engine shutdown in-flight, either due to an engine malfunction or by the aircrew following flight manual procedures whereby: The engine is unable to restart, or further investigation determines that a restart attempt would not have been successful, or further investigation determines that continued operation would have caused the engine to fail, or The aircraft cannot maintain level flight at a safe altitude as determined by the situation.

INJURY—Traumatic bodily harm, comprising such conditions as fractures, lacerations, sprains, strains, dislocations, concussions, and compressions, which results from an uplanned event, Classify single exposure incidents occurring in the work place or within a single duty shift as injuries when they involve foreign objects in the eye, such as a piece of metal, chemical burns to the eye or skin, such as those caused by splashed material at a wash rack, or loss of consciousness. Report an injury if it results in a fatality, regardless of the length of time between injury and death, a lost workday case, or a non fatal case without lost workdays.

INTENT FOR FLIGHT—Intent for Flight is considered to exist when aircraft brakes are released (if set) and/or when takeoff power is applied for commencing an authorized flight. Intent for flight continues until a fixed wing aircraft safely taxies clear of the runway. Application of takeoff power begins at the first movement of the throttle towards takeoff power. Clear of the runway means the entire aircraft is physically off the active runway. Intent for flight continues until a rotary wing aircraft has alighted and the aircraft weight is supported by the landing gear. Hover taxi is considered flight.

LICENSED LAUNCH—Any commercial launch that is not indemnified by the government and has been issued a license by the Department of Transportation.

LOST WORKDAY CASES—Those cases determined by competent medical authority as a nonfatal traumatic injury that causes any loss of time from work beyond the day or shift on which it occurred or a nonfatal traumatic illness that causes loss of time from work or disability at any time. If a competent medical authority determines an employee is able to perform normal or limited job assignments, but the employee disagrees and seeks a second opinion, the safety staff may use the opinion of the first medical authority for mishap reporting purposes if the diagnosis by the second medical authority is not significantly more severe. This includes days on quarters, hospital, and convalescent leave. Do not count the day of injury or the day returned to duty. Do not count days when personnel were not scheduled to work. For civilian personnel, lost work hours on the day of return are part of a lost workday case.

LOST WORKDAY INJURY—An injury not resulting in death or disability but with one or more lost workdays. For Life Sciences reporting, lost workday injuries are divided into major and minor categories or designated as "no reportable injury" as specified in paragraph **7.4.10.6.**

MAJCOM COMMANDER—The term "MAJCOM commander" as used in this instruction includes field operating agency (FOA) and direct reporting unit (DRU) commanders, system program directors (SPD) or equivalent, Air Force Program Executive Officers (AFPEO), etc. In addition, this term includes the air component commander of unified commands during contingency operations.

MARITIME MISHAP—Any DoD accident on board, or as the result of the operation of, a DoD vessel. This also includes DoD diving or swimmer operations. This term includes accidents occurring while loading and/or off-loading or receiving services at dockside, and accidents occurring up to the high water mark during amphibious or inshore warfare training operations. It applies also to all injuries to DoD personnel occurring on board, whether or not job-related. This term does not include accidents that are reportable under other major categories prescribed in this Instruction, such as flight, missile, explosive and/or chemical agent, nor to injuries to assigned personnel that occur away from the vessel, whether or

not job-related. Accidents occurring on board that result from shipyard repair facility or private contractor operations are not maritime accidents.

MISCELLANEOUS AIR OPERATIONS MISHAPS—A mishap resulting in a fatality or injury to Air Force personnel where intent for flight exists but not involving a DoD aircraft.

MISCELLANEOUS GROUND MISHAP—Mishaps which do not fit into any of the other categories identified in this instruction.

MISHAP—An unplanned event, or series of events, that results in damage to DoD property; occupational illness to DoD military or civilian personnel; injury to DoD military personnel on-or off-duty; injury to on-duty civilian personnel; damage to public and private property or injury and illness to non-DoD personnel caused by DoD operations. Also includes when degradation of nuclear or radiological safety.

MISHAP COSTS—These are the total costs of damage, injury and illness from Air Force mishaps. Use total mishap cost to classify non-nuclear mishaps. See paragraph **2.5.** for mishap classes and criteria. Determine mishap costs according to paragraph **2.4.** Report costs even though the US Government is wholly or partially reimbursed for them.

MISSILE—Systems that are propelled through the air that are unmanned, guided by internal or external systems, self-propelled, and designed to deliver ordnance to a target or act as a target. This definition includes training missiles and subscale remotely piloted vehicles (RPVs).

MISSILE MISHAP—Unplanned damage to or functioning of a missile; or damage, illness, or injury caused by a missile; or when the missile fails to complete its intended mission. See **Chapter 8** for specific guidance.

MISSILE SUPPORT EQUIPMENT (MSE)—(Not applicable to air-launched missiles). Any component of ground launched missile systems used to handle or transport missiles or missile components. MSE includes, but is not limited to, system unique vehicles, such as reentry vehicle or guidance and control vans, payload transporters, transporter-erectors, support trucks, emplacers, equipment racks, motor generators, etc.

MISSING PENNY—A deviation from prescribed safety and security standards for a nuclear reactor system or radiological activity as defined by the criteria in paragraph **12.10.3.**.

MISSION CAPABILITY—This term encompasses the purpose and functions of the space system (sensors, transponders, etc.) throughout its intended system mean mission duration (MMD, the expected life of the space vehicle).

MOTOR VEHICLE MISHAP—A DoD Accident involving the operation of a motorized land vehicle by DoD Personnel. Motor Vehicle Accidents include collisions with other vehicles, objects, terrain features, animals or pedestrians; personal injury or property damage due to cargo shifting in a moving vehicle; personal injury occurring within, or falling or jumping from a moving vehicle; towing or pushing accidents. This category does not include Ground & Industrial Accidents such as injuries occurring while loading or unloading, mounting or dismounting a non-moving vehicle; cargo damaged by weather; damage to a parked DoD vehicle, unless caused by an operating DoD vehicle; damage to a DoD vehicle caused by objects thrown or propelled into it, by weather or natural phenomena, or by fire when no collision occurred; or, damage to a DoD vehicle when it is being handled as a commodity or cargo and not operating under its own power.

NATURAL PHENOMENA MISHAP—Mishaps resulting from wildlife or environmental conditions encountered of such a magnitude, which could not have been predicted or prepared for, or for which all reasonable preparations had been taken.

NON-DAF CIVILIAN PERSONNEL—Persons employed by host-nation agencies, and doing work such as public works or general engineering on Air Force installations, are not Air Force employees. Their employer is the host-nation agency paying them, supervising them, and handling employee benefits. Indirect-hire employees are not the same persons as DAF civilian employees when a host government has supervisory control. This includes the host government's responsibility for insurance, compensation costs, and the like.

NONFATAL CASES WITHOUT LOST WORKDAYS—These are cases other than lost workday cases where, because of injury or occupational illness, Air Force personnel were transferred to another job, required medical treatment greater than first aid, lost consciousness, or were diagnosed as having an occupational illness.

NUCFLASH—A reporting flagword identifying a nuclear weapon system accident which could create the risk of war. This includes accidental, unauthorized, or unexplained actual or possible nuclear detonation by US-supported allied forces or US forces. Includes accidental or unauthorized launch of a nuclear-armed or nuclear-capable missile by US forces or US-supported allied forces. Includes unauthorized flight or deviation from an approved flight plan by a nuclear-armed or nuclear-capable aircraft of US forces or US-supported allied forces, which could be perceived as a hostile act.

NUCLEAR CAPABLE—A wing, group, squadron, or other designated element that does not necessarily possess nuclear weapons but has a mission to receive, store, handle, test, maintain, transport, load and unload, mate and de-mate, stand alert, or perform strike missions with nuclear bombs or warheads. An Explosive Ordnance Disposal (EOD) team with a nuclear mission (E-1 and E-2 units only) is a nuclear-capable unit. US custodial units supporting non-US delivery organizations are nuclear-capable units.

NUCLEAR COMPONENTS—Weapon components composed of fissionable or fusionable materials that contribute substantially to nuclear energy release during detonation. Nuclear components include radioactive boosting materials.

NUCLEAR MISHAP—A generic term used to denote a nuclear reactor system, nuclear weapon system, or radiological mishap.

NUCLEAR REACTOR SYSTEM—A nuclear reactor with any associated nuclear or non-nuclear systems.

NUCLEAR REACTOR SYSTEM ACCIDENT—An uncontrolled reactor criticality resulting in damage to the reactor core or significant release of fission products from the reactor core.

NUCLEAR REACTOR SYSTEM AND RADIOLOGICAL MISHAPS—Nuclear accidents, incidents, and deficiencies involving terrestrial nuclear reactor systems, nuclear power systems, and radioactive materials and sources.

NUCLEAR REACTOR SYSTEM INCIDENT—A nuclear reactor system mishap not meeting the criteria for an accident.

NUCLEAR REACTOR SYSTEM MISHAP—A generic term used to denote a nuclear reactor system accident or incident.

NUCLEAR REACTOR SYSTEM SAFETY DEFICIENCY—A situation, event, or condition involving a deviation from prescribed safety and security standards for a nuclear reactor system not meeting the criteria for an accident or incident.

NUCLEAR WEAPON SYSTEM—A combat delivery vehicle with its nuclear weapon or weapons and associated support equipment, non-combat delivery vehicles, facilities, and services.

NUCLEAR WEAPON SYSTEM ACCIDENT—A serious nuclear weapon system mishap involving a nuclear weapon.

NUCLEAR WEAPON SYSTEM INCIDENT—A significant or unexpected event involving nuclear weapons, nuclear warheads, or nuclear components not meeting the criteria for an accident.

NUCLEAR WEAPON SYSTEM MISHAP—Nuclear accident, incident, and safety deficiency involving nuclear weapons, nuclear weapon systems, and associated equipment and procedures.

NUCLEAR WEAPON SYSTEM SAFETY DEFICIENCY—A situation, event, or condition which could (or did) degrade nuclear surety but did not meet the criteria for an accident or incident.

OBSERVATION—Hospitalization or restriction from assigned work activities for observation or diagnosis. This is not reportable if a competent medical authority provides no treatment or medication for the suspected injury or occupational illness or finds the person could have returned to normal work without impairment or disability.

OCCUPATIONAL ILLNESS—Any abnormal physical condition or disorder, other than one resulting from an occupational injury, resulting in adverse consequences and caused by occupational factors associated with employment. Includes all confirmed cases of acute and chronic illnesses or diseases caused by inhalation, absorption, ingestion or direct contact with suspect substances.

OFF-DUTY—DoD personnel are off-duty when they are not on-duty.

OFF-DUTY MILITARY MISHAP—A DoD mishap that results in a fatality o0r lost time case to off-duty DoD military personnel whether or not on a DoD installation, excluding Private Motor Vehicle (PMV) mishaps.

ON-DUTY—DoD personnel are on-duty when physically present at any location where they are to perform their officially assigned work. Officially assigned work includes organization-sponsored events where an employee is required to attend, regardless of location. (This includes those activities incident to normal work activities that occur on DoD installations, such as lunch, coffee, or rest breaks, and all activities aboard military vessels). DoD personnel are on-duty when being transported by DoD or commercial conveyance to perform officially assigned work. (This includes travel in private motor vehicles (PMV) or commercial conveyances while performing official duty, but not routine travel to and from work). DoD personnel are on-duty when Reserve and National Guard personnel performing inactive duty training (drill). When traveling to and from their home they will be considered off-duty. DoD personnel are on-duty when on temporary duty or temporary additional duty. Personnel on assignment away from the regular place of employment are covered 24 hours a day for any injury that results from activities essential or incidental to the temporary assignment. However, when personnel deviate from the normal incidents of the trip and become involved in activities, personal or otherwise, that are not reasonably incidental to the duties of the temporary assignment contemplated by the employer, the person ceases to be considered on-duty for investigation and reporting purposes of occupational injuries or illnesses. ***NOTE 1***. Lunch off the installation is an off-duty event unless the luncheon is required by the job. ***NOTE 2***. Injuries sustained by military members working as part-time NAF employees are

reported as on-duty military mishaps, even though the members are in off-duty status.

PERMANENT PARTIAL DISABILITY—An injury or occupational illness which, in the opinion of competent medical authority, results in permanent impairment through loss or loss of use of any part of the body. Injury and illness costs are used solely for statistical analysis purposes, not mishap classification, in these exceptional cases. The loss of teeth, fingernails, toenails, fingertips, or toe tips is not considered permanent partial disabilities. Repairable inguinal hernia, disfigurement, or sprains or strains not cause permanent limitation of motion are not considered permanent partial disabilities.

PERMANENT TOTAL DISABILITY—Any nonfatal injury or illness which is totally incapacitating. For purposes of this instruction, any mishap resulting in injury severe enough for the individual to be comatose is a permanent total disability. Competent medical authority determines the disabled person cannot follow any gainful occupation or is medically discharged, retired, or separated. The lose of use of both hands, both feet, both eyes, and any combination of these body parts in a single mishap is a permanent total disability. (**NOTE:** Upgrade injury, to a fatal mishap if death occurs within 30 days of medical discharge, retirement, or separation due to complications arising from the mishap injury.

PINNACLE/FADED GIANT—A nuclear reactor system or radiological accident involving nuclear criticality or event resulting in significant damage to the reactor core or a significant release of fission products from the reactor core. Also includes the release of radioactive material such that, had an individual been present for 24 hours, the individual could have received an intake five times the federal annual occupational limit. Also includes the exposure of an individual's whole body to 25 roentgen equivalent man (rem) or more of radiation; exposure of the eye to 75 rems or more of radiation; or exposure of the skin, feet, ankles, hands or forearms to 250 rems or more of radiation.

PRIVATE MOTOR VEHICLE (PMV)—A non-commercial vehicle that is neither a GMV nor GVO.

PRIVATE MOTOR VEHICLE (PMV) MISHAP—A motor vehicle mishap, regardless of the identity of the operator, that does not involve a GMV, GVO, or commercial vehicle. The mishap results in a fatality or lost time case injury (involving days away from work) to military personnel on or off-duty or to on-duty civilian personnel, or reportable damage to DoD property.

PROPERTY DAMAGE—Damage of $10,000 or more to facilities, equipment, or material. Report damage even if the US Government is wholly or partially reimbursed. Damage costs include all costs associated with the mishap, i.e., primary and clean-up (not environmental). The total of the Air Force and non-Air Force damages determines the reportability.

RADIOLOGICAL ACCIDENT—A loss of control over radioactive material or radiation presenting a hazard to life, health, or property.

RADIOLOGICAL INCIDENT—A radiological mishap not meeting the criteria for an accident.

RADIOLOGICAL MISHAP—A generic term used to denote a radiological accident or incident.

RADIOLOGICAL SAFETY DEFICIENCY—A situation, event, or condition involving radioactive material that could or does degrade nuclear safety, but does not meet the criteria for an accident or incident.

RATED AIRCREW MEMBER—Individuals holding AFSCs (11XX, 12XX, 13AX) that identify rated aircrew members serving in or qualified to serve in pilot, navigator, flight test positions, or astronaut.

RECOMMENDATIONS—These are actions likely to prevent a similar mishap or reduce its effects.

REMOTELY PILOTED VEHICLES (RPV)—An unmanned vehicle whose primary maneuvering control is normally provided from a source external to the vehicle itself. A RPV may be used as a target, attack, reconnaissance, ECM, or test bed-carrying vehicle. Full-scale RPVs are aircraft modified to the remotely piloted configuration. Sub-scale RPVs are RPVs that are not full scale.

SPACE BOOSTER—A launch vehicle designed to propel or carry a space vehicle from the earth's surface or from orbit to a desired point in space. This term includes engines, rocket motors, upper stages, fuel tanks, and guidance and control sections.

SPACE MISHAP—An accident involving space systems and/or unique space support equipment.

SPACE SUPPORT SYSTEM—A system consisting of equipment and facilities required processing the space system. This term includes the launch pad and associated equipment, and system equipment required checking out, launch, command, control, and recovering elements of the space system.

SPACE SYSTEMS AND SPACE SUPPORT SYSTEMS—Space and space support systems that are owned in whole or in part or leased by a DoD component and operated and controlled or directed by a DoD Component. Also includes space and space support systems that are furnished by the Department of Defense or leased to a non-DoD organization when the Department of Defense has retained the risk of loss. Also includes space and space support systems for which a DoD Component has development and/ or procurement responsibility or under test by a DoD Component.

SPACE VEHICLE—A vehicle designed to orbit or travel beyond the earth's atmosphere. The term includes satellites, orbiters, payloads, and sounding rockets.

SPACECRAFT—A system consisting of a space vehicle and a space booster.

SPORTS AND RECREATION MISHAP—Mishaps involving injuries that occur during participation in some form of sporting, recreational or compulsory sports activity. Examples of sports and recreational activities are softball, weight lifting, handball, golf, football, sightseeing, dancing at a night club, auto racing, bicycling (**except** when involved with a motor vehicle), motorcycles driven off-road or in sanctioned races, and off-duty parachuting/sky diving.

TOXOID—A toxin that has been treated (commonly with formaldehyde) as to destroy its toxic property but that still retains its antigenicity, i.e., the toxin still has the capability of stimulating the production of antibodies and thus of producing an active immunity.

TRAINING RELATED DEATH—A death associated with a non-combat military exercise or training activity that is designed to develop a military member's physical ability or to maintain or increase individual/collective combat and/or peacekeeping skills. The death is due to either an accident or the result of natural causes occurring during or within one hour after any training activity where the exercise or activity could be a contributing factor.

UNMANNED AERIAL VEHICLE (UAV)—All unmanned weight-carrying devices supported in flight by buoyancy or dynamic action and are owned or leased by the DoD Components, to include aerostat balloons, (including Reserve forces and National Guard) that is operated and exclusively controlled or directed by a DoD Component. Includes UAVs furnished by the Government or on bailment to a non-DoD organization for modification, maintenance, repair, test, contract training, or experimental project for a DoD Component, when the Government has assumed ground and flight risk. Also includes UAVs under test by a DoD Component. (This includes UAVs furnished by a contractor or another Government Agency when operated by a DoD crew in official status and a DD Form 250, "Material Inspection and Receiving Report," has been executed to certify that the Department of Defense has

accepted the vehicle.)

UNMANNED AERIAL VEHICLE MISHAP—An accident involving a UAV but not involving a DoD aircraft.

Attachment 2

DESIRED SIB SUPPORT REQUIREMENTS LIST

PURPOSE: This desired SIB support requirements list is included in this Instruction to outline the minimum type and quantity of support items that is normally required to accomplish a formal safety investigation of a mishap. This list affords the potential units a chance to assess their internal capability and their ability to acquire non-possessed items from other sources; as well as, identification of equivalent/alternative sources.

FACILITIES

1. One large room capable of accommodating 15 people in a conference style seating arrangement. This room serves as the main SIB meeting room.

2. One office to accommodate administrative support (including the Recorder).

3. One office for the SIB President.

4. One office for the conduct of interviews.

NOTE: All rooms should be located together and be capable of being secured/locked.

COMPUTERS/PRINTERS

1. Minimum of six Pentium computers with Office 97™.

a. One in admin office.

b. One in SIB President's office.

c. Four in main SIB room.

NOTE: All computers must have the same configuration.

2. All computers hooked up to the Internet.

3. Local e-mail accounts set up for all SIB members.

4. One Laserjet Printers with duplex capability with access to all computers.

5. High quality scanner.

6. Several boxes of formatted 3.5 inch diskettes.

7. At least two ZIP drives or CD Writer capability with disks.

8. Install most recent anti-virus software.

9. Install PkZip or WinZip, etc. and Adobe Acrobat Reader on all computers.

PHONES

1. Four Class A lines.

   a. One in the SIB President's office

   b. Three in the main SIB room, two of these for phones, one for a Fax machine.

2. Four speakerphones, all with mute and hold capabilities.

a. One for the SIB President.

b. Three in the main SIB room.

3. All phones interconnected so any other phone in the SIB answer a ringing line or call forward to another line.

4. DSN with immediate access capability.

5. FTS/Commercial long distance capability on phones.

6. Conference call capability.

7. Voice mail on all phones or answering machines.

COPY/FAX MACHINES

1. One black and white photocopier capable of dual sided printing and collating.

2. Access to color photocopier capability (internal or external).

3. One plain paper fax machine.

TAPE RECORDERS

1. Three high quality, regular sized recorders w/headphones for interview transcribing.

2. High quality microphones.

3. Tape recorders need a time as well as inch counters.

4. Foot pedal operated playback units for transcribing.

IMPAC CARD -- Capability to acquire supplies, as needed via a local source by the SIB.

VEHICLES

1. Four staff cars.

2. One small truck.

3. One Bread truck for the maintenance personnel.

NOTE: Vehicles will be returned as the need declines, usually around day seven.

OFFICE EQUIPMENT

1. Two locking four-drawer file cabinets.

2. One large shredder (not a wastebasket type).

3. One large refrigerator and a large coffee urn, if possible.

4. Tables for the interview and admin offices.

5. Ten to fifteen office chairs.

6. Four large white dry erase boards (three in the main SIB room and one in the admin office).

7. One small white dry erase board in the SIB President's office.

8. One to Two easels w/paper.

9. Three three-hole punches, two of them with large holes, one with small holes.

10. Three staplers, two of them regular desk-type, one heavy duty.

11. One precision paper cutter.

12. 50 hanging file holders.

13. 50 file folders (two colors, 25 of each color)

14. Three boxes of multiple colors dry erase markers.

15. Several boxes of multi-color ink pens and mechanical pencils.

16. One typewriter.

17. 20 steno pads.

18. Two cases of 8” x 11” printer paper.

19. One case of legal size printer paper.

20. One roll of butcher paper.

SUPPLY/OTHER FACILITIES

1. Letter from Supply CC authorizing SIB priority for equipment such as engine hoists, special tools, and any other needed equipment; have letter sent to MOC.

2. Priority use of special use facilities such as labs, hush house, etc., as necessary.

PHOTOGRAPHY SUPPORT

1. Photo support with both conventional film and digital camera capability, seven days a week.

SERVICES/MISC SUPPORT

1. Billeting for all board members in the same building.

2. Support from DAPS to meet SIB requirements.

3. Access to computer support seven days a week.

Attachment 3

FORMAL SAFETY REPORTS AND BRIEFINGS

A3.1. General Information . Formal safety reports present detailed information, both factual and analytical, about mishaps. They are made up of AF Form 711-series forms and attached exhibits. All forms in the AF Form 711-series are licensed as "Safety Investigation Reports" (RCS: HAF-SE(AR) 9404). This attachment contains instructions for completing formal reports and provides general briefing guidelines.

A3.2. General Composition of Formal Reports . The formal report may have one or two parts. Both one and two-part reports must use AF Form 711 (Tab A). All formal privileged safety reports must have two parts: Part I, Facts; and Part II, Privileged Safety Information. Part I contains factual information that may be disclosed outside the Air Force; Part II contains the privileged portions of the formal report and will not be disclosed. Formal non-privileged reports are assembled in one part. They contain both factual information and the investigator's analysis and conclusions.

A3.3. Memorandum of Transmittal . The Memorandum of Transmittal lists all addressees receiving copies of, or extracts from, or attachments to, the report. Number and account for all copies of privileged reports by listing each addressee (see **Table 7.4.**), including office symbol and copy number, in the "Distribution List" attachment to the Memorandum of Transmittal. The Memorandum of Transmittal goes before all Tabs in Part I of the report. Include a statement, signed by the SIB president, certifying that the number of copies of the report listed are the only copies of the SIB report produced.

A3.4. AF Form 711H, *USAF Mishap Report Checklist and Index*. Use this form to ensure reports are uniform and complete. Place an "X" for each item in the columns "Not Applicable," "Applicable Not Attached," or "Attached." When checking the "Applicable Not Attached" block, explain why in the "Remarks" section. Estimate the date the missing attachment will be sent for inclusion in the report. If an attachment will be sent later, insert a page with the proper lettered tab in the report. Later, when the attachment is sent to recipients of the report, it can put it in the report at the proper tab. In assembling the report, place AF Form 711H between the Memorandum of Transmittal and Tab A.

A3.5. PART I--FACTS :

A3.5.1. TAB A: AF Form 711, *USAF Mishap Report*. Fill out AF Form 711 on each Aircraft, Unmanned Aerial Vehicle, Explosive/Chemical, Ground, Missile, Nuclear, Space, and Miscellaneous Air Operations mishap requiring a formal report. Place the form in Part I of the report. In most cases, the instructions on the form explain the required entries. See below for completing items where the instructions are not self-explanatory.

A3.5.1.1. ITEM 2-- Vehicles or Materiel Involved. List the aircraft, missile, space system, nuclear weapon or system, automotive vehicle, ground equipment, explosives item, or any other item involved. Give model designation and serial number of aircraft, missile, or other item if they have numbers. For an automotive vehicle, list type (PMV or GMV), make (Ford, Buick), and body style (2-door sedan, 1/2-ton pickup truck). If the report is on injuries only and no equipment is involved, enter "NA" in this block. If more than one vehicle or item of equipment is involved,

list the one most heavily damaged first followed by the others. (Continue on plain white bond if more space is needed.) This form is used for vehicles when they are involved in aircraft mishaps.

A3.5.1.2. ITEM 3--For Ground Mishaps Only. Otherwise, leave blank.

A3.5.1.3. ITEM 4--Place of Occurrence. Give the location of the mishap and not the location where trouble first developed. Identify state, county and distance/direction from nearest town. Indicate distances in nautical miles (NM) or statute miles (SM), and points of the compass for direction. Also list latitude and longitude. For an on-base mishap, give the exact location (for example, Bldg. T-465, Aircraft Hangar, Luke AFB AZ).

A3.5.1.4. ITEM 6--Day, Night, Dawn, Dusk. Using the Air Almanac, dusk begins at official sunset and lasts 30 minutes. Dawn begins 30 minutes before sunrise and lasts until sunrise.

A3.5.1.5. ITEM 7--Organization Possessing or Owning Vehicle or Materiel at Time of Mishap. Aircraft and missiles are possessed by the organizations that report them on the pertinent Air Force aircraft or missile report. Enter the base name and installation/location code (Use the four letter Home Location Code from SORTS) where the involved aircraft or missile is stationed. Substitute proper units and organizations if the structure of the organization possessing the equipment is not the same as the headings of the boxes in item 7. For federalized ANG units, show the gaining command, subcommand or Numbered Air Force, and the applicable ANG air division, wing, group, and squadron. For ANG units not federalized, show the ANG organizations and ANG as the MAJCOM.

A3.5.1.6. ITEM 8--If a second vehicle is involved and the organization possessing the second vehicle is different from item 7, list it here. Use this item if an aircraft is possessed by one organization but the flying hours are reported by another, and cross out "List of organizations of second vehicleÖ" and replace it with "Organization Reporting the Flying Hours."

A3.5.1.7. ITEM 10--List of Personnel Directly Involved. List the information for each federal service military person or civilian employee involved in the mishap. Include all persons injured on the ground as a result of the mishap. List the operator or person most directly involved first. Army and Navy personnel assigned to the Air Force are shown as Army or Navy. List all passengers aboard the mishap aircraft. Identify civilian employees by their employment agency or department (for example, Civ-USAF, Civ-Army, Civ-FAA, and so forth). For missile mishaps, list only those persons directly connected with the mishap, such as project director, guidance technician, or mission controller.

A3.5.1.7.1. Assigned Duty: Use duty title abbreviations. For crewmembers involved in flight mishaps use the duty symbol shown on the AFTO Form 781, *AFORMS Aircrew/Mission Flight Data Document*.

A3.5.1.7.2. Aero Rating. Use the current rating held. Leave blank if not rated.

A3.5.1.7.3. Days Lost on TT Only. If lost workdays will continue after the report is sent in, use an estimate of the total.

A3.5.1.8. ITEM 11--Factual Summary of Circumstances. This summary of the mishap may be disclosed under the Freedom of Information Act. Therefore, there are two main considerations for completing this item. First, the summary must be completely factual. It must not draw on privileged sources. Do not use any information in Part II of the report not found in the exhibits in Part I. For example, do not include statements indicating what the pilot heard, felt, or saw. Second, the

Factual Summary of Circumstances must lead the reader through the sequence of events involved in the mishap.

A3.5.1.8.1. To meet these objectives, present the summary in sequence. List the facts, conditions, and circumstances just as they were discovered by the investigators, without reference to attachments. State how the mishap occurred, not why. Do not discuss the importance of facts or how they relate to investigative conclusions. Provide as complete a factual summary as possible. Many requests under the Freedom of Information Act are for an account of the mishap, but not for the report itself. In these cases, only the factual summary of circumstances is released.

A3.5.1.8.2. In rare cases, there is not enough factual information available for an understandable summary. When this is the case, certain information given by witnesses may add to the narrative without implying investigative conclusions. If it is absolutely necessary to use this information, style the narrative so the information is not attributed to any individual, and allow the witness to review the summary and approve its release. Attach a signed statement approving the release to the Memorandum of Transmittal in the report sent to HQ USAF/SE.

A3.5.2. TAB B Preliminary Message Report. Place the fully releasable preliminary message report in Tab B. All other message traffic, including the consolidated mishap report, should be placed at the end of Tab T.

A3.5.3. TAB C AF Form 711B, *Aircraft Flight Mishap Report*. Use for Class A, B and C Aircraft (Flight and Flight-involved) and Unmanned Aerial Vehicle. Do not include information learned solely from confidential sources. Only include information that can be supported by other factual data in Part I. Use one form for each aircraft involved. Most of the items in the form are self-explanatory. See below for specific instructions.

A3.5.3.1. ITEM 1--Mishap Class. If the aircraft is destroyed, list “A/DEST."

A3.5.3.2. ITEM 2--Aircraft MDS and Serial Number. Give complete MDS, with block number and prefixes/suffixes if they apply.

A3.5.3.3. ITEM 3--Date. Enter the local date of the mishap, not the Zulu or CUT date. Use six digits to express the year, month, and day (YY-MM-DD). If the exact date of the mishap must be estimated, add "(EST)" after the date.

A3.5.3.4. ITEM 4--Unit Control Number. Mishap Event number described in paragraph **5.2.**

A3.5.3.5. ITEM 5--Refer to AFI 16-402, *Aerospace Vehicle Programming, Assignment, Distribution, Accounting, and Termination*. Assignment is the basic command to which the vehicle belongs. Status Code is the “Purpose Identifier Code” that identifies a specific use or mission for that aerospace vehicle such as “CC” for Combat Vehicles or “TF” for Training Vehicles. Contact the Wing Plans, Scheduling and Documentation Section for assistance.

A3.5.3.6. ITEM 6--Operator at Controls.

A3.5.3.6.1. ITEM 6A. "Operator" means the pilot who was at the controls at the time the mishap occurred.

A3.5.3.6.2. ITEM 6B. "Component" is one of the following: REGAF. Member of the regular Air Force. AFRES: Member of the US Air Force Reserve while in the active military service. ANGUS: Member of the ANG of the United States while in active military service. ERIN:

Member of the US Air Force Reserve not on active duty (including inactive personnel on temporary training duty). ANG: Member of the Air National Guard of the United States while not in active military service. RAF, USN, Civ, etc., as applicable.

A3.5.3.6.3. ITEM 6C. "Position in aircraft at time of mishap". Mark one block for each pilot. "Front" and "Rear" are only used for tandem seating aircraft (such as T-38 or F-15E). For example, the copilot position in a B-1B would only be marked "Right," not "Front" and "Right."

A3.5.3.6.4. ITEM 6F/G. If assigned to one organization for duty, but attached to another for flying, list the information for both the "assigned" and "attached for flying" organizations.

A3.5.3.7. ITEM 10--Clearance. State the location from which the flight originated, and the cleared destination. Use both the location name and base code (if applicable). Indicate the type of clearance (there may be more than one type, for example: VFR and LOCAL, or IFR and AIRWAYS).

A3.5.3.8. ITEM 12--Type of Mission. Use AFTO Form 781 mission symbol for the mishap flight.

A3.5.3.9. ITEM 13--Altitude /Elevation. This is the altitude or elevation where the mishap occurred. Express flight altitude as MSL or FL and AGL. If the mishap occurred as a result of collision with the ground (excluding collisions preceded by stalls, spins, spirals, explosions, or airframe failures), indicate terrain elevation.

A3.5.3.10. ITEM 14--Phase of Operation. Select only one of the following phases of operation from **Table A3.1.**

Table A3.1. Phase of Operation.

Phase of Operation	Definition (if not Self-Explanatory)
Autorotate	
Cruise Climb	
Cruise Descent	Prolonged, such as instrument or enroute descent penetration
Cruise Low Level	Prolonged, according to directed mission requirements. This does not mean "buzzing" or confirmed violations of AFI 11-202, Volume 3, General Flight Rules.
Cruise Maneuvering	
Cruise	
Hover	
Landing Final Approach	Visual pattern – Departure leg through final approach. Instrument – Final approach fix through decision height or missed approach.
Landing Flare	
Landing Pattern	
Landing Rollout	Ends when pilot adds power for touch-and-go or go-around, or when the aircraft departs runway surface.
Ordinance Arming	
Parked Chocks	
Parked Dearming Ordinance	
Parked Engines Running	
Parked Refueling	
Parked Found During Inspection	
Parked Engine Start	
Simulated Flameout Pattern	
Takeoff Abort/Discontinued	Includes all attempts to abort the takeoff roll by reducing power, using brakes or other methods of slowing or stopping.
Takeoff Initial Climb	Within 5 miles of airport.
Takeoff Runup Check	
Takeoff Roll	
Taxi after Landing	
Taxiing Out	
Acrobatics	Acrobatic maneuvers or intentional maneuvers resulting in abrupt changes in speed, direction, or altitude.

Phase of Operation	Definition (if not Self-Explanatory)
Aerial delivery of personnel or equipment	
Air-to-ground gunnery, rocketry, or bombing	
Air-to-air gunnery or rocketry	
Go-around - Planned	Includes touch-and-go. Ends when power can be safely reduced and the aircraft can maneuver freely.
Go-around - Unplanned	Intended to make full-stop landing. Ends when power can be safely reduced.
Refueling	

A3.5.3.11. ITEM 15--Type of Mishap. Select from **Table A3.2.**

Table A3.2. Types of Mishaps.

Type of Mishap	Definition
Propeller or Jet Blast	Injury or property damage resulting from contact with propellers or from propeller or jet blast.
Hard Landing	Stalling in or flying into runway or other intended landing space while landing.
Collapse or Retraction of Landing Gear	All of these occur on the ground, except those cases defined as wheels-up landings.
Undershoot	Landing short of runway or other intended landing space.
Overshoot	Landing too fast or too far down the runway.
Collision With Other Aircraft	Self Explanatory.
Collision With Ground or Water	Excludes collisions preceded by stalls, spins, spirals, explosions, or airframe failures. Do not use when pilot or crew ejects or bails out.
Other Collisions	Collisions with any objects except ground, water, or other aircraft. Excludes collisions preceded by stalls, spins, spirals, explosions, or airframe failures.
Spin or Stall	Includes all mishaps where the aircraft spins or stalls into the ground or water. Excludes hard landings, stalls occurring above the landing space while leveling off, airframe failures, midair collisions, and explosions.
Fire or Explosion on Ground	All mishaps resulting from fire or explosion on the ground.
Fire or Explosion in Flight	All mishaps resulting from fire or explosion in the air.
Airframe Failure	All mishaps involving failure of any part of the airframe, such as wing spars, empennage, hinges, and fuselage skin even though the aircraft lands safely without further damage. This also includes in-flight equipment losses not resulting from action or inaction of personnel.
Abandoned Aircraft	Ejections, or all personnel capable of piloting an aircraft abandon it in flight. Excludes spins or stalls, fire or explosion in the air, airframe failure, and collisions.
Equipment Loss in Flight	Mishaps where aircraft equipment, such as canopies, hatches, or drop tanks, is jettisoned or detached from the aircraft.

A3.5.3.12. ITEM 17--Airfield Data.

A3.5.3.12.1. Item 17E, "Distance of touchdown from runway" means distance from the approach or departure end of the runway to the first touchdown or impact point.

A3.5.3.12.2. Item 17J, "Conditions affecting occurrence". Use this block to record if the aircraft had a crash position indicator (CPI), emergency locator transmitter (ELT), or any other emergency locating device installed. Report if it operated and whether or not it was used to locate the aircraft or crew; "Operated but not used, etc." (Analysis of the emergency locator device's effectiveness belongs in Tab T). Indicate if a data recorder was installed and if data was recovered from it, "CSFDR Installed/No Data Recovered," etc.

A3.5.4. TAB D AF Form 711C, *Aircraft Maintenance and Materiel Report*. Use for Class A, B and C Aircraft and Unmanned Aerial Vehicle mishaps if a formal report is prepared.

A3.5.5. TAB G Flight and Personnel Records.

A3.5.5.1. Include a copy of the flight record page showing the most recent flight time (Do not include the mishap flight time). The record should be closed out as of the mishap date. Include flight time in each aircraft flown. Divide the data according to aircraft designation, inclusive dates flown, FP (Primary Flight Time), IP (Instructor Flight Time), or EP (Evaluator Flight Time), and total time.

A3.5.5.2. Include a recap of sorties and hours flown in the last 30, 60, and 90 days. Add an additional breakout by "Flight Condition Time" (see AFI 11-401, *Flight Management)*, if appropriate.

A3.5.6. TAB H AFTO Form 781 Series.

A3.5.6.1. Include a copy of the AFTO Form 781*, AFORMS Aircrew/Mission Flight Data Document* (or proper missile maintenance form), if it adds to the report.

A3.5.6.2. Include copies of AFTO 781A*, Maintenance Discrepancy and Work Document*, AFTO Form 781H*, Aerospace Vehicle Flight Status and Maintenance Document*, AFTO Form 781K, *Aerospace Vehicle Inspection, Engine Data, Calendar Inspection and Delayed Discrepancy Document*, and any other AFTO 781 series form (or applicable missile maintenance forms), if they add to the report. If these forms are not included the Investigation Officer or Maintenance Member will provide a summary of the information contained in them. 781 data is also archived in the Consolidated Aircraft Maintenance System (CAMS). Ensure this data is reviewed as well as existing 781 series forms.

A3.5.7. TAB I Product Quality Deficiency Reports (PQDR). Include all PQDRs submitted in conjunction with the mishap investigation. Include a copy of the submitted PQDR report containing the following information: Report Control Number (RCN), Cognizant Official, name of part (nomenclature), and part number.

A3.5.8. TAB J Technical and Engineering Evaluations of Materiel. If DoD personnel provided written reports, include them here. Do not provide a promise of confidentiality to DoD personnel. Include on-scene evaluations submitted by DoD personnel in this tab. Use the format in **Figure 4.1.** for these reports. Factual reports or information provided by a contractor, which the contractor's representative has determined does not require the promise of confidentiality, are placed in Tab J followed by a memorandum of acknowledgment (**Figure 2.2.**). Joint ALC and contractor factual reports should also be placed in Tab J. Any analysis referring to privileged information (e.g., witness testimony, board conclusions, etc.) should be included in an addendum and placed in Tab W.

A3.5.9. TAB K DD Form 175, or Authorized Substitute Flight Plan Forms. Include a copy of the clearance form and a weather summary. Include flight orders of the pilot or crew if prepared. Include a passenger manifest if the mishap aircraft was carrying passengers during the mishap flight. If there was no manifest, use any document, paper, or list giving the complete name, grade, and SSAN of all crew and passengers.

A3.5.10. TAB L DD Form 365-4, *Weight and Balance Clearance Form F-Transport/Tactical*. Include a copy of the weight and balance computations on file for the flight involved. If the SIB prepares a separate weight and balance form using available data to determine weight and CG at the time the mishap occurred, do not include it here; instead, place it Tab T of Part II of the report.

A3.5.11. TAB M Certificate of Damage. This lists the total damage to all government property, materiel, and equipment. See paragraph **3.5.** for damage cost guidelines. Provide a detailed statement that includes acquisition, replacement or repair costs (as applicable) for all property, material or equipment damaged. Include nomenclature and national stock number (NSN) if available. See **Table A3.3.**

Table A3.3. Certificate of Damage (Example).

Item (Stock Number)	Cost
F-16D 90-XXXX	16,200,000.00
Centerline Pylon (NSN XXXX-XX-XXX-XXXX)	12,000.00
Flare Mod (NSN XXXX-XX-XXX-XXXX)	1,500.00
30 X M206 Flare (NSN XXXX-XX-XXX-XXXX)	880.00
Destroyed GMV (NSN: XXXX-XX-XXX-XXXX)	9,500.00
Total Cost	16,223,880.00

A3.5.12. TAB N Transcripts of Recorded Communications. These are written transcripts of recorded "Air-to-Ground" or "Aircraft-to-Aircraft" voice communications. Begin the transcript as early in the mishap sequence as is practical and end the transcript when all damage and injury has occurred. Long term rescue/SAR transmissions need not be included. Because these transcripts are factual data, they often provide a basis for information in the factual summary of circumstances. Transcripts of intra-cockpit communications are placed in Tab O.

A3.5.13. TAB O Any Additional Substantiating Data or Reports. This is supporting data not otherwise defined. It can include local operating instructions (OI), directives, approach and landing charts, training records, flight data recorder information, transcripts from cockpit voice recorders, non-privileged witness statements and other forms. If the SIB cites a brief document (such as a three-page local OI), place it within this Tab. Do not mark, highlight, or extract a particular page to show the SIB's exact area of interest. (Highlighted pages are placed at Tab T.) For lengthy documents, it is sufficient to show a listing of documents or records reviewed by the SIB and their effective dates. Films or videotapes depicting the actual mishap sequence or mishap scene, but not containing any privileged safety material, that are part of the formal report, should be located within this Tab. List the tape or film on the index page and give the original to the AFI 51-503 Accident Investigation Board (AIB).

A3.5.14. TAB P Statement of Damage to Private Property. Omit if no private property was damaged in the mishap. If private property is damaged, the Investigating Officer will draft a statement indicating the type of property damage involved (e.g. 20' x 30' x 15' deep crater in NW corner of property, 5 acres of grasslands destroyed, etc.) The statement will not contain damage cost estimates, but only describe the damage incurred. Additionally do not state the cause of the property damage (e.g. 5 acres of grassland destroyed by post impact fire). Statement should be no more than a brief description of the type and extent of damage to civilian personnel and property.

A3.5.15. TAB Q Orders Appointing SIB. Include one copy of the orders appointing the SIB (or investigating officer). The orders must contain the full name; rank/ grade, SSAN, organization, and complete official mailing address for each appointed person.

A3.5.16. TAB R Diagrams (Fallout, Impact Area, etc.). Ensure diagrams are self-explanatory. Include only those diagrams that add to the report such as wreckage patterns, impact areas, or route-of-flight. Indicate direction with a northward pointing arrow on each diagram. If practical, indicate scale. Ensure the diagrams do not depict the location of human remains. Such diagrams should be placed in Part II, Tab Y to protect the privacy interests of the decedent's family.

A3.5.17. TAB S Photographs. Well-defined photographs help in mishap analysis. Use them to show damage, impact areas, metal fractures, flight path, vehicle travel, etc. Only include photographs aiding in understanding the mishap, and reference them in the analysis at Tab T. Use of scanned or color copies for reproduction in the formal report is preferred over pasting of actual photographs. Do not include photographs of deceased personnel in the safety report. Place an index of photographs at Tab S to aid reviewers. Do not refer to privileged safety information on the page captions or in comments on the index. Staged photographs are placed at Tab T near the related narrative. For example, include pictures of models showing flight paths in a midair collision at Tab T. Pointing with a finger or other device at a portion of wreckage does not make the photograph staged. Assembling or reconstructing damaged parts or aligning parts to show fire patterns or impact marks are examples of staged photographs. Depictions of cockpit indications for a given set of assumptions made by the SIB or described in witness testimony are staged photographs. When investigators include privileged safety information on a transparent overlay, place the photograph with the overlay in Tab T and the photograph without the overlay in Tab S. Hold all photographs and videotapes taken by the SIB, except those staged for analysis, for use by the AIB.

A3.6. PART II--SIB OR INVESTIGATOR ANALYSIS:

A3.6.1. TAB T Investigation, Analysis, Findings, and Recommendations.

A3.6.1.1. This is the most important part of the report. It draws on all portions of the report to provide a complete picture of what happened. It is a thorough analysis of all evidence and the findings, causes, and recommendations. This section records the opinions of the SIB, and it either accepts or rejects all scenarios or theories in the report. Only in the case of a minority report are there differing findings, causes, or recommendations. Life sciences recommendations related to causal findings will be included with the other SIB recommendations. Place all privileged status messages and the final CMR in this Tab. The layout should be as follows:

A3.6.1.1.1. Executive Summary - provide a condensed version of the mishap report that encapsulates the mishap sequence, analysis, and board's primary findings, causes and recommendations. (This should be two or three pages in length.)

A3.6.1.1.2. Mishap Sequence.

A3.6.1.1.3. Investigation and Analysis.

A3.6.1.1.4. Findings and Causes.

A3.6.1.1.5. Recommendations.

A3.6.1.1.6. Other Findings and Recommendations of Significance.

A3.6.1.2. Place films or videotapes depicting the actual mishap sequence and containing privileged safety material that are part of the formal report with this tab. List the mishap tape or film on the index page. Video or computer animations or reenactments of a mishap prepared for or by the SIB are part of the SIB's analysis of the mishap. Reference these video simulations or reenact-

ments on the Tab T index page and include the video simulation with the copy of the report sent to HQ AFSC/CC. All other copies of the video simulation should be destroyed when no longer needed by the SIB for analysis or briefing. HQ USAF/SE may authorize use of these SIB video simulations for mishap prevention purposes.

A3.6.1.3. Whenever findings or recommendations involve deficiencies in or changes to technical orders, flight manuals, checklists, or directives, include applicable portions of the original publications in this Tab. The SIB's conclusion that a particular paragraph of a document was or was not a mishap factor is privileged. Place highlighted pages or publication extracts revealing the deliberative process of the board in Tab T. Include copies of submitted AFTO Form 22s or AF Form 847s as attachments to Tab T.

A3.6.2. TAB U Statements and Testimony of Witnesses and Persons Involved. Investigators take statements from all individuals involved in the mishap or who were eyewitnesses to it. A promise of confidentiality may be given to any witness whom the SIB determines should be extended such a promise. A promise of confidentiality shall not be given on a blanket basis to every potential witness. The promise of confidentiality must be clearly understood by those witnesses extended the promise and they must be given the opportunity to waive any confidentiality. Non-privileged statements will be placed in Tab O. Investigators must read the following Promise of Confidentiality advisory to each witness, and must read it onto all tape recordings of interviews:

"You are hereby advised that, as a witness to this investigation, your testimony will be used solely for mishap prevention purposes. Your statement will not be made available to anyone other than Air Force officials responsible for the assembly and approval of this investigation's report. The only exceptions to this would be to act on an allegation of false testimony or investigative misconduct, or to comply with a valid court order on behalf of a defendant in a criminal trial. Your statement may not be used as evidence by the Government in punitive actions or adverse administrative actions, such as a Flying Evaluation Board, a determination of line of duty status or pecuniary liability, or elimination from military service."

Transcripts of complete interviews must contain this advisory. In cases where witness testimony is summarized by the interviewer, it must be clear that the witness was advised of and understood this advisory. Where a promise of confidentiality has been extended, **Figure 2.3.** provides a sample witness statement format for use with written, privileged witness statements. Where a promise of confidentiality has not been extended, **Figure 2.4.** provides a sample witness statement format for use with written, nonprivileged witness statements.

A3.6.2.1. Select only meaningful statements and testimony to include in this tab. It is not necessary to publish every statement taken from every individual interviewed. Place the statements and testimony of each individual together in chronological order with the earliest on top to make it easier to compare the individual's impressions. Consider all statements and testimony included at this tab in the analysis at Tab T.

A3.6.3. TAB V. Statements of Persons Cited in Findings. Place the original and endorsed notification memorandums and any statements provided by persons found causal in a privileged safety investigation at this tab. Both the acknowledgment and any statement submitted will become part of the report at this Tab. See **Figure 5.1.**

A3.6.4. TAB W. Technical and Engineering Evaluations of Materiel. If a contractor who built, designed, or maintained the equipment provides an engineering analysis under a promise of confidentiality, include the evaluation in this tab. If possible, include a factual summary in Tab J. Also include

memorandums of acknowledgment on protection of privileged safety data signed by these contractors when their evaluations are included in privileged formal reports. Use the format in **Figure 2.2.**

A3.6.5. TAB X. AF Form 711F, *Nuclear Accident/Incident Report*: Submit with nuclear accident or incident reports involving: Nuclear weapon accidents and incidents or flight and missile mishaps if nuclear material is involved. Submit with nuclear reactor system or radiological safety reports involving nuclear reactor system or radiological accidents and incidents or flight and missile mishaps if nuclear power systems, radioactive material, or radioactive sources are involved.

A3.6.6. TAB Y. Life Sciences Narrative and Report. A typical Tab Y will contain the following in this order:

A3.6.6.1. Life Sciences narratives, Part I and Part II (Save as PART1.DOC and PART2.DOC).

A3.6.6.2. Electronic LSR (Save following program directions).

A3.6.6.3. Life Science and Human Factors Consultant Reports, when available (Save as HF.DOC).

A3.6.6.4. For each rated individual: the latest two physicals if one is long, otherwise include the last three physicals. For other individuals involved in the mishap only include physicals if determined appropriate by the medical investigator. Only place physicals in the report sent to AFSC.

A3.6.6.5. Any other reports obtained by the medical investigator, e.g. TOX tests, x-rays, autopsy reports, post mishap exam results, etc., that support findings or recommendations made by the medical investigator. Only place them in the report sent to AFSC.

A3.6.6.6. Send all saved files to AFSC/SEFL on a 3.5-inch disc when final. Label the diskettes with the name, location, and date of the mishap and the name, duty station and telephone number of the medical officer.

A3.6.7. TAB Z SIB Proceedings. This Tab is optional. SIBs may use this Tab to tell reviewing agencies about investigation problems and make recommendations for improving reporting and investigating procedures. Comments on technical assistance coordinated through HQ AFSC are also appropriate.

A3.7. ASSEMBLING THE FORMAL REPORT.

A3.7.1. Assemble the report in a three ring binder. Use the AF 711I, *USAF Mishap Report Index Tab, Part One – Facts* and AF 711J*, USAF Mishap Report Index Tab, Part Two – Board of Investigator Analysis*, dividers if available. Otherwise use standard dividers labeled A through Z.

A3.7.2. Type/print on both sides of 8.5 by 11 inch paper. Use Times New Roman, 12 point, for text documents. Vary the font size as needed for the 711 Series Forms.

A3.7.3. Under Page Set-Up in Microsoft Word (for other word processing programs follow the intent of these guidelines):

A3.7.3.1. Set Top and Bottom margins to one inch.

A3.7.3.2. Select “Mirror Margins” and set “inside” to 1.5 inches, “outside” to 1.0 inch. Set “gutter” to zero. (If you do not have a duplex printer, this will set the margins correctly for front-back reproduction. If you have a duplex printer this is the same as setting the left margin to 1.5 inches and deselecting “Mirror Margins”).

A3.7.4. Set header margin to .5 inches and ensure the following appears on each page of the report in the header block: "Aircraft Type, Aircraft Serial Number, and mishap control number" (e.g. F-15C, 85-0001, 19970516QKKA508A). Type it in 10 point Times New Roman, italicized and center it.

A3.7.5. Place a footer on each page in Part II of privileged safety reports using **Figure 2.5.**

A3.7.6. Arrange the tabs in alphabetical order, with Tab A on top. Number all pages in order within the tab (for example, A-1, A-2, X-1, X-2, Y-1, Y-2). Center page numbers at the bottom of each page.

A3.7.7. For bulky two-part reports, place Part I and II in separate binders. For non-privileged reports, place all of the report in one binder of an appropriate size or suitable 8.5 by 11-inch heavy-duty folder.

A3.8. Briefing Formal Reports . Once the SIB completes the investigation and finalizes the hard copy report and the final message, the board members will brief the MAJCOM/CC (convening authority) on the results of all Class A aviation and space mishaps or when directed by the convening authority. There will be no intermediate briefings prior to the MAJCOM/CC briefing. HQ USAF/SE will be the focal point for all briefings to the CSAF for those aviation mishaps involving fatalities or other mishaps when requested.

A3.8.1. Safety investigation briefings will be afforded the same protection given the formal report. The following format will be used to build the briefing:

A3.8.1.1. Title Slide. Include mishap type, unit, vehicle or material, date, time of occurrence, and board president.

A3.8.1.2. Board Composition. Show board members as well as technical experts consulted and used at the mishap scene.

A3.8.1.3. Overview. In bullet format present the basic circumstances of the mishap and give the bottom line cause(s) of the mishap.

A3.8.1.4. Aircrew Background. Give a chronological list of assignments for personnel involved and their flying experience. List the aircrew member's name on the slide. Include recent time, activities, and any other significant data or dates. Consider a subjective appraisal of the pilot, if appropriate. If the briefing is a ground mishap and involves maintenance personnel, provide similar experience details, to include skill and task training qualification.

A3.8.1.5. Sequence of Events. Use as many slides as necessary. Map/route segments, vertical view of maneuvers, artist's conceptions, or models can be helpful. Explain what the plan was, what should have happened if things had gone right, who was in charge, what were the rules of engagement and were they followed, where things went wrong, what should the aircrew have done, and what were the aircraft parameters at ejection or aircraft impact. Follow the same general guidance for ground mishaps.

A3.8.1.6. Areas Investigated and Determined Not To Be a Factor. Do not dwell on these. A listing is usually adequate.

A3.8.1.7. Areas Found To Be Factors in the Mishap. Discuss each in detail in follow-up slides. Be sure to discuss training, supervision, discipline, tactics, and weather, as appropriate.

A3.8.1.8. Findings and Causes. Use the number of slides necessary without overcrowding. Do not include the cause analysis (CAR) after causal findings.

A3.8.1.9. Conclusions and Recommendations. Use the number of slides necessary without overcrowding.

A3.8.1.10. Other Findings and Recommendations of Significance. Number sequentially. Place "Other Finding of Significance One" followed by "Other Recommendation of Significance One."

A3.8.1.11. Comments. Convening authority comments.

A3.8.1.12. Backup slides as determined by the Board President. May include:

A3.8.1.12.1. 72-Hour and 14-Day History. Be prepared to brief the 72-hour and 14-day history.

A3.8.1.12.2. Aircraft Maintenance History. Include significant write-ups, TCTOs, and materiel problems.

A3.8.1.12.3. Feel free to include any other pertinent information that supports the findings, conclusions, and recommendations.

A3.8.2. Visual Aids. Bring masters of all visual aids. Orient maps and diagrams to the north. Accomplish electronic presentations on Microsoft PowerPoint.

Attachment 4

CAUSAL-AGENT-AREA-REASON (CAR) DEFINITIONS

A4.1. CAUSAL AGENT: A person, item or condition identified as responsible for the causal finding.

A4.1.1. CONTRACTOR: Causal finding is the result of a contractor's actions.

A4.1.2. DIRECTIVES: Any written guidance/procedure (or lack of) identified as causal.

A4.1.3. ENVIRONMENTAL CONDITION: Causal finding resulting from wildlife or environmental conditions of such a magnitude that they could not have been predicted or prepared for, or for which all reasonable preparations had been taken. Causal Area must be Natural Phenomena.

A4.1.4. MATERIAL/EQUIPMENT: A part, equipment, or system identified as causal and, due to failure or improper design, fails or malfunctions.

A4.1.5. NON-AIR FORCE PERSON/PROPERTY: Any causal finding attributable to a non-Air Force person or non-Air Force property.

A4.1.6. PERSON: An individual/team/crew who performed, failed to perform, or was accessory to the performance of the activity identified as casual.

A4.1.7. SUPERVISION: Includes all levels from immediate supervisors through all levels of command.

A4.1.8. UNKNOWN: Explain fully in the narrative.

A4.2. ORGANIZATIONAL LEVEL : The organizational level where the causal agent was assigned. Off-duty mishaps will normally be categorized as "Other" because the "responsible agent" is not performing work-related activities.

A4.2.1. AFL: Air Force at Large (includes exchange students, military members in a nonpay status while waiting for appellate review if they have no written or verbal orders to return to an Air Force installation, prior service personnel on leave before reporting to initial permanent duty assignment, terminal leave, etc.).

A4.2.2. CENTER: Includes Air Logistics Centers and other Centers/Laboratories (Development or Flight Test Center, AF Laboratories, etc.).

A4.2.3. DET/OL: Includes detachments and operating locations.

A4.2.4. DoD/USAF: Includes Department of Defense and Air Staff, HQ, USAF.

A4.2.5. FOA/DRU: Field Operating Locations and Direct Reporting Units.

A4.2.6. MAJCOM/NAF: Includes Major Command and Numbered Air Force.

A4.2.7. N/A: Not Applicable. Used when the causal agent is not a person and has no command level or functional level. Also includes individuals with no military affiliation.

A4.2.8. OTHER: If used for a casual agent in other than an off-duty finding, the investigator must fully explain in the narrative.

A4.2.9. SQDN/FLT: Includes Squadron and flight levels.

A4.2.10. WING/GROUP: Includes Base, Wing and Group organizational levels.

A4.3. FUNCTIONAL AREA: The functional area where the causal agent was assigned and performing when the causal finding occurred. Off-duty causal findings will normally be assigned to the "Person" or "Non-Air Force" functional area because the agent was not performing Air Force work related activities. (Sources include AFM 37-127 & AFI 38-101).

A4.3.1. AQ: Acquisition/Material Management.

A4.3.2. CC: Command. Includes Public Affairs (PA), Safety (SE), History (HO), Staff Judge Advocate (JA), Command Post (CP), Chaplain (HC), Manpower and Quality (MQ), Plans (XP), Social Actions (SA) Inspector General (IG), Environmental Management (EM), and Information Management (IM).

A4.3.3. CE: Civil Engineer.

A4.3.4. DO: Operations (Does not include Maintenance or Operations Support).

A4.3.5. DP: Personnel (Such as the Military Personnel Flight, Civilian Personnel Flight, Education Services, PME Flight, and Family Support Flight).

A4.3.6. FM: Comptroller.

A4.3.7. LGC: Contracting.

A4.3.8. LGL: Logistics Support. (Such as Operations, Training, and Plans).

A4.3.9. LGM: Aircraft Maintenance (Off-Equipment).

A4.3.10. LGS: Supply.

A4.3.11. LGT: Transportation.

A4.3.12. LGW: Munitions.

A4.3.13. MA: Aircraft Maintenance (On-Equipment).

A4.3.14. N/A: Not Applicable. Only used when the agent is not a person and therefore has no command level or functional area.

A4.3.15. NOAF: Non-Air Force Person/Property.

A4.3.16. OS: Operations Support (Such as Airfield Operations, Weapons, Tactics, Life Support, Current Ops, Training, Weather and Plans).

A4.3.17. PRN: Person (Primarily used for Off Duty Mishaps).

A4.3.18. SC: Command-Control, Communication and Computers.

A4.3.19. SG: Surgeon General.

A4.3.20. SF: Security Forces.

A4.3.21. SV: Services (Includes MWR).

A4.4. CAUSAL FINDING AREA: A broadly defined area accountable for the causal finding agent. For off-duty ground findings, this will not be specifically "accountable" but will be the overall area where the finding occurred. The CAUSAL FINDING AREAS applicable to all mishaps are:

A4.4.1. LOGISTICS: Any causal finding resulting from acquisition, manufacturing, procurement, modification or design, not involving maintenance personnel or operations personnel.

A4.4.2. MAINTENANCE: Any causal finding attributed to Air Force or contract maintenance personnel (includes depot maintenance personnel).

A4.4.3. NATURAL PHENOMENA: Any causal finding resulting from wildlife or environmental conditions encountered of such a magnitude that they could not have been predicted or prepared for, or for which all reasonable preparations had been taken.

A4.4.4. OPERATIONS: Any casual finding attributed to Air Force or contract aerospace operations personnel (does not include maintenance personnel assigned to the operations group).

A4.4.5. SUPPORT: Any installation level causal finding not attributed to operations, maintenance, or logistics. Include Civil Engineering, Supply, Security Forces, Services, Transportation, etc., in this area.

A4.4.6. UNKNOWN: Explain fully in the narrative.

A4.4.7. The following CAUSAL FINDING AREAS are applicable to **GROUND** mishaps only:

A4.4.7.1. HOME/DOMESTIC: Any causal finding resulting from activities in or around a home or dormitory (e.g., yard work, home repair/maintenance, falls on stairs/steps, falls on ice, etc.).

A4.4.7.2. MEDICAL: Any causal finding over which any medical commander has control.

A4.4.7.3. MISCELLANEOUS: Any causal finding resulting from activities occurring in an area not listed (e.g., working on a vehicle at a hobby shop, injured while shopping, slip/fall that did not occur at a home, dormitory or duty environment).

A4.4.7.4. PMV OPERATIONS: Any causal finding resulting from the operation of a private motor vehicle (includes 4 and 2 wheel vehicles, bicycles used for transportation, pedestrians struck by PMVs etc. (Note: All Terrain Vehicle (ATV) mishaps are reported as recreation).

A4.4.7.5. RECREATION: Any causal finding resulting from sporting or recreational activities (e.g., walking, jogging, dancing, hiking, baseball, basketball, compulsory sport activities, off-duty parachute jumps or skydives, etc.) Includes ATV mishaps.

A4.5. REASON: An underlying fact providing logical sense for the occurrence of the causal finding. The REASON area is broken down into four areas: People, Parts/Paper, Natural Phenomena and Unknown. People is further subdivided into three broad areas; Physical Reasons, Personnel Reasons and Psychological Reasons. The REASON area will normally be related to the "CAUSAL AGENT" (e.g. if the Causal Agent is Directives then the reason would normally be in the "Paper" area). However, investigators should pick the single reason that best explains why the causal finding occurred.

A4.5.1. PEOPLE REASONS

A4.5.1.1. **PHYSICAL**

A4.5.1.1.1. ERGONOMIC: Human physical limitations (such as height, weight, strength and build) that contributed to the causal finding.

A4.5.1.1.2. SELF INDUCED STRESSORS: Any self imposed practice to include voluntary use of drugs or medication, prescribed or non-prescribed, alcohol, sleep deprivation, diet alter-

ation, inadequate hydration, or exercise regime that adversely affects perception, balance, alertness, judgement, thinking ability, or coordination.

A4.5.1.1.3. PATHOLOGICAL: Pre-existing physical, mental or emotional illness affecting performance.

A4.5.1.1.4. PERCEPTIONS: Misinterpretation of height, time, distance, closure, speed, disorienting stimuli, or confusing stimuli. Includes failure to see, hear, smell, feel or taste stimuli present in sufficient magnitude and importance to elicit a reasonably expected action. Includes unrecognized spatial disorientation not accompanied by discomfort or confusion.

A4.5.1.1.5. PHYSIOLOGICAL: Adverse conditions or reactions disrupting normal biological functions or processes. Examples: hyperventilation, loss of equilibrium, fatigue (physical exhaustion), hypoxia, GLOC, decompression sickness, trapped gas, kinesthetic response to stimuli, acceleration-induced compromise and illusions, or recognized disorientation ranging from mild discomfort (e.g., the leans) to total incapacitation.

A4.5.1.2. **PERSONNEL**

A4.5.1.2.1. PROFICIENCY: Individual was adequately trained and met minimum qualification standards but was not able to perform assigned task at an acceptable level. (Skills Maintenance)

A4.5.1.2.2. MANNING: Insufficient authorized/assigned personnel and/or insufficient critical skill levels/experience to accomplish an event/task.

A4.5.1.2.3. TRAINING: Inadequate, inappropriate, or no training standards for the event/task. (Skills Acquisition)

A4.5.1.2.4. UNAUTHORIZED MODIFICATION: Modifications made without manufacturer or Air Force approval.

A4.5.1.3. **PSYCHOLOGICAL**

A4.5.1.3.1. ACCEPTED RISK: Decision made to perform the activity after completing an appropriate risk assessment.

A4.5.1.3.2. ATTENTION MANAGEMENT: Attention anomalies including distraction, channelized attention, inattention or habit pattern interference.

A4.5.1.3.3. COGNITIVE FUNCTION: Alteration in the ability to interpret and use information needed to accomplish a task. Includes insufficient aptitude or cognitive abilities, misinterpretation of data, task saturation, and alterations in psychomotor coordination.

A4.5.1.3.4. DISCIPLINE: Willful noncompliance with known and understood directives or accepted standards of conduct and behavior. Includes “horseplay.”

A4.5.1.3.5. EMOTIONAL STATE: Feelings manifested through behavior or speech such as complacency, over-motivation, emotions, moods, fatigue (emotional exhaustion), stress, anxiety, suffering, task apprehension, or worry derived from environmental or personal situation.

A4.5.1.3.6. INADEQUATE RISK ASSESSMENT: Decision made to perform the mission/task without completing an appropriate risk assessment.

A4.5.1.3.7. JUDGMENT: Inappropriate assessment of information vital to decision making. Includes task prioritization and task management.

A4.5.1.3.8. PREPARATION: Inadequate mission/task preparation to include planning, briefing, flight clearance, weather clearance, preflight, required pre-use inspections, TDY checklists, vehicle inspection or maintenance (on or off duty).

A4.5.2. PARTS/PAPER REASONS

A4.5.2.1. ATTRITION: Decision made to replace by attrition in lieu of issuing a time compliance technical order (TCTO) or retrofit package.

A4.5.2.2. DESIGN: Systems or components were inadequately designed or built to inadequate specifications or requirements.

A4.5.2.3. FAULTY-PART: Part or personal equipment (life support items, tools, equipment designed for use by the individual) failed prior to reaching designed lifetime or functioning incorrectly.

A4.5.2.4. MANUFACTURE: Use this category when a supplier provides deficient or inadequate equipment/systems that were originally procured using reasonable specifications.

A4.5.2.5. PUBLICATIONS: Inadequate or misleading technical data, procedures, instructions, or directives. Use this category only when it is determined that an organization/agency made reasonable efforts to acquire and publish adequate information. If an organization/agency knew of the incorrect information and did not change this information, then use an appropriate person category.

A4.5.3. NATURAL PHENOMENA

A4.5.3.1. ANIMAL: A collision with, ingestion of, or attempt to avoid an animal (including birds) that results in damage where reasonable preparations were taken to avoid such an incident.

A4.5.3.2. ENVIRONMENTAL CONDITION: Environmental conditions were encountered of such magnitude that the damage occurred despite reasonable weather predictions and preparations.

A4.5.4. UNKNOWN

UNKNOWN: Narrative must contain a full explanation of why this reason was selected.

Attachment 5

CMR LOOK-UP TABLE

A5.1. CMR Values Common To All Mishap Categories.

MAJCOM

ACC (Air Combat Command)	AAG (AF Audit Agency)
AET (Air Education & Training Command)	AIA (Air Intelligence Agency)
AFE (US Air Forces in Europe)	APC (AF Personnel Center)
AFR (AF Reserve Command)	AWS (Air Force Weather Agency)
	BDA (AF Base Conversion Agency)
AMC (Air Mobility Command)	CBT (AF Operations Group)
ANG (Air National Guard)	CCE (AF Cost Analysis Agency)
MTC (Air Force Materiel Command)	CFH (AF History Support Office)
PAF (Pacific Air Forces)	CMC (AF Communications Agency)
SAJ (US Strategic Command)	CSA (AF Studies and Analysis Agency)
SOC (AF Special Operations Command)	EEC (AF Center for Environmental Excellence)
SPC (AF Space Command)	ESC (AF Civil Engineering Support Agency)
	FSA (AF Flight Standards Agency)
ZEC (AFELM US Central Command)	FMC (AF Frequency Management Agency)
ZLA (AFELM US Atlantic Command)	HRC (AF Historical Research Agency)
ZPA (AFELM US Pacific Command)	ICT (AF News Agency)
ZSA (AFELM US Southern Command)	ISC (AF Inspection Agency)
ZSD (AFELM US Transportation Command)	LCT (AF Legal Services Agency)
ZVA (AFELM US Special Operations Command)	LMA (AF Logistics Management Agency)
	MEA (AF Mgmt Engineering Agency)
ACD (Air Force Academy)	MOA (AF Medical Operations Agency)
DOC (AF Doctrine Center)	MSA (AF Medical Support Agency)
ESW (11th Wing)	MWR (AF Services Agency)
TEC (AF Operational Test & Eval Center)	OSI (AF Office of Special Investigations)
USL (USAF At Large)	OSP (AF Security Police Agency)
	PCA (AF Pentagon Comm Agency)
	POA (AF Personnel Operations Agency)
	REA (AF Real Estate Agency)
	RBO (AF Review Boards Agency)
	RPC (Air Reserve Personnel Center)
	SFT (AF Safety Center)
	SSE (Joint Services SERE Agency)
GRADE	
Note: This is not a true look-up table but a guide to the type of grade structures used.	

AFFN – FN1 (wage grade equivalent)	OSI (OSI agent)
FN2 (administrative)	PS1-PS19 (patron service)
FN3 (management)	ROTC (ROTC cadet)
AS1-AS19 (administrative service)	SES1-SES6 (senior executive)
CDT (academy cadet)	UA1-UA9 (universal/annual)
E1-E9 (enlisted)	UNK (unknown)
GM13-GM15 (general manager)	W1-W4 (warrant officer)
GS1-GS15 (general schedule)	WB1-WB19 (wage board)
NA1-NA15 (trades and crafts)	WG1-WG19 (wage grade)
NL1-NL15 (trades and crafts work leader)	WL1-WL19 (wage leader)
NS1-NS15 (trades and crafts supervisor)	WS1-WS19 (wage supervisor)
O1-O10 (officer)	
CC1-CC5 (trades and crafts child development)	

COMPONENT

AFFN (foreign civilian employee)	NAF (non-appropriated fund civilian)
CIV (non-Air Force civilian)	OTHER
DAFC (DAF civilian employee)	USAF (military)
DoD (non-Air Force military)	YOP (youth opportunity program & student assistance program employees)
FMIL (foreign military assigned to Air Force)	

SUBSTANCE TYPE

Alcohol	None
Drugs, OTC (over-the-counter)	Other
Drugs, Other	Unknown
Drugs, Rx (prescription)	

INJURY CLASS

FT (Fatal)	OT (Other)
LT (Lost Time)	PP (Perm partial)
LW (Lost Workday(s))	PT (Perm total)
NL (No Lost Time)	TR (Treated and Released)
NO (None)	

BODY PARTS INJURED

Abdomen	Face	Mouth/Teeth
Ankle	Finger	Neck
Arm, lower	Foot	Other
Arm, upper	Hand	Ribs
Back	Head	Shoulder
Body, all	Hip	Thumb
Chest	Knee	Toe
Elbow	Leg, lower	Wrist
Eye	Leg, upper	

TYPE INJURY

Abrasion	Dislocation	Laceration
Amputation	Drown/Suffocate	Other
Bruise	Electric Shock	Puncture
Burn	Electrocution	Rupture
Collapsed Lung	Fracture	Sprain
Concussion	Gunshot	Strain
Contusion	Internal Injury	Unknown
Crush		

A5.2. **CMR Values For Aircraft Mishaps.**

AIRCRAFT		
CROSS CATEGORY	**SUBCATEGORY**	
Ground	Aircraft Structural Failures (ExcludingLanding Gear)	Fuel System Failures
Missile	Bird strikes	Hydraulic or Pneumatic Failures
Explosive	Bleed Air Failures	Landing Gear Failures
Space	Cargo Drop	Midair Collisions
None	Collision with the Ground (Range)	Miscellaneous
	Collision with the Ground (Non-Range)	Other
	Communication/Navigation	Pilot Induced Control Loss
	Electrical Failures	Pilot Induced Flameouts
	Engine Confined FOD	Pilot Induced Landing Mishaps
	Engine Confined Non-FOD	Pilot Induced Takeoff Mishaps
	Engine Failures	Propeller Failures
	Facilities	Tests
	Flight Controls	Undetermined
	Flight Instrument Failures	Weather

AIRCRAFT - PERSONNEL			
ROLE IN EVENT (Activity At Time Of Mishap)		**CREW POSITION** Use 2-letter flight authorization code from AFI 11-401 *Flight Management*	
		First Letter	**Second Letter**
Aircraft Commander (not operating the aircraft) Air Traffic Controller Boom Operator Copilot Defensive Systems Operator ECM Operator EWO/WSO Flight Engineer Flight Examiner Flight Surgeon Gunner Instructor Pilot Loadmaster	Medical Technician Navigator Navigator (Other) Non Crew Member Pararescue Paratrooper Passenger Person on Ground Pilot Other Crew Member Radar Navigator Radar Operator Radio Operator Student pilot/co-pilot Student Navigator	E (evaluator) F (qualified) I (instructor) M (mission qualified) O (senior evaluator) S (student) U (unqualified) X (other/inactive)	A (other nonrated crew) B (boom operator) C (copilot) E (electronic warfare officer) F (flight engineer) G (aerial gunner) H (flight nurse) J (pararescue member) K (comm syst officer) L (loadmaster) N (navigator) P (pilot) R (nav-bombardier) S (flight surgeon) W (weapon syst officer) Z (air battle staff)

AIRCRAFT - PERSONNEL		
SAFETY EQUIPMENT	**RPI CODE** From AFI 11-401 *Flight Management*.	**EJECTION/BAILOUT ATTEMPT**
Engine fire supp	0 (nonrated duty)	Bailout atmpt succ
Fire extinguisher	1 (pilot)	Bailout atmpt unsucc
Life preserver	2 (navigator/observer)	Inadv/mech init-succ
Life raft	3 (staff or support, wing level or below, nonflying)	Inadv/mech init-unsucc
Oxygen mask	4 (staff or support, above wing level, nonflying)	No ejection seat
O_2 system (aircraft)	5 (flight surgeon)	Not initiated
O_2 system (portable)	6 (staff or support, wing level or below, flying)	Other crew init succ
Other	7 (Air Force exchange position)	Other crew init unsucc
Safety strap	8 (staff or support, above wing level, flying)	Self init succ
Seat restraint		Self init unsucc
Smoke masks		

AIRCRAFT - OBJECT/VEHICLE			
AIRCRAFT ACTIVITY AT TIME OF MISHAP			
Air to Air Training	Close/Fingertip Formation	GCA Surveillance Approach	Pattern (Final/Initial/etc)
Air to Ground Gunnery	Confidence Maneuver	Go Around from Final	Photo (Hand Held Camera)
Air Refueling	Controlled Range	Gun Air to Air	Popup Pattern
Air Refueling (Boom/Receptacle)	Conventional	High Angle	Practice Ordinance
Air Refueling (Probe/Drogue)	Crossover/Under	High Altitude	Radar Delivery
Abort (Takeoff Discontinued)	Dissimilar Air Combat Training	Parachute Extraction	Aerial Reconnaissance
Air Combat Maneuvers	DART/Tow	Hover	Recovery
Acrobatics	Dissimilar Basic Fighter Maneuvers	ILS	Rockets
Air Combat Tactics	Defending	Localizer only ILS	Roll for T/O or Landing
Air to Ground Missiles	Dissimilar Formation	Station Keeping (SKE)	Route Formation
Automatic Landing System	Ditching	Initial Intercept	Search and Rescue
Airborne Approach RDR	Cargo Drops	Join/Rejoin	Simulated Flameout Pattern
Attacking	Dry	Low Level	Airshow Demonstration
Auto Rotation	ECM	Low Angle Bomb	Simulated Emergency/ Precautionary Landing
Base Leg	Emergency/Precautionary Landing	LANTIRN	Flight Splitup/Leaving Formation
Basic Fighter Maneuvers	Enroute	Low Altitude Targeting Infrared/Radar	Strafe
Bombs	Close Air Support FAC	Level	Touch and Go
Close Air Support	Functional Check Flt	Live Air to Air Ordinance	TACAN Landing
Cell Formation	Final	Live Air-to-Ground Ordinance	Tactical Formation
Chase Formation	Flare (final roundout for landing)	Low Level at Min Enroute Altitude	Temporarily in Formation
	Formation	Visual Low Level	TFR
	Ground Controlled Approach (GCA)	Lost Wingman	Trail Formation
	GCA Monitor Only	Low Approach	Unauthorized
	GCA Precision Approach	Night Mission	Visual Approach
		Night Vision Goggles	Visual Delivery
			VOR Approach

AIRCRAFT - OBJECT/VEHICLE		
MISSION SYMBOL See AFI 11-401, *Flight Management,* for a complete listing	**PHASE OF FLIGHT**	**MAJOR SYSTEM THAT FAILED**
A1 Scheduled Flights	Autorotate	Airframe
A2 Sched Air Evac Flt	Cruise Climb	Bleed Air
A6 Tactical training	Cruise Descent	Boom AR System
M1 Cargo	Cruise Low Level	Boundary Layer Control System
M3 Cargo or Passengers	Cruise Maneuvering	Communication System
M8 JA/ATT	Cruise	Computer
N1 Training & Standard.	Hover	Control Display
N2 Tactical Training	Landing Final Approach	Electrical System
O1 Combat	Landing Flare	Engines-Reciprocating
O2 Combat Support	Landing Pattern	Engines-Turbine
O3 Aircraft Delivery	Landing Rollout	Flight Controls
O4 Test	Arming Ordinance	Fuel System
O5 Direct Test Support	Parked Chocks	Hydraulic System
O8 Mx Tests/FCF	Parked Dearming Ordinance	Instruments
O9 Op. Reconnaissance	Parked Engines Running	Landing Gear
OA Cross Country	Parked Refueling	Ordnance
OB Red Flag	Parked Found During Inspection	Other
OD Special Exer	Parked Engine Start	Oxygen System
S2 Personnel	Simulated Flameout Pattern	Pitot/Static System
S7 Aircrew Qualification	Takeoff Abort/Discontinued	Pneumatic System
S8 Proficiency Training	Takeoff Initial Climb	Power Plant Components
SA HHQ Directed	Takeoff Runup Check	Pressurization, Bleed Air
SF Special Exercise Lcl	Takeoff Roll	Probe & Drogue AR System
SG Special Exer ORI	Taxi After Landing	Prop System
T1 Student Training	Taxi Out	Rotor System
T2 Formal Training		Survival Life Support Equipment
T3 Operational Trng		Susp/Rel Sys
T6 Low Level Missions		Warning Systems

A5.3. CMR Values For Ground Mishaps.

GROUND	
CROSS CATEGORY	**SUBCATEGORY**
Aircraft	Motor Vehicle: Government Motor Vehicle (GMV)
Explosive	Motor Vehicle: Government Motor Vehicle Other (GVO)
Missile	Motor Vehicle: Private Motor Vehicle (PMV)
Space	Ground and Industrial: Combat training
None	Ground and Industrial: Contractor
	Ground and Industrial: Commercial carrier
	Ground and Industrial: Sports and recreation
	Ground and Industrial: Miscellaneous
	Maritime
	Natural Phenomena
	Off-duty: Sports and recreation
	Off-duty: Commercial carrier
	Off-duty: Miscellaneous
	Fire

GROUND - PERSONNEL			
PERSONNEL IDENTIFICATION	**PERSONNEL ACTIVITY AT TIME OF MISHAP**	FUNCTIONAL AREA	SAFETY EQUIPMENT

Bystander/Spectator	Assembling/ Disassembling	Operating	Acft Maint	Airbags
Operator	Backing	Other	Aerial Port	Climbers belt
Participant	Bending/Leaning	Painting	Basic Tng	Ear protection
Passenger	Carrying	Pulling	CE	Eye/Face Protection
Pedestrian	Cleaning	Pushing	Combat Trng	Fall Arrest System
Spotter	Climbing	Raising Up	Communication	Fall Protection
Supervisor	Closing/ Opening	Reaching	Exp Ord Disp	Foot Protection
Worker/Observer	Connecting/ Disconnecting	Removing	Finance	Full Body Protection
	Cooking	Riding In/On	HQ and Staff	Hand Protection
	Crawling	Running	Medical Serv	Head Protection
	Cutting	Shoveling	Missile Maint	Personal Flotation Devices
	Eating/ Drinking	Sitting	Operations	None
	Entering/ Exiting	Sleeping/ Reclining	OSI	Other
	Fire Fighting	Sports	Other	Respiratory Protection
	Fueling/ Defueling	Standing	Personnel	Seat belt
	Handling	Stepping Striking	Photo Lab	Shldr harness
	Horseplay	Testing	PME Lab	
	Inspecting	Throwing	Recruit Serv	
	Installing	Training	Research & Dev	
	Jumping	Unjamming	Safety	
	Lifting	Use Hand Tool	Security Police	
	Loading/ Unloading	Use Pwr Eqpt	Services	
	Lowering	Use Pwr Tool	Supply	
	Maintenance	Walking	Tech Trng Cntr	
	Observing	Welding	Transportation	

GROUND - OBJECT/VEHICLE			
PROPERTY COMPONENT	**PROPERTY DESCRIPTION**	OBJECT/VEHICLE ACTIVITY AT TIME OF MISHAP	MAJOR SYSTEM THAT FAILED

Aircraft Building Devices Equipment Explosive Furnishing Hand Tools Miscellaneous Other Power Tools Vehicle	Ambulance ATV Bicycle Building Bus Crane Forklift GVO Hangar Manual hand tools Mechanical machines Motorcycle	Non-powered AGE Other Powered machines Powered AGE Powered hand tools Pvt Veh Semi truck w/o trailer Semi truck w/trailer Truck < 2.5 ton Truck > 2.5 ton	Acft shutdown Acft taxi Acft tow Backing Left Turn Maintenance Moving fwd Other Other Eqpt Ops Parked Passing Right Turn Stopped Turning U turn	Insert an entry as needed. No look-up table is available or required

A5.4. CMR Values For Missile Mishaps.

MISSILE			
CROSS CATEGORY		**SUBCATEGORY**	
Aircraft	Space	Air Launch	RPV
Explosive	None	Gnd Launch	Silo Launch
Ground		Other	

MISSILE - PERSONNEL

PERSONNEL IDENTIFICATION	PERSONNEL ACTIVITY AT TIME OF MISHAP		FUNCTIONAL AREA	SAFETY EQUIPMENT
Cmdr	Arming	Monitor/Obser	Cont/RDR	Ear protection
Co-driver	Assembling	Operating	Contractor	Eye/face protect
Deputy	Con/Discon	Other	Convoy Ops	Foot protect
Driver	Dearming	Parachute	Elect Lab	Full body
Escort	Disassembling	Parking	Field Maint	Gloves
Operator	Disposal	Raising	Insp/QA	Harness
Other	Elect Check	Servicing	MSL/Recov	Helmet/hardhat
Range Officer	Emer Response	Storing	Ops	None
Safety Repr	Inst/Checkout	Testing	Org Maint Pneu	Other
Spectator	Inst/Remove	Transporting	Other	Respirator
Spotter	Loading	Unloading	Overhaul/Depot	Restraint dev
Supervisor	Lowering	Welding	Propellant	Safety belt
Team Chief	Maintenance		Rng Safety	Seatbelt
Team Member			RPV Cont	
			Support	
			Training	
			Veh Req Branch	

MISSILE - OBJECT/VEHICLE					
PROPERTY COMPONENT	**PROPERTY DESCRIPTION**	**OBJECT/VEHICLE ACTIVITY AT TIME OF MISHAP**		**MAJOR SYSTEM THAT FAILED**	
Aircraft Bomb trailer Loader Missile Other	Use property description nomenclature from Air Force publications when appropriate	Alert monitoring Arm/dearm Climbing Cruise/coasting Eng/motor ign Generation Inflt launch Initial Stage Inst/remove Maintenance Norm cntdown Ops test Other	Para deploy Pitch prog Prior a/c sep Readiness chk Rec/descent Roll prog RPV/payload sep Shutdn/abort Storage Terminal/self dest Transporting Up/down loading	Airframe Battery Carrier rel Cartridge DRPE Elect trans Electrical FRTS FTCE Fuel/oil Heat/vent Hoist Hydraulic Initiation	Launch facil Launch rel Mechanical Other Pneumatic Propulsion PSRE RCSEF Reentry veh Squib Storage/ Handling Telemetry Work cage/ Platform

A5.5. CMR Values For Explosives Mishaps.

EXPLOSIVES			
CROSS CATEGORY	**SUBCATEGORY**		
Aircraft Ground Missile	Space None	Air Demolition Ground	Other Pers Error

EXPLOSIVES - PERSONNEL				
PERSONNEL IDENTIFICATION	**PERSONNEL ACTIVITY AT TIME OF MISHAP**		**FUNCTIONAL AREA**	**SAFETY EQUIPMENT**
Bystander Driver EOD Operator Other Supervisor Worker	Arming Assembling Dearming Disassembling Disposing Exploding Loading Maintaining	Mfg Operating Other Storing Testing Training Transporting Unloading	EOD Loading Maint/Insp Manufacturing Other Security Storage Test R & D	Insert an entry as needed. No look-up table is available or required

EXPLOSIVES				
PROPERTY COMPONENT	**PROPERTY DESCRIPTION**	**OBJECT/VEHICLE ACTIVITY AT TIME OF MISHAP**		**MAJOR SYSTEM THAT FAILED**
Insert an entry as needed. No look-up table is available or required	Use property description nomenclature from Air Force publications when appropriate	Functional use Loading Maintenance Operational Other	Storage (hand) Storage (static) Testing Transport	Booster Fuze Guidance Ignitor Initiator None Other Release

A5.6. CMR Values For Space Mishaps.

SPACE			
CROSS CATEGORY	**SUBCATEGORY**		
Aircraft Explosive Missile	Ground None	Booster Del Vehicle	Other Payload

SPACE - VEHICLE/OBJECT

PROPERTY COMPONENT	PROPERTY DESCRIPTION	OBJECT/VEHICLE ACTIVITY AT TIME OF MISHAP		MAJOR SYSTEM THAT FAILED
Booster Other Satellite Stand Support Equip	Use Air Force publications property description nomenclature when appropriate	Deorbit/recovery Insertion Launch Orbit	Other Prelaunch Test	Booster Other Spacecraft/payload Support equip Vehicle

SPACE - PERSONNEL

PERSONNEL IDENTIFICATION	PERSONNEL ACTIVITY AT TIME OF MISHAP	FUNCTIONAL AREA	SAFETY EQUIPMENT
Operator Other Range Off Spectator Team Chief Team Member	Assembling De-orbiting Launch Orbiting Other Storing Testing Transporting	Assembly/Checkout Factory Launch Site Other Range Impact Recovery Site Storage	Insert an entry as needed. No look-up table is available or required

A5.7. CMR Values For Engine Confined Mishaps. Deleted.

A5.8. CMR Values For Misc. Air Ops Mishaps.

MISC. AIR OPS			
CROSS CATEGORY		**SUBCATEGORY**	
Aircraft Ground	Missile Explosive	Foreign Aircraft Commercial Aircraft	Aero-Club Aircraft Non-AF Aircraft

PERSONNEL and OBJECT/VEHICLE

PERSONNEL ACTIVITY AT TIME OF MISHAP	ROLE IN EVENT	SAFETY EQUIPMENT	VEHICLE ACTIVITY AT TIME OF MISHAP
Use Aircraft Table	Use Aircraft Table	Use aircraft table	Use aircraft tables

Attachment 6

SIB REQUIREMENTS

Deleted.

Attachment 7

TEXT OF IC 99-1

Deleted.

Attachment 8

IC 2001-1 to AFI 91-204, SAFETY INVESTIGATIONS AND REPORTS

7 MARCH 2001

SUMMARY OF REVISIONS

This change incorporates substantive changes and numerous additions. It adds to Table of Contents Interview Privilege Witness Statement (**Figure 2.6.**); adds to Table of Contents Abbreviated Formal report (**Figure 7.6.**) and deletes from Table of Contents **Chapter 13**, **Attachment 6** and **Attachment 7**. It corrects reference AFI (paragraph **1.1.2.1.**); deletes reference to Class J mishaps (paragraph **1.1.3.4.**); directs that Air Force members of Joint Safety Investigations be graduates of formal Air Force training courses and that all Primary Members sign the Letter of Authentication (paragraph **1.6.2.1.**); directs Joint Service Investigations Mishap Reports to reflect losses/cost accountable to each DoD component (paragraph **1.6.4.3.**); directs that Air Force members of NTSB Investigations be graduates of formal Air Force training courses (paragraph **1.10.2.6.**) and deletes reference to **Chapter 13** guidance (paragraph **1.15.1.13.**). It adds a timeline to non-privileged reports (paragraph **2.1.1.1.**); states all mishap investigations occurring after 3 Oct 00 contain privileged information (paragraph **2.1.2.1.**); reemphasizes the privileged nature of 72 Hour/14 Day medical histories of individuals involved in Class A mishaps (paragraph **2.1.2.2.8.**, **2.3.4.3.3.**, **2.3.4.3.7.3.**); adds **Figure 2.6.** "Interview Privilege Witness Statement" (paragraph **2.1.2.3.**); adds a timeline to non-Privileged Reports (paragraphs **2.1.3.**, **2.1.3.1.** and **2.4.**); corrects reference to AFI 34-1101 (paragraphs **2.3.2.5.**, **2.3.4.3.**); adds the releaseablity of findings of a Safety Board contained in historical safety reports (paragraph **2.3.3.2.**); directs SIB to provide human remains photos to the AIB with instructions to return the photos to AFSC/SEFL (paragraph **2.3.4.3.7.1.**); directs SIBs to ensure T.O. data included in Part 1 of the Formal Report is not subject to Arms Export Control Act (paragraph **2.3.4.3.9.**); reemphasizes that release of evidence concerning a mishap will not be done through a safety investigation (paragraph **2.3.5.2.**); adds leased aircraft (paragraph **2.3.6.2.4.1.**); deletes information on handling non-privileged reports (paragraph **2.4.**); changes Sample Privileged Warning Statement (**Figure 2.5.**); and adds Interview Privilege Witness Statement (**Figure 2.6.**). Reduces number of main mishap categories from 13 to 12 by eliminating Engine Confined Mishaps (paragraph **3.1.1.1.**); clarifies guidance on multiple damage events as part of a single mishap sequence. (paragraph **3.1.2.**); eliminates reference to **Chapter 13** procedures (paragraph **3.1.3.1.** and **3.1.3.2.**); deletes reference to Engine Confined mishaps (paragraph **3.1.3.13.**); reduces number of mishap classes from five to four with elimination of Class J mishaps (paragraph **3.2.1.1.**); eliminates references to Class J Engine Confined Mishaps (paragraphs **3.2.1.1.** and **3.2.2.5.**); changes Class C minimum reporting criteria threshold from $10,000 to $20,000 (paragraph **3.2.2.3.1.**); increases Class D maximum value to $20,000. (paragraph **3.2.2.4.1.**) and deletes reference to Class J mishaps (paragraph **3.2.2.5.**); clarifies determining engine repair costs (paragraph **3.5.2.4.1.**); changes wording (paragraph **3.6.**).

It deletes reference to non-privileged safety reports in witness interviews (paragraph **4.5.5.2.2.**, **4.5.5.3.4.**) and changes office symbol for Munitions Response Team (paragraph **4.6.1.6.3.**).

It deletes reference to Class J mishaps (paragraph **5.2.2.1.**); deletes reference to marking non-privileged reports (paragraph **5.2.3.2.2.**); reference to SAS reporting when the capability exists added (paragraph **5.4.1.2.**), routes requests for waivers to the Formal Report through AFSC/SEFM (paragraph **5.5.2.1.**); deletes reference to formal non-privilege reports (paragraph **5.5.3.3.**); requires Primary SIB Members

from other services to sign the Letter of Authentication during Joint Investigations (paragraph **5.5.4.1.**); requires findings be written as full sentences (paragraph 5.8.19); clarifies assignment of responsible agencies for recommendations that require action by non-Air Force organizations (paragraph **5.10.1.14.**); deletes word "report" from sentence 1 paragraph 2 (**Figure 5.1.**) and adds statement will be used in the MOFE process to paragraph 3 (**Figure 5.1.**). It deletes references to Class J mishaps (paragraphs **6.1.5.3.**, **6.4.2.1.**, **6.4.2.2.1.** and **6.4.2.2.2.**). It adds Engine-Confined subcategories for Aircraft mishap categories, defines terms and identifies reporting requirements for such mishaps (paragraph **7.1.5.**); clarifies engine damage greater than $20,000 is not a Class E event (paragraph **7.2.3.2.5.**); requires Class E reporting for structural failure of critical landing gear components (paragraph **7.2.3.4.13.**); directs Class A Aircraft Flight Mishaps involving a fatality have a Brigadier General select or higher-ranking officer as the SIB President (paragraph **7.3.2.3.**); requires the Investigating Officer be selected from outside the mishap wing for Class A Aircraft mishaps and from outside the mishap squadron whenever possible for other Aircraft mishaps (paragraph **7.3.3.2.**); adds CFR Specialist to SIB under specific circumstances (paragraph **7.3.5.11.**); clarifies the role of the Commander's Representative on the SIB (paragraph **7.3.6.6.**); provides for an Abbreviated Formal Report for Aircraft mishaps, specifies the format for such reports and provides criteria for waiver of tabs (paragraphs **7.4.1.** through **7.4.2.2.** and **Figure 7.6.**); clarifies the format for quarterly summaries of propulsion-related Class E events (paragraph **7.4.4.1.1.**); directs Bash reporting to use the Safety Automated System (SAS) format found on the Safety Center Website (paragraph **7.4.7.**); corrects reference to AFI 34-1101 (paragraph **7.5.1.1.**); allows briefing of SIB results to the applicable NAF/CC and states who may attend the briefing (paragraphs **7.8.5.2.**, **7.8.5.2.1.**, **7.8.5.2.2.**); deletes the requirement to report an individuals age (**Figure 7.1.**, 8.x.2); changes Sample Privileged Warning Statement (**Figure 7.2.**,**Figure 7.3.**, **Figure 7.4.**, **Figure 7.4.**); adds Abbreviated Formal Report (**Figure 7.6.**); changes addressees in lines 2, 15, 32,35, 38, 39, 40, 42, 43, 52, 63, 72, and 82, adds USSTARTCOM to line 83 (**Table 7.2.**); updates **Table 7.3.** and changes the addressee in line 23 and the address of OO-ALC, deletes SM-ALC in Notes, 4b (**Table 7.4.**). It corrects reference for sub-scale RPV mishaps (paragraph **8.1.2.4.5.**); changes the minimum Class C reporting threshold to $20,000 (paragraph **8.4.2.3.1.**); increases Class D maximum value to $20,000 (paragraphs **8.4.2.4.2.** and **8.7.1.4.**), corrects reference to AFI 34-1101 (paragraph **8.6.1.1.4.**); updates/changes reporting criteria for "Reporting Test and Evaluation Missile Mishaps" (paragraph **8.7.3.**); changes Sample Privileged Warning Statement (paragraph **8.10.2.2.**); deletes reference to non-privileged reports (paragraph **8.10.2.4.**); changes Sample Privileged Warning Statement (**Figure 8.1.**, **Figure 8.3.**); adds USTRATCOM to line 14 and changes addressee in lines 27 and 40 (**Table 8.2.**) and changes the addressee for line 19(**Table 8.4.**).

It changes the minimum Class C reporting threshold to $20,000 (paragraph **9.3.1.3.1.**); increases Class D maximum value to $20,000 (paragraph **9.3.1.4.1.**), adds information on the role of the Engineering Analysis Group (EAG) in Space Mishaps (paragraph **9.6.3.**); changes Sample Privileged Warning Statement (paragraph **9.7.6.2.**); adds wing safety responsibility for Air Force launch mishaps (paragraph **9.8.3.**); changes Sample Privileged Warning Statement (**Figure 9.1.**, **Figure 9.3.**); changes the addressee listing in line 22 and adds USSTRATCOM to line 36 (**Table 9.3.**); changes the addresses listing in line 14 and on Note 4 for OO-ALC (**Table 9.4.**). It explains all safety investigations for mishaps occurring on or after 3 October 2000 include privileged information.(paragraph **10.1.1.1.**); changes the minimum Class C reporting threshold to $20,000 (paragraph **10.4.2.3.1.**); increases Class D maximum value to $20,000 (paragraph **10.4.2.4.**), deletes references to non-privileged reports (paragraphs **10.7.2.3.** and **10.8.3.**); changes the addressee listing in lines 23, 26 and 27 (**Table 10.2.**); changes the addressee listing in line 13 and Notes 3b (**Table 10.3.**). It explains all safety investigations for mishaps occurring on or after 3 October 2000 include privileged information.(paragraph **11.1.1.2.**); deletes reporting instructions from the definition of sports and recreational mishaps. (paragraph **11.5.4.4.**); deletes references to FOD and **Chap-**

ter 13 (paragraphs **11.5.6.** and **11.5.6.1.**); changes the minimum Class C reporting threshold to $20,000 (paragraph **11.6.4.1.1.**); increases Class D maximum value to $20,000 (paragraph **11.6.5.1.1.**), deletes information that does not relate to Class L mishap reporting (paragraphs **11.6.6.1.1.**, **11.6.6.1.2.**, and **11.6.6.1.3.**); replaced outdated reporting instructions in the Oracle data base with current instructions on reporting mishaps in SAS (paragraph **11.7.2.** and subparagraphs 17.7.2.1., 17.7.2.2., 17.7.2.3., 17.7.2.4., 17.7.2.5.); requires the inclusion of copies of AFTO 22s or AF Forms 847 as attachments to Tab T of formal ground reports (paragraph **11.11.3.1.**); removes references and special instructions for assembling non-privileged ground formal reports per DoDI 6055.7, dated 3 October 2000 (paragraphs **11.11.4.3.**, **11.11.4.4.**, and **11.11.4.5.**); removes special instructions for marking non-privileged ground formal reports (paragraph **11.11.5.6.**); removes the option for a one-part ground formal report. (paragraph **11.12.2.**); removes special instructions for formal non-privileged ground reports per DoDI 6055.7, dated 3 October 2000 (paragraph **11.12.3.**); corrects references (paragraph **11.12.5.1.**); provides reporting guidelines for both on-duty and off-duty Class C ground mishaps (paragraph **11.14.** and sub-paragraphs); changes to include all property damage costs (Air Force and non-Air Force) and personnel injuries to determine reportability of Air Force GMV or GVO mishaps (paragraph **11.16.1.1.**); changes Reporting Off-Duty Ground Mishaps, to streamline and consolidate all off-duty reporting formats and schedules (sub-paragraphs to paragraph **11.17.**); changes Class A and B ground mishap courtesy reporting in line with Safety Automated System requirements (paragraph **11.20.2.** through **11.20.2.5.**); brings Class C ground mishap courtesy reporting in line with Safety Automated System requirements (paragraph **11.20.3.1.** and **11.20.3.2.**); changes the addressee listing in lines 29, 30, 32 and 36 (**Table 11.2.**); changes the verbiage and requirements to use **Figure 11.1.**; changes Sample Privileged Warning Statement (**Figure 11.1.**); incorporates SAS reporting requirements (**Figure 11.2.**); incorporates SAS reporting requirements (**Figure 11.3.**); changes the title to correctly read: Format for Class C Off-Duty Sports and Recreation Summary Mishap Report (SMR) Messages, and incorporates SAS reporting requirements (**Figure 11.4.**); changes title to correctly read: Instructions to Complete AF Form 739, Occupational Injuries and Illness Log (**Figure 11.5.**); changes line 16 to read Summary Mishap Report and Note 4 to include a privileged warning statement on all ground status safety reports (**Table 11.1.**); changes lines 29,30, 32, 36 and 41, updated the WEB address to obtain current message addresses in Note 2; designated AIG 9385 Ground Safety, for HQ AFSC and MAJCOM use only in Note 4; and added DMS information in Notes 6,7,8 (**Table 11.2.**); changes to provide the current WEB address to obtain message addresses in Note 3, changes the addressee listing in Notes 4b and changes the references in Note 6 (**Table 11.3.**).

It changes the information found in Broken Arrow Reporting. (paragraph **12.6.2.**); changes Sample Privileged Warning Statement (paragraph **12.15.3.6.**, **Figure 12.2.**, **Figure 12.2.**); changes to addressee listing in lines 3, 8 and 13 (**Table 12.1.**); adds USSTRATCOM to additional message reporting (**Table 12.1.**, Line 8) and changes the addressee listing in line 8 (**Table 12.4.**). It deletes **Chapter 13**. It adds definitions for reporting aircraft mishaps involving Civil Air Patrol assets (paragraph **14.4.4.**). It requires UAV engine damage confined to the engine to be reported per paragraph **7.1.5.** (paragraph **15.1.1.1.**) and changes the reporting requirements for Buoyant UAV mishaps to follow **Chapter 7** (paragraph **15.4.5.1.**). In the attachments, it deletes both definitions of "INJURY," replaces with a definition to coincide with the definition of a fatal injury (**Attachment 1**, Terms); deletes reference to Engine Confined mishaps (**Attachment 3**, **A3.5.1.**); deletes reference to Engine Confined mishaps (**Attachment 3**, **A3.5.3.**); deletes reference to Engine Confined mishaps (**Attachment 3**, **A3.5.4.**); changes requirements of Tab P (**Attachment 3**, **A3.5.14.**); added Engine-Confined FOD and Engine-Confined Non-FOD (Attachment **A5.2.**, first table, Aircraft Subcategory), deletes Attachment **A5.7.** See last attachment of the publication, IC-01, for the complete IC. A bar (|) indicates revision from the previous edition.

1.1.2.1. Commanders at all levels involved in fatal aircraft mishaps will follow the guidelines established in Air Force Instruction (AFI) 34-1101, *Assistance to Families of Persons Involved in Air Force Aviation Mishaps.*

1.1.3.4. Determine the final category, class, cause factors, and recommendations for each Air Force Class A and B mishap. For all formal reports (including Class C and HAP formal reports), prepare a Memorandum of Final Evaluation (MOFE).

1.6.2.1. All involved services will contribute representatives to the investigation board and the investigating service's rules and procedures will be used. The Air Force will cooperate fully in any non-Air Force safety investigations. Air Force representatives to Joint Safety Investigations will be graduates of formal Air Force safety training courses. Colonels and above will be graduates of the Air Forces Board Presidents Course. All others will have attended the Flight Safety Officer (FSO) course or Aircraft Mishap Investigation Course (AMIC) as a minimum. Air Force representatives to Joint Safety Investigations are responsible to the Air Force Chief of Safety while assigned to Safety Investigation Boards. At the conclusion of the Safety Investigation, all Primary Board Members are required to sign the Letter of Authentication (or other services equivalent).

1.6.4.3. (Added) For multi-service or joint operational mishaps, the involved DoD Components determine/allocate costs and losses according to asset ownership and personnel involved. Each DoD Component will report their own losses attributable to a Joint Service accident. The Joint Service mishap report will appropriately reflect DoD Component losses and associated cost accountable to each DoD component.

1.10.2.6 (Added) Air Force representatives to NTSB investigations will be graduates of formal Air Force safety training courses. Colonels and above will be graduates of the Air Forces Board Presidents Course. All others will have attended the Flight Safety Officer course as a minimum. Additionally, Air Force representatives to NTSB investigations are responsible to the Air Force Chief of Safety while assigned to the NTSB investigation.

1.15.1.13. Foreign Object Damage (FOD). Do not report aircraft, air breathing missile, or UAV engine FOD discovered during scheduled engine disassembly (e.g. depot engine overhaul for maximum operating time, not for known or suspected FOD). *NOTE:* FOD may be reportable under T.O. 00-35D-54, *USAF Materiel Deficiency Reporting and Investigating System*.

2.1.1.1 Produce safety reports to document causes of mishaps and to take preventive actions. These reports are for official use only (FOUO) if they are not classified. However, not each document in the report is FOUO. The factual documents in Part I (Tabs A-S) are released to the accident board and may ultimately be made public. Do not mark these individual documents FOUO. All safety investigation reports (except Aero Club) include privileged information. The following terms and information implement AFPD 91-2 policies on safety reports, their uses, and prohibitions on their use. (*NOTE:* See AFPD 37-1 and DoDI 5400.7 for a complete discussion of FOUO.)

2.1.2.1. All safety investigations for mishaps occurring on or after 3 October 2000 include privileged information. Prior to 3 October 2000, investigations involving ground, explosive, and industrial mishaps were generally not privileged. As of 3 October 2000, all mishap investigations (aircraft, space, missile, ground, explosives and nuclear safety investigation reports) include privileged reports that contain both privileged and non-privileged information. (Note: Aero Club mishap investigations are not privileged; see paragraph **14.5.1.3.**). However, promises of confidentiality are not normally given to witnesses in

ground, explosive, or industrial safety investigations. Consequently, witness statements (which are privileged in space, missile, nuclear, and flight mishaps) for ground, industrial, and explosive mishaps are still not privileged. The Safety Board deliberative process to include Board findings, conclusions, analysis, and recommendations are privileged for all types of mishaps, including ground, industrial, and explosive mishaps. SIB message reports (except the 8-hour preliminary message report) and Part II of Class A and B formal reports are privileged portions of the reports. Additionally, Class C and HAP reports for these categories are not prepared in two parts, but contain privileged information. HATRs are not considered safety investigations and are not privileged. (Note: There may be occasions, such as mishaps involving complex systems, military unique items (such as guided missiles, laser devices, or armored vehicles), or military operations or exercises where ground, industrial, and explosives investigations would require privileged status for confidential witness statements. When this appears to be the case, contact HQ USAF/SE for approval of privileged status for these safety reports.)

2.1.2.2.8. Any Life Science Materials, including photographs with markings or other indicators, that contain analysis of the Life Science SIB member. For example, 24 hour, 72 hour, 14 day histories, interview narratives obtained during the post-mishap physical examination, or any other interviews obtained by the Life Science SIB member, are privileged. Photographs staged by any SIB member, with pointers to structures or features, are privileged. Photographs or videotapes showing human remains or blood splatters are not privileged but are protected by the Privacy Act due to the privacy interests of the crewmembers or their surviving families. They are releasable to the AIB which is responsible for protecting this sensitive (Privacy protected) information.

2.1.2.3. Promise of Confidentiality. The Air Force may give a promise of confidentiality to encourage frank and open communications to individuals who provide witness statements to a SIB or investigating officer and to government contractors, who built, designed, or maintained the equipment and participate in the investigation. Only primary duty safety personnel as members of the DCG, or the designated ISB and SIB members may offer promises of confidentiality for witness testimony. This information is privileged and protected from disclosure to unauthorized personnel. A promise of confidentiality will not be given on a blanket basis to every witness. The safety investigation has the discretion to determine who will be given a promise of confidentiality. Where a promise of confidentiality has been extended, **Figure 2.3.** provides a sample witness statement format for use with written, privileged witness statements. Where a promise of confidentiality has not been extended, **Figure 2.4.** provides a sample witness statement format for use with written, nonprivileged witness statements. **Figure 2.6.** contains the taped interview privileged witness statement. Investigators must read the **Figure 2.6.** Promise of Confidentiality advisory to each witness being offered privilege, and must read it onto all tape recordings of interviews.

2.1.3. Non-privileged Reports (mishaps that occurred before 3 Oct 00).

2.3.2.5. Tab A through Tab S and factual information gathered through the investigative process are released to the accident investigator for *AFI 34-1101,Assistance to Families of Persons Involved in Air Force Aviation Mishaps,* purposes. Procedures for releasing this information are defined in AFI 34-1101 and must be followed.

2.3.3.2. (Added) AF/SE (AFSC/CC) may release the findings of a Safety Board, contained in historical safety reports prepared IAW DoDI 6055.7 (or its predecessors). For the purpose of this provision, historical reports shall be defined as those concerning mishaps more than 25 years old, provided no national defense or safety interest exists as determined by AF/SE (AFSC/CC/CV)

2.3.4.3. Despite the separation and relative priorities of the two investigations, the SIB President provides certain factual information to the AIB President as soon as possible, as specified in AFI 51-503 and AFI 34-1101, *Assistance to Families of Persons Involved in Air Force Aviation Mishaps*.

2.3.4.3.3. Do not release medical analysis by a SIB member, findings, recommendations, and comments or references to witness statements. Coroner's reports are not privileged and are releasable to the AIB President, either through the SIB (if available at the time) or through HQ AFSC/SEFL. TOX test results and autopsy protocols are also not privileged and are releasable to the AIB President. However, 72 Hour and 14 Day aircrew medical histories are privileged. The AIB will obtain separate 72 Hour and 14 Day medical histories from the aircrew and/or mishap participants involved.

2.3.4.3.7. Release the following medical information to the AIB. They will protect this sensitive (Privacy protected) information.

2.3.4.3.7.1 (Added) Factual photos showing human remains and the autopsy are turned over to the AIB President in a separate envelope. Provide instructions to the AIB to return the photographs to AFSC/SEFL, 9700 Ave G SE, Kirtland AFB, NM, 87120 after the AIB is finished with them.

2.3.4.3.7.2. (Added) Copies of the TOX test results, autopsy report, death certificate.

2.3.4.3.7.3. (Added) Pre-mishap medical records, factual post-mishap radiographic (X-Rays, MRI, CT scans) series, factual lab reports, and factual post-mishap physical examination (SF Form 88) (DO NOT release post-mishap physical examination interview narratives, 24, 72 hour histories, 14 day histories obtained from crewmember or survivors),

2.3.4.3.9. (Added) Many Technical Orders (TOs) are subject to the Arms Export Control Act and the Export Administration Act of 1979. You should ensure Technical orders are not subject to the above Acts prior to including them in Part I of your report. If the TOs are subject to the above acts, do not include these TOs in Part I of the SIB report without receiving clearance from the release authority. The release authority is normally annotated near the front page of the document. If the release authority will not grant authority to release the TO, you can still provide the TO to the Accident Investigation Board. However, this should be done separately from the Part I, tabs A-S hand-off as is done with other sensitive information, e.g., autopsy reports.

2.3.5.2. The convening authority or designated information officer releases factual information about a mishap, including photographs, only as directed in AFPD 35-1, *Public Affairs Management,* and AFI 51-503, which incorporates Title 10 United States Code, Section 2254b. The public release of evidence concerning a mishap may not be done by or through officials involved in the safety investigation

2.3.6.2.4.1. Foreign Nationals Flying USAF Aircraft. In the interest of mishap prevention, and when necessary to protect Air Force weapon systems or crewmembers, AF/SE may authorize wing commanders to provide foreign crewmembers with privileged safety information when the foreign crewmembers are serving functionally as aircraft commanders of U.S. owned or leased aircraft or are serving as qualified crewmembers performing functional or training missions in U.S. owned or leased aircraft. The following limitations regarding access to privileged safety information by these foreign crewmembers will apply: (1) the privileged safety information provided will only pertain to the aircraft system being operated; (2) the information provided will not violate promises of confidentiality given to any witnesses, including government contractors who provided testimony or information to a SIB; and (3) foreign crewmembers will be required to sign non-disclosure agreements limiting the use and disclosure of the privileged safety information they receive.

2.4. Handling and Disclosing of Non-Privileged Reports (Ground and Explosives Safety Mishaps that occurred before 3 Oct 00).

Figure 2.5. Sample Privileged Warning Statement.

FOR OFFICIAL USE ONLY.

This contains privileged, limited-use safety information. Unauthorized use or disclosure can subject you to criminal prosecution, termination of employment, civil liability, or other adverse actions. See AFI 91-204, **Chapter 2** for restrictions. Destroy in accordance with AFMAN 37-139 when no longer needed for mishap prevention purposes.

Figure 2.6. (Added) Interview Privilege Witness Statement

"You are hereby advised that, as a witness to this investigation, your testimony will be used solely for mishap prevention purposes. Your statement will not be made available to anyone other than Air Force officials responsible for the assembly and approval of this investigation's report. The only exceptions to this would be to act on an allegation of false testimony or investigative misconduct, or to comply with a valid court order on behalf of a defendant in a criminal trial. Your statement may not be used as evidence by the Government in punitive actions or adverse administrative actions, such as a Flying Evaluation Board, a determination of line of duty status or pecuniary liability, or elimination from military service."

Transcripts of complete interviews must contain this advisory. In cases where witness testimony is summarized by the interviewer, it must be clear that the witness was advised of and understood this advisory.

3.1.1.1. The Air Force categorizes mishaps by the systems involved and the environment in which they occur. There are 12 main mishap categories: Aircraft, Unmanned Aerial Vehicle, Explosive and Chemical Agent, Motor Vehicle, Ground and Industrial, Off-Duty Military, Missile, Maritime, Fire, Nuclear, Space and Miscellaneous Air Operations. Some mishaps involve more than one category. In those cases assign the primary category, then add the involved cross category in parentheses.

3.1.2. Multiple event mishaps. In general, damaging events that occur in succession are considered to occur in a single mishap, and will result in a single mishap investigation, unless there is clearly no possible initiating or sustaining relationship between events. For Aircraft mishaps, once aircrew have boarded the aircraft, all damage to that aircraft or damage caused by that aircraft is considered part of a single mishap sequence until the aircraft is shut down, aircrew are physically separated from the aircraft, and any Crash/Fire/Rescue response is complete. Examples of situations which would be considered as a single mishap are an engine failure in flight followed by a runway departure during an emergency landing; or, an aborted takeoff followed by a brake fire and engine ingestion of firefighting foam. Examples of situations which would be considered as separate mishaps are an aircraft crash followed by an injury to EOD personnel while removing ordinance; an aircraft crash followed by a midair collision between two other aircraft participating in SARCAP; or, an aircraft which departs the runway and then has a crane boom fail while lifting it back on the runway. MAJCOM/SE should contact AF/SE for resolution of questions regarding whether events constitute a single mishap or separate mishaps.

3.1.3.1. Aircraft. This mishap category is further divided into three sub-categories. Do not identify the mishap category by "Aircraft" alone; use one of the three sub-categories below.

3.1.3.2. Unmanned Aerial Vehicle. A mishap resulting in damage to a UAV, but not involving a DoD aircraft. The term UAV includes Tactical UAV, unmanned Full Scale RPV, Sub-scale RPV, and Buoyant UAV.

3.1.3.13. Deleted.

3.2.1.1. There are four possible classes for mishaps: A, B, C, and D. Classify non-nuclear mishaps by the total direct dollar cost of damage and degree of injury or occupational illness using the following guidance. There are five possible classes for Events: E, L, X, HAP, and HATR. See the following guidance for Event classes.

3.2.2.3.1. Reportable damage between $20,000 and $200,000.

3.2.2.4.1. Total cost for property damage of more than $2,000 but less than $20,000. Property damage includes all government equipment, vehicles, or munitions.

3.2.2.5. Deleted.

3.5.2.4.1 If an engine or engine module is damaged to the extent that it must be returned to the repair facility, use the detailed actual cost repair estimate provided by the repair facility. The repair estimate must be prepared per paragraph **3.5.2.4.4.** and must be based on the actual mishap damage. If damage is too extensive or it is not possible to provide an actual cost repair estimate, use the established repair cost (exchange price listed in DO43A). If the repair facility determines the engine or module is not repairable or beyond economic repair, use the acquisition cost per paragraphs **3.5.2.2.** and **3.5.2.3.**

3.6. Non-Air Force Injury or Property Damage.

3.6.1. Damage or Injury From Air Force Operations.

3.6.1.1. When Air Force operations result in damage or injury to non-Air Force property or personnel, use property damage costs and severity of injury to determine the mishap classification and reportability (fatal, permanent partial, etc.). (Note: Do not include injury costs for non-Air Force civilian personnel in the mishap report.)

4.5.5.2.2. Non-Privilege. Advise witnesses providing non-privileged statements (ground and industrial, explosive, motor vehicle, off-duty military, maritime, fire, FOD, etc.) that the main purpose of the investigation is mishap prevention. Investigators taking non-privileged witness statements from Air Force personnel involved in safety investigations should not offer protection beyond this assertion. Promises of confidentiality are not normally given to witnesses in these categories of mishap investigations. See **Figure 2.4.**

4.5.5.3.4. If safety investigators will interview a witness suspected of criminal misconduct without offering that witness confidentiality (for example as in a ground mishap investigation), the interviewer should first consult with the base SJA. Criminal investigators must know if the safety investigators conduct an interview without rights advisement. Sometimes a safety interview should be delayed pending criminal investigation.

4.5.6.6. Deleted.

4.6.1.6.3. The Munitions Rapid Response Team has personnel knowledgeable in munitions available to support MAJCOMs whenever there is a problem. This team can be activated to respond within 24 to 48 hours. Contact OO-ALC/WMCS for this support. During duty hours call DSN 777-5156, 5053, 5055, or 4865. Off duty hours contact Hill AFB command post at DSN 777-3007 or commercial (801) 777-3007.

5.2.2.1. Use separate sets of four-character combinations (three digits and one letter) for unit control numbers. ("Unit" means group equivalent or higher.) Assign the numbers consecutively for each non-nuclear mishap. Host base safety staffs should assign blocks of numbers to their tenants. The last space designates the mishap or event class (A, B, C, D, E, H, L, or X). HAP events have no reportable costs and are designated by the letter "H," e.g., "19980307ZQKL406H."

5.2.3.2.2. Do not place markings (such as "FOR OFFICIAL USE ONLY") on unclassified pages of privileged reports that are non-privileged such as Part I. For classified pages, add the proper security clearance marking from AFI 31-401 and omit the notation "FOR OFFICIAL USE ONLY."

5.4.1.2. (Added) Whenever possible, mishap reports will be created using the Safety Automated System.

5.4.4.2. Use the consolidated mishap report (CMR) format for all non-nuclear Class A, B, and C mishaps, and Class E and HAP events, except as noted.

5.5.2.1. USAF/SE, in conjunction with the investigating MAJCOM, may waive certain formal reports. The SIB or investigating officer requests the waiver from the MAJCOM during the investigation. The MAJCOM sends a message to AFSC/SEFM with enough information to justify the waiver. As a general rule, USAF/SE will only consider waivers for mishaps involving known materiel deficiencies for which corrective actions have been established. USAF/SE normally will not waive formal reports for mishaps involving personnel factors (such as human performance failures and inadequate supervision). AFSC/SEFM coordinates and tracks all waiver requests and is responsible for internal and external coordination. All safety functionals will submit requests through SEFM and SEFM in turn, will contact requesting safety office with USAF/SE approval/disapproval of request. Large-scale SIB investigations typically require formal reports. USAF/SE evaluates each waiver request on a case-by-case basis, considering all the message reports, the waiver request, supporting material and other factors, and either approves or disapproves the waiver by the end of the next duty day after receipt. When USAF/SE waives the formal report, submit command endorsements based on the final message report.

5.5.3.3. Deleted.

5.5.4.1. Type each primary SIB member's name, grade, and position on the last page of the tab containing board analysis and conclusions. Have each concurring member, including Primary Members from other services on Joint Investigations, sign above it for authentication of the report or for any changes to the report. If the formal SIB report needs to be changed after it is completed and signed by the board, all primary members of the SIB shall be physically reconvened.

5.8.1.9. (Added) Write findings as full sentences, not bullet points. Use past tense, since the events occurred in the past. (Example: *Wrong* - Crew chief clears pilot from chocks. Pilot taxis to runway. *Right* - The crew chief cleared the pilot from the chocks and the pilot taxied to the runway.)

5.10.1.14. Do not list non-Air Force organizations as an action office for a recommendation, because AFSC normally does not have authority to task such organizations for follow-up action. Identify the Air Force agency responsible for interaction or contractual oversight with the non-AF organization, and list that AF agency as the office responsible to ensure evaluation and implementation of the recommendation. Write the recommendation as an action for the AF agency to accomplish.

Figure 5.1. Opportunity To Submit an Additional Witness Statement.

MEMORANDUM FOR _____Individual's Rank and Name_____

FROM: (Name)_____, SIB President

SUBJ: Opportunity to Submit Witness Statement

1. The SIB investigating the mishap involving (Aircraft Type and Tail Number), which occurred on (Date)_____, named you in its safety investigation report.

2. A copy of the final message is available for your review at (Location)___. You cannot remove the message from that office nor reproduce any portion of it. The message is for official use only, and information contained therein is privileged, not releasable in whole or in part to persons or agencies outside the US Air Force without the express approval of the disclosure authorities specified in AFI 91-204.

3. You are required to indorse the original of this memorandum indicating receipt and your intention to either decline commenting on the findings or provide a Witness Statement. If you provide a Witness Statement, it is privileged and becomes part of the safety investigation report. It shall be used solely to determine all factors relating to the mishap and, in the interest of mishap prevention, to preclude recurrence. Your statement will be considered by the Air Force Safety Center during the Mishap Final Evaluation process.

4. If you decide to provide a Witness Statement, deliver one signed, reproducible copy to (Location)___, not later than (Date)___.

SIB President Signature Block

1st Ind, (Convening Authority)

Receipt acknowledged.

Intention:

a._____I decline commenting on the safety investigation report findings.

b._____I will submit a statement commenting on the safety investigation report findings and furnish it as instructed not later than _____.

Signature Block of Witness

This contains privileged safety information. Unauthorized use or disclosure can subject you to criminal prosecution, termination of employment, civil liability, or other adverse actions. See AFI 91-204, **Chapter 2** for restrictions. Destroy in accordance with AFMAN 37-139 when no longer needed for mishap prevention purposes.

6.1.5.3. Only the primary members of the safety board can make changes to the final report. Comments raised by the convening authority addendum will be worked during the MOFE process. If the final SIB message needs to be changed after it is completed and signed by the board, the primary members of the SIB shall be physically reconvened. For Class C, D, E, HAPs, and HATRs, convening authorities and MAJCOM safety staffs may make non-substantive changes to the reports in order to improve the quality of the reports. Feedback to the affected unit safety office will ensure continuous improvement.

6.4.2.1. Local Actions. Briefly describe local actions in the final message. Each local action described should be directly related to a causal finding of the investigators. For all Class C mishaps, describe local corrective actions in the CMR. Explain the planned local actions not yet completed, and include an estimated completion date.

6.4.2.2.1. Use the Deficiency Reporting system (T.O. 00-35D-54) and the technical order deficiency reporting system to report deficiencies discovered. The appropriate action is to send a DR, AFTO Form 22, or AF Form 847. When these actions are taken, describe them in the final message. Include DR information in the CMR for Class C and ground (aircraft involvement) mishaps. The SIB or IO completes these forms and states for example, “AF Form 847 submitted" in the CMR report.

6.4.2.2.2. If existing reporting systems do not adequately communicate recommendations to action agencies, list recommendations in the final message. Base recommendations on the findings of the investigators, and identify action agencies. Therefore, use the following methods for all Class C mishaps:

7.1.5. (Added) Engine-confined mishaps.

7.1.5.1. (Added) “Engine-Confined” is an Air Force-only sub-category of the DoD mishap categories listed in paragraph **3.1.** Engine-confined mishaps are first categorized per **Chapter 3** instructions and the definitions in paragraph **7.1.** (i.e., Aircraft Flight, Aircraft Flight-Related or Aircraft Ground Operations). In the case of Aircraft Ground Operations mishaps, subcategories in paragraph **7.1.4.** are then assigned. The Engine-Confined subcategories are the last category applied. Engine-Confined mishaps are classified according to damage cost per paragraph **3.2.**, investigated per paragraph **7.3.** and reported using the formats specified in paragraph **7.4.**

7.1.5.2. (Added) The Engine-Confined mishap subcategories apply when an aircraft or UAV turbine engine experiences reportable damage ($20,000 or more), and all damage is confined to the engine and

integral engine components. Damage is considered confined to the engine if there is less than $20,000 damage external to the engine. If the total cost of all damage external to the engine exceeds $20,000, the Engine-Confined subcategory does not apply, regardless of the comparative extent of engine damage cost. There are two Engine-Confined subcategories: Engine-Confined FOD and Engine-Confined Non-FOD. When damage is caused by objects external to the engine, the mishap is placed in the Engine-Confined FOD subcategory. When the damage is caused by an internal engine failure (including liberation of internal engine components such as bolts, rivets, bonded coatings, blades, vanes, abradable coatings, honeycomb seals, etc.), the mishap is listed in the Engine-Confined Non-FOD subcategory.

7.1.5.2.1. (Added) Applicability. The Engine-Confined subcategories apply to all turbine engines used in aircraft or UAVs (except subscale RPVs) and intended to produce thrust for flight (including thrust provided via gearbox-driven propellers or rotors). They apply to such engines while mounted on aircraft or operating in a test cell. Engines are considered mounted on an aircraft until all connections to the aircraft have been separated and the engine is fully supported by a crane, dolly, engine maintenance stand, or other such device. The subcategories do not apply to engines being transported or handled as cargo, airframe mounted auxiliary power units, turbine engines in missiles or ground-based power turbines.

7.1.5.2.2. (Added) Integral Engine Components. For the purpose of determining damage external to the engine, certain components are considered integral engine components and damage to these components is considered confined to the engine. Integral engine components include engine controls, engine-mounted accessory gearboxes, afterburners, engine plumbing, and QEC kit components not otherwise excluded. Thrust reversers are not considered integral engine components, however thrust vectoring components on fighter aircraft are. For pylon-mounted engines, the engine cowlings but not the engine pylons are considered to be integral engine components.

7.1.5.3 (Added) FOD Discovery. Do not report FOD to turbine engines as a mishap if it is discovered during scheduled engine disassembly (e.g., a depot engine overhaul at a specified time). If the overhaul is conducted because of suspected FOD, and FOD is discovered, it is reportable as a mishap.

7.2.3.2.5. Turbine engine flameout, failure, or emergency shutdown after completing normal engine start sequence until normal engine shutdown at mission conclusion. This applies to all single engine and multiple-engine aircraft. Do not report flameouts or emergency engine shutdown occurring during maintenance engine runs. Note: This does not apply if there is damage to the mishap engine greater than $20,000. See paragraphs **3.2.** and **7.1.5.**

7.2.3.4.13. (Added) Structural failure of critical landing gear components. A critical landing gear component is defined as any component that could cause landing gear collapse upon failure.

7.3.1.5. (Added) Mishaps that meet the definition in paragraph **7.1.5.2.** for the Engine-Confined FOD subcategory are normally investigated by a Single Investigator. Engine-Confined Non-FOD mishaps are normally investigated by a Tailored SIB. Engine -Confined investigations do not normally have an SIB President, and are usually led by an Investigating Officer.

7.3.2.3. By CSAF direction, for Class A Aircraft Flight Mishaps involving a fatality, select a Brigadier General-select or higher-ranking officer as SIB President. For a Class A mishap not involving a fatality select a Colonel or higher-ranking officer.

7.3.3.2. IO Selection. Each Air Force wing, higher headquarters, and geographically separated unit (GSU) commander appoints one or more investigating officers. ARC unit commanders appoint one or more guardsmen or reservists to investigate mishaps. Select the investigating officer from the most qualified individuals available, using the criteria below. When a fully qualified individual is not available, the

convening authority's safety staff must participate in the investigation and help with the details of compiling the formal report. Examples of non-qualified individuals are persons who do not have safety experience, formal safety training, an investigation background, or working knowledge of this instruction. For Class A mishaps, do not select an Investigating Officer from the same wing as the mishap aircraft or mishap aircrew. For other Aircraft mishaps, the IO should be selected from outside the mishap squadron whenever possible, and preferably from outside the mishap wing. During a safety investigation, relieve the investigating officer of all other duties.

7.3.5.11 (Added) Crash Fire & Rescue (CFR) Specialist, if CFR response, actions or failures played a major role or contributed significantly to the extent of damage or injuries.

7.3.6.6. Commander's Representative, if requested by the commander whose aircraft or operator was involved in the mishap. The Commander's Representative's role is to provide information to the SIB regarding operational and organizational details and practices. They are strictly prohibited from providing any information regarding the SIB investigation to anyone outside the SIB, except as explicitly authorized by the SIB President. The SIB President normally assumes that responsibility directly, and must decline to disclose information if doing so may jeopardize any aspect of conducting the investigation.

7.4.1. Aircraft Mishap Reports. Aircraft mishaps are reported using three types of report. All Aircraft mishaps require message reporting using appropriate formats in **Figure 7.1.** through **Figure 7.5.**. In addition to message reporting, an Abbreviated Formal Report prepared per **Figure 7.6.** or a Full Formal Report prepared per **Attachment 3** may be required. The NAF, MAJCOM or HQ AFSC may direct a higher level report for any mishap when high costs, mishap complexity or other factors indicate more extensive documentation of the investigation is required. When a formal report is prepared and endorsed by the MAJCOM, HQ AFSC will prepare a Memorandum of Final Evaluation per paragraph **6.2.** Regardless of the type of report, a thorough investigation is required, sufficient to identify the root causes of the mishap and corrective actions to prevent recurrence.

7.4.1.1. Deleted.

7.4.2. Reporting Class A and Class B Aircraft mishaps. All Class A and Class B Aircraft mishaps require message reports per **Table 7.1.** using the formats in **Figure 7.1.** and **Figure 7.2.** Class A and Class B mishaps in the Engine-Confined FOD subcategory only do not require formal reports unless otherwise directed, and will not have a Memorandum of Final Evaluation prepared unless a formal report is directed. All wildlife related Engine Confined FOD mishaps must be reported IAW paragraph **7.4.7.** When the individual who is the source of the FOD is identifiable, a thorough Human Factors investigation must be conducted, however. It is highly recommended that this be accomplished by a flight surgeon, aerospace physiologist or aviation psychologist. Standard tab Y information (as in **7.4.10.7.6.1.** through **7.4.10.7.6.3.** and **7.4.10.7.6.6.**) must be collected and incorporated into the message. A Life Science Report must be accomplished on the individual, saved on a 3.5 inch floppy disk and forwarded to HQ AFSC/SEFL. All other Class A and Class B Aircraft mishaps (including those in the Engine-Confined Non-FOD subcategory) require a formal report. If the mishap involves a fatality or destroyed aircraft (a UAV is not an aircraft under DoD definitions) a Full Formal Report prepared per **Attachment 3** is required. Other Class A and Class B Aircraft mishaps may use an Abbreviated Formal Report prepared per **Figure 7.6.**

7.4.2.1. Waiver of Tabs. **Figure 7.6.** provides guidance for tabs that may be waived for Abbreviated Formal Reports. After consultation with HQ AFSC/SEF, MAJCOM/SE may approve waiver of specific tabs in an Abbreviated Formal Report depending upon the circumstances of the mishap and investigation.

Tabs in a Full Formal Report may also be waived by MAJCOMs, but only if the Board President determines there is no information applicable for that tab.

7.4.2.2. (Added) Waiver of Formal Report. HQ USAF/SE is the approval authority for all waivers to formal report requirements unless otherwise provided for in this instruction. Formal reports will not normally be waived unless none of the ten waiveable tabs in the Abbreviated Formal Report are applicable.

7.4.4.1.1. Report propulsion-related Class E events using the reporting format in **Figure 7.3.** with the following exception: Report single-engine Class E propulsion events on aircraft with three or more engines in a quarterly summary, rather than filing individual reports for each event. Quarterly summaries should include the following information:

7.4.7. Reporting Bird/Wildlife Strikes.

7.4.7.1. Bird /wildlife strikes resulting in damage above reportable Class C thresholds are reported according to this instruction. In addition, all bird/wildlife strikes (damaging and non-damaging) are reported to the USAF BASH Team using the Safety Automated System (SAS) found on the Air Force Safety Center web page. When bird/wildlife strikes occur to captive or live munitions (explosive/missiles), these are reported as if the bird/wildlife hit the aircraft. Reporting all bird/wildlife strikes, damaging and non-damaging, is a necessary part of an effective BASH plan. An in-depth knowledge of the circumstances leading to a bird/wildlife strike is vital before realistic recommendations can be made.

7.4.7.1.1. Flight safety offices of the organization credited with the aircraft's flying hours will report all bird/wildlife strikes. Strikes occurring to non-USAF aircraft at Air Force bases should be reported by the host installation flight safety office if the strike information is available.

7.4.7.1.2. Bird/wildlife strikes should be reported as they occur using SAS but must be reported NLT the 15th of the following month. SAS requires a user profile (username and password). MAJCOM safety offices have designated SAS administrators to create BASH SAS accounts for each unit. Aircrews and maintenance personnel documenting the necessary data for reporting wildlife strikes through SAS can use AF Form 853.

7.4.7.1.3. Feather remains from every bird strike, if available, must be sent to the Smithsonian National Museum of Natural History for identification. Send as much material as possible to include feet, beak, wing, tail, breast and back feathers. Species identification can be made with the smallest of feather fragments found in blood smears on aircraft surfaces. If no other remains are apparent, spray blood smear with water and wipe with a clean paper towel. Fold towel and place into labeled zip-loc bag. Send feathers or feather fragments and a copy of the corresponding BASH SAS report to the Smithsonian Institution, Natural History Building; Division of Birds, Attn: Dr. Carla Dove; NHBE 610 MRC 116; 10th & Constitution Ave. NW; Washington, DC 20560. . If you collect a whole bird carcass, place it in a freezer and contact the Smithsonian at (202) 357-2334 to see if the museum can use the specimen in their collection. To ensure overnight delivery, time shipments to the Smithsonian to arrive Monday - Friday. Remains found on the runway as the result of a suspected aircraft strike, should also be sent to the Smithsonian for identification. Once the Smithsonian has entered the identification into the SAS report, SAS will automatically notify the reporting unit of the species identification through email.

7.4.7.1.4. For wildlife strikes other than birds, send samples of skin, fur, teeth or other non-fleshy remains, if possible, or a photograph of the remains along with the corresponding BASH SAS report to the Smithsonian for identification.

7.4.7.1.5. Deleted.

7.4.7.1.6. Deleted.

7.4.7.2. Technical Assistance. AFI 91-202, *The U.S. Air Force Mishap Prevention Progra*m, out-lines responsibilities for reducing bird/wildlife strike hazards. Obtain additional information on BASH management from AFPAM 91-212, *Bird Aircraft Strike Hazard (BASH) Management Techniques.* Technical assistance is available through the USAF BASH Team, HQ AFSC/SEFW, 9700 AVE G SE, Suite 266, Kirtland AFB, NM 87117-5671. DSN 246-5674/5679/5673 or Commercial (505) 846-xxxx, fax x0684, e-mail address; **mailto:bash@kafb.saia.af.mi**l.

7.5.1.1. The SIB President is the release authority for all information from the SIB Board. The SIB President will release factual information to the AIB President via the AFSC representative in accordance with AFI 34-1101. The SIB President will not release any mishap information directly to the news media, NOK, or the public.

7.8.2.1. Deleted.

7.8.3.6. Deleted.

7.8.5.2. With the approval of the convening authority, the SIB results may be briefed to the NAF/CC, for informational purposes only, prior to the briefing to the convening authority. All other briefings or disclosures of the report content, unless specifically authorized in this publication, are prohibited. The senior officer receiving the briefings will dictate attendance.

7.8.5.2.1. (Added) The NAF/CC may not direct changes to the SIB report or direct further investigation.

7.8.5.2.2. (Added) The only personnel authorized to attend the NAF/CC briefing are the NAF/CC and upon invitation from the NAF/CC, the mishap active component wing commander, as an observer, except as noted below. In the case of an ANG mishap, the NAF/CC may also invite the Director of the Air National Guard and the mishap unit's state Adjutant General. Upon invitation, the Director, Air National Guard and the state Adjutant General will determine whether they or their respective designated representative attends the briefing. All national guard personnel shall attend the briefing in a U.S.C. Title 10 or Title 32 military status. All attendees will be fully briefed on the privileged nature of the briefing and that the briefed information will not be disclosed outside AF safety channels. For AFRC mishaps, the NAF/CC may also invite the mishap wing commander and the mishap AFRC NAF/CC to the briefing.

Figure 7.1. Format for Preliminary and Initial Status (72 Hour) Message Reports for Aircraft Class A, B, or C Mishaps and Class E or HAP Events.

NOTE: Use this format for Class A and B Aircraft mishap preliminary (8-hour) and initial status (72-hour) report messages required by **Table 7.1.** This format should also be used for Class C mishaps and Class E or HAP events when submission of a preliminary or status report message for such events is deemed appropriate by the investigator. For subsequent status reports, use the format in **Figure 7.2.**

NOTE: Preliminary (8-hour) messages must not contain privileged information.

NOTE: Include the privileged markings from **Figure 5.2.**, if appropriate, in initial status (72-hour) reports.

FROM: (Originator)

TO: (see **Table 7.2.** and **Table 7.3.**)

UNCLAS

SUBJECT: Type aircraft (MDS), Mishap Class, Category, Subcategory, and Cross-Category Involvement, Status Report Type, and Mishap Event Number (see paragraph **5.2.** If base code is unknown, use clear text of base name.) [*Example: F-16CG Class A, Aircraft, Ground Ops Flight-ready, Missile Involvement, Preliminary Report, 19980627ZQKL001A*]

NOTE: For category, subcategory and cross category involvement, see **Attachment 5**.

PRIVILEGE MARKINGS (**Figure 2.5.**) If Needed For Initial Status (72 Hour) Report

1. Date and time of mishap. Give date (YYYYMMDD), local time (using 24 hour clock and L-suffix), and whether day or night. [*Example: 19980627, 1743L, night.*]

2. Nearest base to mishap. Name base and indicate if mishap was on-base or off-base. If base submitting report is different from nearest base, also state reporting base name. [*Example: NAF Sigonella (Italy), On-base, Reporting base: Aviano AB, Italy.*]

3. Location of mishap. Give best known latitude and longitude of mishap in degrees and minutes to within 2 decimal places. Radial and distance measuring equipment (DME) (e.g., CZI 252/27) are acceptable in an 8-hour preliminary report when coordinates are not available. Also describe location as specifically as possible and describe terrain or activity in region (e.g., light industrial, residential, etc.). If on a military base, give runway, building, or area numbers/designators and distance from such involved features (e.g., 300 meters short of approach threshold to runway 23; in bay 3 of hangar 7; etc.). If mishap occurred off base, use magnetic heading direction and distance (with units) from nearest town and from nearest military base, as well as street and highway references. If an item is dropped from an aircraft and not recovered, list location as in-flight and describe approximation of location. For bird strike reporting, include estimated latitude and longitude of bird strike. [*Example: Aircraft impact is at N3234.67, W10738.45, Desert B MOA, 23 statute miles W of Alston, New Mexico; rugged, rocky area at 7300 foot level of Capotosti Peak, 17 statute miles W of US 285 on Forest Road F23; 108 nautical miles SSE of Kirtland AFB.*

4. Narrative of circumstances. Give brief description of mishap and pertinent preceding events. Provide abbreviated, strictly factual information. Include mission information, such as mission type, formation size and position, ordnance, and area weather. Do not include information implying cause. In preliminary reports, do not include information gained through interviews with crewmembers or involved witnesses if provided under a promise of confidentiality.

5. Damage and Injuries. Describe extent of all consequential damage. Summarize injury and fatality information. Describe damage to non-Air Force property and collateral damage and injury costs to the extent they can be determined.

6. Current status. Include status of on-going rescue and recovery operations, hazard containment, and security. Provide information on the level of media interest.

7. Object information. List the following details on involved Air Force equipment or facilities to the extent information can be obtained. If air refueling was involved, also include information on other involved aircraft. For any mishap involving LANTIRN navigation and targeting pods, missiles, vehicles and other equipment, include information on that equipment. Replace x in paragraph number with sequential unique numbers for each involved item.

7.x.1. Nomenclature and identifiers. For aircraft, include the mission-design-series (MDS) designator, weapon system serial number and engine type and serial number(s). For involved explosives, give complete nomenclature of item, (e.g., M8A1 parachute flare, MK4 Mod 3 impulse cartridge, or FMU 56/B fuse). For facilities, list building number and principal purpose.

7.x.2. State how involved (e.g., mishap aircraft, refueler aircraft, destroyed power unit, burned building, etc.).

7.x.3. Accountable MAJCOM/Wing/Squadron for the equipment or facility.

7.x.4. State if object destroyed, or summarize damage assessment.

7.x.5. For Aircraft involved in a Class A or B Flight or Flight-Related mishap, list call sign(s) and transponder modes and codes (required for RADES Support, see para **1.1.11.**).

8. Personnel Information. Describe known details of personnel fatalities and injuries by crew position or other identifier (e.g., refueling truck driver, civilian contractor #4, farmhouse resident, etc). Do not include names. Do not include SSAN on preliminary messages. Include information on crewmembers, passengers, and other involved parties. List crewmember information described below. Replace x in paragraph number with sequential unique numbers for each involved party. If information is unknown, state what is unknown, e.g., age unknown, degree of injury unknown, etc.

8.x.1. Crew position or identifier.

8.x.2. Grade and AFSC.

8.x.3. Fatality or degree of injury. (**Attachment 5** may be used for injury terms; do not use abbreviations.)

8.x.4. Information on ejection or egress attempt and results.

8.x.5. For crewmembers include qualifications when available: total flying time, time in mishap aircraft type, 30/60/90 times and sortie counts, and Air Force component (Active, ANG, or AFRC).

9. Contacts. Name Interim Board President, and cognizant official with e-mail address and telephone number (DSN and commercial). Name SIB President and core members if appointed.

Figure 7.2. Format for Aircraft Mishap and Event Consolidated Message Report.

NOTE: Use this format for most Aircraft Class A, B and C mishap and HAP event report messages required by **Table 7.1.** For preliminary (8-hour) and initial status (72-hour) reports, use **Figure 7.1.** For Class E Propulsion-related events, use the summary format at **Figure 7.3.** For Class E Physiological

events, use the summary format at **Figure 7.4.** For all other Class E events, use the summary format at **Figure 7.5.**

NOTE: Use the look-up table at **Attachment 5** for items followed by an asterisk (*).

FROM: (Originator)

TO: (see **Table 7.2.** and **Table 7.3.**)

CLASSIFICATION

NOTE: For classified reports, see AFI 31-401, *Information Security Program Management*.

SUBJECT: Type aircraft (MDS), Mishap Class, Category, Sub-category, and Cross-Category Involvement, Status Report Type, and Mishap Event Number (see paragraph **5.2.**) [*Example: F-16CG Class A, Aircraft, Ground Ops Flight-ready, Missile Involvement, 15 Day Status Report, 19980627ZQKL001A*]

NOTE: For category, sub-category and cross category involvement, see **Attachment 5**.

NOTE: Include Privacy Act Statement when Social Security Numbers are included in the message.

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C., CHAPTER 40; 37 U.S.C., CHAPTER 9; EO 9397, NOVEMBER 1943. PRINCIPAL PURPOSES: SAFETY MISHAP REPORTING ONLY. ROUTINE USES: SAFETY MISHAP REPORTING ONLY. DISCLOSURE: DISCLOSURE OF SSN IS VOLUNTARY.

NOTE: The following Privileged marking applies to most aircraft mishaps. Use the phrase “For Official Use Only” on non-privileged reports, but do not use the remainder of the Privileged advisory. If a security classification is used, “For Official Use Only”does not apply.

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EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, **Chapter 2** FOR RESTRICTIONS.

DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

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Number entries 4.1. through 4.x. as necessary. Findings must not address new information not previously discussed in the narrative.

5. Recommendations. See paragraph **5.10.** for general information on determining recommendations. List as Recommendation 1, Recommendation 2, etc. Do not list Other Recommendations Of Significance in this paragraph. Number entries 5.1. through 5.x. as necessary.

6. Other Findings and Recommendations of Significance (OF&RS). List any OFS as OFS 1, OFS 2, etc., and ORS as ORS 1, ORS 2, etc. Place any ORS immediately after the OFS to which it is related. Number entries 6.1. through 6.x. as necessary.

7. Asset Ownership:

7.1. MAJCOM/DRU/FOA.*

7.2. NAF.

7.3. Center/Wing (Wing-equivalent Group).

7.4. Group.

7.5. Squadron.

7.6. Unit.

7.7. Base code. (Use the four letter Home Location Code from SORTS)

8. Environmental factors:

8.1. State if weather was or was not a factor.

8.2. State meteorological conditions at time of occurrence (if Intent for Flight): VMC or IMC.

8.3. Describe weather at time of event occurrence. Also describe weather prior to occurrence if pertinent.

8.4. Specify if occurrence was during day or night.

8.5. Describe lighting conditions at time of event occurrence. Also describe lighting conditions prior to occurrence if pertinent.

9. Special Interest Factors:

9.1. State whether or not any Night Vision Devices (NVD) were involved. If so, state what type, who was using it, and describe the aircraft NVD compatibility. (See **Attachment 5**)

9.2. State whether or not fire or explosion was involved. If so, state combustible or explosive materials involved.

9.3. State the type of fuel used in the aircraft. If fuel was involved from other sources, state type.

10. Damage and injury cost estimates: List costs in dollars. Include item title (e.g., "AF damage cost") in front of cost figure.

10.1. AF damage cost: Cost of damage to Air Force property, including labor and materiel. (See paragraphs **3.4.** and **3.5.**)

10.2. AF injury cost: Cost of injuries to Air Force personnel, including military and civilian. (See paragraph **3.7.**)

10.3. Non-AF damage cost: Estimate of damage to non-Air Force property, including other DoD and non-DoD property. (See paragraphs **3.4.** and **3.6.**)

10.4. Total mishap cost: Sum of costs in items **10.1.** through **10.3.**

10.5. State number of fatalities, both military and civilian, number of persons with major injuries (requiring admission to a hospital or medical facility for treatment) and number of persons with minor injuries. Include all persons injured as a result of the mishap or event, regardless of military affiliation.

11. Personnel involved: Give the following data on each person involved. Repeat entry 11.x. through 11.x.21. for each person involved in the mishap. Replace x in paragraph number with a sequential unique number for each involved party. Complete all items (11.1. through 11.1.21.) for the first party before entering information for the second party (11.2. through 11.2.21.), etc.

NOTE 1: Use the look-up table at **Attachment 5** for items followed by an asterisk (*).

NOTE 2: Some personnel items noted below are not required for events involving materiel failure if it is determined that individual's actions had no role in the failure or consequences.

11.x. Identifier. Assign a unique identifying name (and abbreviation if desired for correlation with the narrative) for the involved person. Use the persons activity or position to assign the identifier. [*Examples: Mishap pilot #2 (MP2), Event Navigator (Nav), Spectator #4 (Spec4), etc.*] Do not include the individual's name.

11.x.1. SSAN. SSAN is mandatory for persons involved in aircraft mishaps. Do not omit or substitute required information with "available upon request" or similar wording.

11.x.2. Gender. (See Note 2 above.)

11.x.3. Age. (See Note 2 above.)

11.x.4. Grade.*

11.x.5. Duty AFSC or job series. List both code and text title.

11.x.6. Time on duty prior to mishap. Give time to nearest 10th of the hour from the time the individual reported to work until he or she was involved in the mishap. (See Note 2 above.)

11.x.7. Role in event (Actual duty performed at time of mishap.)*.

11.x.8. Component.*

11.x.9. Organization assigned.

11.x.9.1. MAJCOM/DRU/FOA.*

11.x.9.2. NAF.

11.x.9.3. Center/Wing (Wing-equivalent Group).

11.x.9.4. Group

11.x.9.5. Squadron

11.x.9.6. Unit.

11.x.9.7. Assigned base. Also state if deployed, and to what base.

11.x.10. If deployed, number of days since start of current deployment. Also state number of days deployed in previous 365 days. (See Note 2 above.)

11.x.11. Toxicological (TOX) testing (positive, negative, pending, not suspected or not accomplished.) If positive or not accomplished, explain. TOX test information must be identified in all mishaps.

11.x.11.1. Substance type.* (If applicable)

11.x.11.2. Substance level. (If applicable)

11.x.12. Injury class.* Use both abbreviation from **Attachment 5** and text. If injury was involved, answer the following three questions.

11.x.12.1. Part of body injured.*

11.x.12.2. Type injury.*

11.x.12.3. If fatal, state official cause of death.

11.x.13. State if individual training or written instructions were or were not a factor in the mishap. Types of training include flight training, crew resource management, life support, etc. If training or written instructions were a factor, complete the following items:

11.x.13.1. State if individual was or was not trained and, if required, certified to perform task.

11.x.13.2. State if training program, as designed, was or was not adequate to perform task.

11.x.13.3. State if written instructions (checklist, T.O., etc.) were or were not available.

11.x.13.4. State if written instructions were or were not used.

11.x.13.5. State if written instructions were or were not satisfactory.

11.x.14. Safety equipment.* From **Attachment 5**, select safety equipment available that was either involved or should have been used, and state if it was used (used/not used) and how well it performed (failed/inadequate/partially successful/fully successful). Use the following format: seat restraint/used/ fully successful; helmet/used/partially successful; parachute/not used.

11.x.15. Crew position.* (May be different from 11.x.7.)

11.x.16. RPI code.* (See Note 2 above.)

11.x.17. State if specialized cockpit management training was completed. (See Note under 11 above.)

11.x.18. Flying time. Complete the following information when applicable: (See Note 2 above.)

11.x.18.1. Total flying time.

11.x.18.2. Total qualified flying time and Instructor time in this type aircraft.

11.x.18.3. Last 30/60/90 day qualified flying time and Instructor time in this type aircraft.

11.x.18.4. Last 30/60/90 day sorties in this type aircraft.

11.x.19. Ejection or bailout attempt.*

11.x.20. Mishap cabin altitude and duration (physiological mishaps only).

11.x.21. Length of unconsciousness (physiological mishaps only).

12. Aircraft involved. Give the following data on each aircraft damaged or integrally involved in the mishap or event. Repeat entry 12.x. through 12.x.9. for each aircraft involved in the mishap. Replace x in the paragraph number with a sequential unique number for each aircraft. Complete all items (12.1. through 12.1.9.) for the first aircraft before entering information for the second aircraft (12.2. through 12.2.9.), etc.

12.x Aircraft mission-design-series (MDS) designator and type. [*Examples: F-16CJ; EC-135A*]

12.x.1 Aircraft tail number, serial number, and other unique identifiers.

12.x.2. Organization assigned.

12.x.2.1. MAJCOM/DRU/FOA.*

12.x.2.2. NAF.

12.x.2.3. Center/Wing (Wing-equivalent Group).

12.x.2.4. Group.

12.x.2.5. Squadron.

12.x.2.6. Unit.

12.x.2.7. Base.

12.x.3. Aircraft activity at time of mishap or event.*

12.x.4. Mission symbol.*

12.x.5. Phase of flight.*

12.x.6. Duration of flight (to nearest 10th of an hour.)

12.x.7. State whether or not a barrier or cable was engaged, and if so, what type.

12.x.8. Describe runway type and condition, including runway condition rating (RCR).

12.x.9. State whether aircraft is destroyed, repairable or undamaged. Briefly describe

damage.

12.x.10. Briefly describe how repairs will be accomplished. [*Example: Contractor field team will replace vertical stabilizer and put temporary repair on horizontals; local maintenance will repair wing damage; aircraft will be flown to depot for replacement of horizontal stabilizer.*]

12.x.11. Major system failing.*

13.x Engine Information. Give the following data for each engine involved in the mishap or event. Repeat entry 13.x. through 13.x.5. for each engine. Replace x in the paragraph number with a sequential unique number for each engine. Complete all items (13.1. through 13.1.5.) for the first engine before entering information for the second engine (13.2. through 13.2.5.), etc. Report failed engine parts in item 14.

13.x.1. Engine installed position number. Enter as “Engine number x”

13.x.2. Engine manufacturer.

13.x.3. Engine model designator, including series. [*Example: F110-GE-129*]

13.x.4. Engine serial number.

13.x.5. Cost to repair or replace. State whether cost is for replacement or repair and

source of data. [*Example: Repair cost $234,567 per OC-ALC/LP message 230835Z JUL 98.*]

14.x. Failed Parts Information. State descriptive name of failed component parts, including parts of engines or airframes. [*Examples: 1st stage turbine air sealing ring; Left main landing gear strut; Dorsal longeron; Center wing tank fuel boost pump; etc.*] Do not list parts which failed due to damage as a direct result of the failure of another component part. Replace x in the paragraph number with a sequential unique number for each failed part. Repeat entries 14.x. through 14.x.8. as required for all failed parts.

14.x.1. Failed part complete nomenclature.

14.x.2. Failed part number and (if applicable) serial number.

14.x.3. Failed part manufacturer.

14.x.4. Major system, subsystem and/or engine module for failed part. State nomenclature, manufacturer, model and serial numbers. [*Example: Auxiliary Power Unit, Allison Model TR7, S/N 23-567*]

14.x.5. Brief description of failure.

14.x.6. How malfunction code (see dash-6 tech order.)

14.x.7. Work unit code (see dash-6 tech order.)

14.x.8. Report control number from deficiency report (DR).

15.x. Pod Information. List the type of any damaged pod, e.g., navigation pod, targeting pod, jamming pod, etc. Replace x in the paragraph number with a sequential unique number for each pod. Repeat entries 15.x. through 15.x.3. as required for all pods.

15.x.1. List equipment designator of pod, e.g., LANTIRN, Pave Penny, etc.

15.x.1. Serial number of pod.

15.x.2. Cost to repair or replace.

16. Accident Investigation Board (AIB). Specify if an AIB investigation was or was not convened under AFI 51-503, and identify the AIB President and the specific MAJCOM conducting the AIB investigation.

17. Cognizant official. Provide name, unit, office symbol, e-mail address and telephone number (DSN and commercial).

Figure 7.3. Aircraft Class E Propulsion-Related Event Summary Report.

NOTE: Use this format for Class E Propulsion-related events which require reporting per paragraph 7.2.3.1. This format may be used for both status reports (when needed) and final reports.

NOTE: Use the look-up table at **Attachment 5** for items followed by an asterisk (*).

FROM: (ORIGINATOR)

TO: (See **Table 7.2.** and **Table 7.3.**)

CLASSIFICATION

NOTE: For classified reports, see AFI 31-401, *Information Security Program Management*.

SUBJECT: Type Aircraft (MDS), Class E Propulsion-Related Event, Category and Sub-category, Report Type, and Mishap Event Number (see paragraph **5.2.**). [*Example: F-16B Class E Propulsion-related, Aircraft, Flight, Final Report, 19980627ZQKL001E*]

NOTE: For category, sub-category and cross category involvement, see **Attachment 5**.

NOTE: The following Privileged marking applies to most aircraft mishaps. Use the phrase "For Official Use Only"" on non-privileged reports, but do not use the remainder of the Privileged advisory. If a security classification is used, "For Official Use Only" does not apply.

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Number entries 6.1. through 6.x. as necessary. Findings must not address new information not previously discussed in the narrative.

7. Recommendations. Give preventive actions taken or recommended. See paragraph **5.10.** for general information on determining recommendations. List as Recommendation 1, Recommendation 2, etc. Do not list other Recommendations of Significance in paragraph 7. Number entries 7.1. through 7.x. as necessary.

8. Other Findings and Recommendations of Significance. List any OFS as OFS 1, OFS 2, etc. And any ORS as ORS 1, ORS 2, etc. Place any ORS immediately after the OFS to which it is related. Number entries 8.1.1. through 8.1.x. as necessary.

9. Asset Ownership:

9.1. MAJCOM/DRU/FOA.*

9.2. NAF.

9.3. Center/Wing (Wing-equivalent Group).

9.4. Group.

9.5. Squadron.

9.6. Unit.

9.7. Base code. (Use the four letter Home Location Code from SORTS)

10.x. Failed Parts Information. State descriptive name of failed component parts. [*Examples: 1st stage turbine air sealing ring; Main fuel pump; Engine oil tank drain plug o-ring; etc.*] Do not list parts which failed due to damage as a direct result of the failure of another component part. Replace x in the paragraph number with a sequential unique number for each failed part. Repeat entries 10.x. through 10.x.4. as required for all failed parts.

10.x.1. Failed part number and (if applicable) serial number.

10.x.2. Failed part manufacturer.

10.x.3. Brief description of failure.

10.x.4. Report control number from deficiency report (DR).

11. Cognizant official. Provide name, unit, office symbol, e-mail address and telephone number (DSN and commercial).

Figure 7.4. Aircraft Class E Physiological Event Summary Report.

NOTE: Use this format for Class E Physiological events which require reporting per paragraph **7.2.3.4.** See paragraph **7.4.4.1.2.** for other Physiological event reporting requirements. The format may be used for both status reports (when needed) and final reports.

NOTE: Use the look-up table at **Attachment 5** for items followed by an asterisk (*).

FROM: (Originator)

TO: (see **Table 7.2.** and **Table 7.3.**)

CLASSIFICATION

NOTE: For classified reports, see AFI 31-401, *Information Security Program Management*.

SUBJECT: Type Aircraft (MDS), Class E Physiological Event, Aircraft, Sub-category, And Cross-Category Involvement, Report Type, And Mishap Event Number (see paragraph **5.2.**). [*Example: F-16CG Class E Physiological, Aircraft, Flight, UAV Involvement, 72 Hour Status Report, 19980627ZQKL001E*]

NOTE: For category, sub-category and cross category involvement, see **Attachment 5**.

NOTE: Include Privacy Act Statement if Social Security Numbers are included in the message.

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C., CHAPTER 40; 37 U.S.C., CHAPTER 9; EO 9397, NOVEMBER 1943. PRINCIPAL PURPOSES: SAFETY MISHAP REPORTING ONLY. ROUTINE USES: SAFETY MISHAP REPORTING ONLY. DISCLOSURE: DISCLOSURE OF SSN IS VOLUNTARY.

NOTE: The following Privileged marking applies to most aircraft mishaps. Use the phrase "For Official Use Only" on non-privileged reports, but do not use the remainder of the Privileged advisory. If a security classification is used, "For Official Use Only" does not apply.

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approximate location. If the event involves multiple locations, give the general area, and provide details of locations in the narrative as needed.

2.1. State and country of mishap.

3. Aircraft Information. State mission-design-series (MDS) designator and serial number for aircraft.

4. Narrative. Give a concise, chronological description of the facts and circumstances leading to the event. For areas not factors in the event, give details in narrative not included elsewhere in the report, including the AF 711GC. Include enough information in final reports to show SIB or investigating officer reasoning in reaching findings and recommendations. In all cases, continue the sequence through point of occurrence. For technical assistance on this item, contact HQ AFSC/SEFL, DSN 246-0830/0840/0871, commercial (505) 846-0830/0840/0871.

5. Findings and causes. See paragraphs **5.8.** and **5.9.** for general information on determining findings and causes. List as Finding 1, Finding 2, etc. Number entries 5.1. through 5.x. as necessary. Findings must not address new information not previously discussed in the narrative.

6. Recommendations. Give preventive actions taken or recommended. See paragraph **5.10.** for general information on determining recommendations. List as Recommendation 1, Recommendation 2, etc. Number entries 6.1. through 6.x. as necessary.

7. Other Findings and Recommendations of Significance. List any OFS as OFS 1, OFS 2, etc; and any ORS as ORS 1, ORS 2, etc. Place any ORS immediately after the OFS to which it is related. Number entries 7.1.1. through 7.1.x. as necessary.

8. Accountability:

8.1. MAJCOM/DRU/FOA.*

8.2. NAF.

8.3. Center/Wing (Wing-equivalent Group).

8.4. Group.

8.5. Squadron

8.6. Unit.

8.7. Base code. (Use the four letter Home Location Code from SORTS)

9. Personnel involved: Give the following data on each person involved. Repeat entry 9.x. through 9.x.22. for each person involved in the event. Replace x in paragraph number with a sequential unique number for each involved party. Complete all items (9.1. through 9.1.22.) for the first party before entering information for the second party (9.2. through 9.2.22.), etc.

9.x. Identifier. Assign a unique identifying name (and abbreviation if desired for correlation with the narrative) for the involved person. Use the persons activity or position to assign the identifier. [*Examples: Event copilot #2 (CP2), Event Navigator (Nav), Passenger #4 (Psgr4), Person #1; etc.*] Do <u>not</u> include the individual's name.

9.x.1. SSAN. SSAN is mandatory for persons involved. Do not omit or substitute required information with "available upon request" or similar wording.

9.x.2. Gender.

9.x.3. Age.

9.x.4. Grade.*

9.x.5. Duty AFSC or job series. List both code and text title.

9.x.6. Crew position.*

9.x.7. Flying time. Complete the following information when applicable:

9.x.7.1. Total flying time.

9.x.7.2 Total qualified flying time and Instructor time in this type aircraft.

9.x.7.3 Last 30/60/90 day qualified flying time and Instructor time in this type aircraft.

9.x.7.4 Last 30/60/90 day sorties in this type aircraft.

9.x.8. Length of unconsciousness.

10. Reporting Flight Surgeon. Provide the name, unit, office symbol, e-mail address and telephone number (DSN and commercial) for the Flight Surgeon who will complete the AF Form 711GC.

11. Cognizant official. Provide name, unit, office symbol, e-mail address and telephone number (DSN and commercial).

Figure 7.5. (Added) Aircraft Class E Event Summary Report

NOTE: Use this format for Class E events which require reporting per paragraph **7.2.3.1.** and which do not use the Class E Propulsion or Physiological formats. This format may be used for both status reports (when needed) and final reports.

FROM: (ORIGINATOR)

TO: (See **Table 7.2.** and **Table 7.3.**)

CLASSIFICATION

NOTE: For classified reports, see AFI 31-401, *Information Security Program Management*.

SUBJECT: Type Aircraft (MDS), Class E, Category and Sub-category, Report Type, and Mishap Event Number (see paragraph **5.2.**). [*Example: F-16B Class E, Aircraft, Flight, Final Report, 19980627ZQKL001E*]

NOTE: For category, sub-category, and cross category involvement see **Attachment 5**.

NOTE: The following Privileged marking applies to most aircraft mishaps. Use the phrase "For Official Use Only" on non-privileged reports, but do not use the remainder of the Privileged advisory. If a security classification is used, "For Official Use Only" does not apply.

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FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, **Chapter 2** FOR RESTRICTIONS.

DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

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1. Date and time of event. Give date in format YYYYMMDD, followed by local time (L) using 24-hour clock.

2. Nature of Event. State the event under paragraph **7.2.3.** which requires this report (e.g., in-flight fire, or unintentional departure from controlled flight).

3. Aircraft Information. State mission-design-series (MDS) designator and serial number for aircraft.

4. Location. Provide location of the event. State name of base or military property (e.g., Utah Test and Training Range) on which the event occurred. If on-base, state "on base." If event occurred off base, state "off military property" and provide magnetic heading direction and distance from the nearest base, or use an alternate description of location. If event occurred in-flight, list location as "in-flight" and describe approximate location. If the event involves multiple locations, give the general area, and provide details of locations in the narrative as needed.

5. Narrative. Give a concise, chronological description of the facts and circumstances leading to the event. Include a discussion of any pertinent flight control position and movement, phase of flight or operation (e.g., climb, combat maneuvering, low level, taxi, etc.), airspeed, altitude, maneuver involved, weather, etc. Continue the sequence until the event ends. Describe any damage, which occurred.

6. Conclusions. Describe any investigation conducted and state any conclusions regarding the causes of the event. The Findings and Causes format described in paragraphs **5.8.** and **5.9.** may be used if desired.

7. Recommendations. Give preventive actions taken or recommended. See paragraph **5.10.** for general guidance on determining recommendations. List as Recommendation 1, Recommendation 2, etc. Number entries 7.1 through 7.x as necessary.

8. Asset Ownership:

8.1. MAJCOM.*

8.2. NAF.

8.3. Center/Wing (Wing-equivalent Group).

8.4. Group.

8.5. Squadron

8.6. Unit.

8.7. Base code. (Use the four letter Home Location Code from SORTS)

9.x. Failed Parts Information. State descriptive name of failed component parts. [*Examples: UHF Radio, landing gear downlock pin, actuator o-ring; etc*.] Do not list parts which failed or were damaged as a result of the failure of another component part. Replace x in the paragraph number with a sequential unique number for each failed part. Repeat entries 10.x through 10.x.4 as required for all failed parts.

9.x.1. Failed part number and (if applicable) serial number.

9.x.2. Failed part manufacturer.

9.x.3. Brief description of failure.

9.x.4. Report control number from deficiency report (DR).

10. Cognizant official. Provide name, unit, office symbol, e-mail address and telephone number (DSN and commercial).

Figure 7.6. (Added) Abbreviated Formal Report.

This format is normally used for Class A & Class B Aircraft mishaps that do not involve destroyed aircraft or fatalities. This format is also normally used when MAJCOM or HQ AFSC directs a formal mishap report for Aircraft Class C, E, and HAP mishaps/events; however, the Full Formal Report format may be directed when more extensive documentation is needed. See paragraph **7.4.** for additional instructions.

Tab	Part I Factual Information and Releasable Exhibits
1	Orders Appointing Safety Investigation Board or Single Investigator
2	Preliminary Message Report
3	AF Form 711 series (AF Forms 711, 711B and/or 711C) as applicable
4	Damage Cost Estimates
5*	Personnel, Flying and/or Aircraft and Engine Maintenance Records
6*	Flight Plan and Weight & Balance Forms
7*	Material Deficiency Reports
8*	Technical Reports and Engineering Evaluations of Factual Evidence
9*	Non-Privileged Statements and List of Persons Interviewed by Investigators
10*	Other Releasable Supporting Documents, Photographs, Diagrams and Reports

Tab	Part II Conclusions, Protected and Privileged Exhibits
11*	Life Sciences Report
12*	AFTO Form 22 and 847 Prepared by Safety Board
13*	Privileged Engineering Evaluations and Technical Reports

14* Other Protected Documents, Statements & Reports Supporting Board Deliberations

15 SIB Analysis and Conclusions

Tab Part II Reserved Tabs for Privileged Follow-up Documents

16 Rebuttals from Involved Parties

17 Comment and Endorsement Messages

18 Additional Analysis Prepared after Safety Board Completion

19 Message of Final Evaluation (MOFE)

*These Tabs may be waived, depending upon the circumstances of the mishap and investigation. Per paragraph **7.4.2.1.**, MAJCOM/SE can approve tab waivers after consultation with AFSC using the guidance below.

Tab 1 The orders must contain the full name, rank/grade, SSAN, organization, and complete official mailing address for each person appointed to the SIB. Purposes: Documents the formal appointment of SIB members by the convening authority and provides information to permit later contact with SIB members.

Tab 2 Include a copy of the fully releasable preliminary message report. Purpose: Captures the releasable report if needed for future disclosure.

Tab 3 Complete all of the applicable forms in the AF Form 711 series following the detailed instructions in **Attachment 3**, paragraphs **A3.5.1.**, **A3.5.3.**, and **A3.5.4.** Purposes: Captures releasable data for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries, and for other purposes requiring releasable data. (The need for such subsequent investigations is not always apparent at the time of the SIB.) Used to populate safety database for mishap trending and analyses.

Tab 4 Include a worksheet detailing damage cost estimates and showing how damage costs were calculated under paragraphs **3.4.** through **3.7.** for the major items involved, and list sources for cost data. Include a general description of injuries. Include a Statement of Damage to Private Property from the claims officer if such damage occurred. Purposes: Captures data needed to fulfill DoD reporting requirements and documents methods used for audit purposes.

Tab 5* Required when personnel and/or maintenance is a factor in the mishap. May be waived if the investigation determines there was no personnel or maintenance involvement that initiated, contributed to or sustained the mishap sequence. When such factors are involved, include pertinent training records, flying records and/or AFTO 781 series Forms for the mishap aircraft, as needed to document the background. See **Attachment 3**, paragraphs **A3.5.5.** and **A3.5.6.** for additional instructions on these documents. Purposes: To record the background of involved personnel and the history of aircraft maintenance. Captures releasable data for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries. (The need for such subsequent investigations is not always apparent at the time of the SIB.)

Tab 6* Required when relevant to the mishap. May be waived if the investigation determines flight planning, flight plans and/or aircraft weight and balance were not factors in the mishap. Purposes: Captures releasable data for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries. (The need for such subsequent investigations is not always apparent at the time of the SIB.)

Tab 7* Required if T.O. 00-35D-54, Chapter 3 requires a DR. Include a copy of all PQDRs submitted in conjunction with the mishap investigation. Reports must include Report Control Number (RCN), cognizant official, part name and part number. Purpose: Provides a record of information needed to link the safety report to other reports in the AFMC system.

Tab 8* Required when technical evaluations, laboratory or teardown investigations were conducted. Include reports prepared by DoD personnel or contractors that document observed conditions, and/or provide analyses of physical evidence or factual information. Use the format in **Figure 4.1.** (or equivalent) for these reports. Include copies of any letters prepared per **Figure 2.2.** when applicable. Do not include reports that were prepared under a promise of confidentiality or that contain SIB deliberations or speculation related to mishap cause. Purposes: Provides a record of important technical details used for follow-up investigations conducted by AFSC, AFMC, and contractors. Often used by future SIBs to determine similarity of mishaps. Used for mishap trending and analysis. Captures releasable data for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries, and for other purposes requiring releasable technical data. (The need for such subsequent investigations is not always apparent at the time of the SIB.)

Tab 9* Required if interviews were conducted. Include any non-privileged statements obtained or summaries of testimony when the content is important to the investigation, along with signed copies of the Non-Privileged Witness statement in **Figure 2.4.** Include a list of all persons interviewed (even if only privileged testimony was provided), the role of each person in the mishap (e.g., mishap pilot, maintenance crew chief, observer, etc.), and contact information for each interviewee. If the SIB determines there is no non-privileged testimony important to the investigation, include only the list of interviewed persons. May be waived for Class B mishaps if no substantive non-privileged testimony was obtained and information from interviews is expressed in the SIB analysis and conclusions. Purposes: Documents testimony when needed to support SIB conclusions or to describe conditions. Provides non-privileged testimony to any subsequent Accident Investigation Board or other inquiries so interviews will not have to be re-accomplished. Provides witness and involved party contact information for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries.

Tab 10* Required when the SIB believes additional supporting data is needed to adequately document mishap conditions or related factual information. Include releasable data not defined as belonging in other tabs and an index to all documents in this tab. Items that belong in this tab include transcripts of recorded broadcast communications (see paragraph **A3.5.12.**), impact, wreckage, flight path or other such diagrams (see paragraph **A3.5.16.**), non-privileged photographs (see paragraph **A3.5.17.**), tabular and graphical data from onboard recorders, transcripts or audio recordings from cockpit voice recorders, copies of local operating instructions or directives (do not include SIB annotations), videotapes showing the mishap or related events, approach plates, maps, etc. Consider whether such items would likely be needed by any subsequent Accident Investigation Board or other inquiries, and include items needed for that purpose. Purposes: Documents releasable information needed to support SIB analysis and conclusions. Captures releasable data for use by any subsequent Accident Investigation Board conducted under AFI 51-503 or for other inquiries. (The need for such subsequent investigations is not always apparent at the time of the SIB.)

Tab 11* Required when human factors are involved in the mishap, when life support equipment was used or involved in the mishap, when toxicology testing was accomplished on involved persons, and/or when other relevant medical records exist. Follow the guidance in paragraphs **7.4.10.** and **A3.6.6.** Purposes: Captures aeromedical data regarding involved persons and life support information for involved equip-

ment. Used for historical analysis and trending, to support follow-up investigations of equipment, and to provide data for new life support equipment designs.

Tab 12* Required if the SIB recommends changes to flight manuals or other tech data. Include a copy of any AFTO Forms 22 or AF Forms 847 submitted by the SIB. Purpose: Documents SIB compliance with responsibility to submit requests for changes to tech orders, flight manuals and Air Force publications when the investigation concludes changes are warranted.

Tab 13* Required if technical analyses were conducted involving privileged information or under a Promise of Confidentiality. Include any technical report that provides analyses based upon SIB deliberation or other privileged information (such as testimony provided under a Promise of Confidentiality), or that includes analysis directly regarding the cause of the mishap. Persons writing such reports should be instructed to provide a separate report in Tab 7 containing a summary of observed conditions, and analyses of physical evidence and factual and non-privileged information. Also include in this tab any technical reports provided under a Promise of Confidentiality granted to a contractor involved in the design, manufacture or maintenance of the mishap aircraft or system. Include a copy of any letters prepared per **Figure 2.2.** when applicable. Purposes: Provides a record of important technical details used for follow-up investigations conducted by AFSC and AFMC. Often used by future SIBs to determine similarity of mishaps. Used for mishap trending and analysis.

Tab 14* Required when the SIB believes additional privileged data is needed to adequately support its analyses and conclusions or to better convey information related to the mishap. Include privileged data not defined as belonging in other tabs and an index to all documents in this tab. Items that belong in this tab include video animations of data recorder information (if an animation was used to brief the mishap to the convening authority, a copy should be included in the report), transcripts or summaries of testimony provided under a Promise of Confidentiality, staged photographs, speculative drawings, SIB-conducted survey results, etc. Purposes: Documents privileged information needed to support SIB conclusions. Documents information needed to better communicate important elements of the mishap or investigation.

Tab 15 Include a copy of the Final Message prepared per **Figure 7.3.** If the SIB analysis and conclusions can be adequately documented in the Final Message, no additional report is required in this tab. If embedded figures or photos are needed to clearly present the investigation, or if the SIB believes their work will be best presented in a different format, a separate report may also be included using the guidance in paragraph **A3.6.1.1.**, or any other format preferred by the SIB. If a minority report is prepared by a Primary SIB member, include it in this tab. Purpose: Records the opinion of the SIB as to mishap findings, causes and recommendations to prevent future mishaps. (See paragraphs **5.8.**, **5.9.** and **5.10.** for guidance on determining findings, causes and recommendations.) This is the most important part of the report, and it should include a thorough analysis of all evidence and rationale for acceptance or rejection of all mishap scenarios or theories.

Tab 16 Persons found causal must be notified per paragraph **5.10.5.** Include rebuttal statements in this tab.

Tab 17 The Air Force conducts an open comment and endorsement process for Class A and Class B Aircraft mishaps as described in **Chapter 6**. Include copies of comment and endorsement messages in this tab.

Tab 18 Primarily for use by AFSC and other offices that conduct follow-up investigations or analyses. If the SIB knows of analyses that are pending but cannot be completed prior to dissemination of the formal report, include a list of expected reports with contact information for cognizant officials in this tab.

Tab 19 Reserved for the Memorandum of Final Evaluation.

General Instructions for Assembling an Abbreviated Formal Report

Assemble the report in a standard white three-ring binder (usually 1 or 1.5 inch thick) with dividers with tabs labeled 1 through 19. (Commonly available standard dividers are available numbered 1 through 31; simply discard the extra dividers.)

Print the report on both sides of 8.5 x 11 inch paper using Times New Roman 12 point as the preferred font. Standard margins are 1.5 inch inside and 1.0 inch outside, and 0.5 inch header and footer. Header should appear on each page with aircraft type, aircraft serial number, and mishap control number (e.g., F-16CG, 89-1234, 20010115QABC901A). Footer should appear on each page in Part II only with the privileged statement from **Figure 2.5.**

Reports in electronic format are optional for all reports except those sent to HQ AFSC and the Convening Authority. If electronic reports are disseminated, use Microsoft Office (preferred) or Adobe Acrobat software for all files, and place on CD ROM media. CD must be labeled with (as a minimum) aircraft type, mishap control number and the privilege statement from **Figure 2.5.**

Table 7.2. Addresses for Aircraft Mishap and Event Message Reports.

	A	B	C
	Organization (See note 1)	Office Symbol	For
1	HQ USAF KIRTLAND AFB NM	SE/SEF	All mishaps and events
2	HQ USAF WASHINGTON DC	XO/SEI/IL	Class A and B mishaps
3	HQ AFSOC HURLBURT FLD FL	SE	All Mishaps
4	HQ AETC RANDOLPH AFB TX	SE	
5	HQ ACC LANGLEY AFB VA	SE	
6	HQ AFMC WRIGHT PATTERSON AFB OH	SE	
7	HQ AMC SCOTT AFB IL	SE	
8	HQ PACAF HICKAM AFB HI	SE	
9	HQ AFSPC PETERSON AFB CO	SE	
10	HQ USAFA USAF ACADEMY CO	SE	
11	HQ USAFE RAMSTEIN AB GE	SE	
12	ANGRC ANDREWS AFB MD	DOS	
13	ANG WASHINGTON DC	DOS	
14	HQ AFRC ROBINS AFB GA	SE	
15	ASC WRIGHT PATTERSON AFB OH	SE/ENVS	

16	MAJCOM concerned (gaining MAJCOM for ANG/AFRC) (see note 4)	As Required	
17	Intermediate commands		
18	Home base of operator or crew (if other than the organization submitting the report)		
19	Home base of aircraft or command assignment (if other than that of the operator or crew)		
20	Military base of departure		
21	344 TRS LACKLAND AFB TX	TTEB	
22	ANGRC ANDREWS AFB MD (see note 3)	DOS	ANG mishaps
23	HQ AFRC ROBINS AFB GA	SE	AFRC mishaps and mishaps involving aircraft MDSs assigned to Associate Reserve Programs
24	HQ USAF WASHINGTON DC	RE/REO	
25	HQ AFMOA BOLLING AFB DC	SGO	Class A and all physiological mishaps and events
26	HQ AFOTEC KIRTLAND AFB NM	SE	Class A aircraft, missile, and space mishaps and all OT&E mishaps
27	HQ AFFSA ANDREWS AFB MD	XV	Mishaps involving air traffic control services
28	MAJCOM concerned	DOF	
29	Intermediate commands	DOF	
30	AFWA OFFUTT AFB NE	SE	Mishaps involving weather events or services
31	HQ USAF WASHINGTON DC	XOW	
32	OO-ALC HILL AFB UT	WM/SE	Mishaps involving explosives or egress (CAD/PAD) items required for an ejection
33	AAC EGLIN AFB FL	WM	

34	HQ AFMC WRIGHT PATTERSON AFB OH	SE/DR	ALC Safety and Materiel Safety Offices: (See Note 2) All class A and B aircraft mishaps and all Class C mishaps and Class E and HAP events involving TO, materiel, vehicle, or equipment deficiencies or that recommend T.O or AF acquisition or logistics policy changes.
35	OO-ALC HILL AFB UT	SE/SES/YP-S	
36	SA-ALC KELLY AFB TX	SE/LDE	
37	WR-ALC ROBINS AFB GA	SE/SEM	
38	OC-ALC TINKER AFB OK	SE/LARB	
39	OC-ALC TINKER AFB OK	LP	Appropriate ALC engine manager (See note 2).
40	ASC WRIGHT PATTERSON AFB OH	LP/ENVS	
41	361 TRS SHEPPARD AFB TX	TSRJ	Class A/B power plant and FOD Mishaps
42	AAC EGLIN AFB FL	SES/SEOW	Mishaps involving conventional air-launched missiles and explosives
43	311HSW BROOKS AFB TX	YACL	Mishaps involving life support systems
44	COMNAVSAFECEN NORFOLK VA	10/11/13/14	Mishaps involving US Navy personnel or facilities and mishaps involving aircraft or missiles common to USAF and USN See **Table 7.3.**
45	COMNAVAIRSYSCOM WASHINGTON DC		Mishaps involving missiles common to USAF and USN. See **Table 7.3.**
46	CDRUSASC FT RUCKER AL	CSSC-SE	Mishaps involving US Army personnel or facilities and mishaps involving aircraft or missiles common to USAF and USA. See **Table 7.3.**

47	COMDT COGARD WASHINGTON DC		Mishaps involving US Coast Guard personnel or facilities and mishaps involving aircraft common to USAF and USCG. See **Table 7.3.**
48	SECDEF WASHINGTON DC	USD (A&T) (ES) SH	Preliminary report for mishaps involving fatality, in-patient hospitalization of three or more persons, or property damage of $1,000,000 or more
49	SAF WASHINGTON DC	MIQ	Preliminary and final report for Class A and B mishaps
50	AFIP WASHINGTON DC	OAFME	Preliminary and final report for Class A and B mishaps involving injury or death.
51	HQ AFCESA TYNDALL AFB FL	CC	Preliminary and final report for mishaps involving fire suppression, crash/rescue operations, or any airfield marking, airfield lighting, and/or airfield structural issues.
52	SA-ALC KELLY AFB TX	SF	Mishaps involving fuels or related products.
53	DET 63 ASC INDIAN HEAD MD	CC	Mishaps involving EOD operations or activities.
54	AFRL WRIGHT PATTERSON AFB OH	HEPA	Aircraft mishaps involving ejection, crew module separations, or life support issues/ problems.
55	AFFSA ANDREWS AFB MD	XO	Aircraft mishaps involving instrument procedures or systems or flight in actual or simulated IMC
56	HQ ACC LANGLEY AFB VA	SE	Aircraft mishaps involving boom air refueling
57	HQ AMC SCOTT AFB IL	SE	
58	HQ PACAF HICKAM AFB HI	SE	
59	HQ USAFE RAMSTEIN AB GE	SE	

60	ANGRC ANDREWS AFB MD	DOS	
61	ANG WASHINGTON DC	DOS	
62	HQ AFRC ROBINS AFB GA	SE	
63	OC-ALC TINKER AFB OK	SE/LARB	Aircraft mishaps involving either boom or probe and drogue refueling
64	WR-ALC ROBINS AFB GA	SE	
65	HQ AFSOC HURLBURT FLD FL	SE	
66	AFFTC EDWARDS AFB CA	SE/TE	
67	COMNAVSAFECEN NORFOLK VA	10/11/13/14	Aircraft mishaps involving only probe and drogue refueling
68	CSAF WASHINGTON DC	CC	Final report for Class A aircraft mishaps
69	HQ ACC LANGLEY AFB VA	SGM	Aircraft physiological mishaps and final report for Class A and B aircraft mishaps
70	DEPT OF DEFENSE EXPLOSIVES SAFETY BOARD ALEXANDRIA VA	IK/KT	Mishap involving missile, explosives, or space
71	9TH CAPS BEALE AFB CA	CC	Explosives-involved mishaps
72	DCMC-AF FORT BELVIOR VA		Aircraft mishaps involving USAF contractors under DLA contract management
73	HQ USAF WASHINGTON DC	ILMW	Class A and B explosives involved mishaps
74	HQ AETC RANDOLPH AFB TX	TTO	
75	84RADES HILL AFB UT	CC/TO	Preliminary and Status messages for all Class A and B Flight and Flight-Related mishaps
76	HQ ACC LANGLEY AFB VA	SE	All RPV reports
77	325 FW TYNDALL AFB FL	SE	
78	53 WG EGLIN AFB FL	SE	
79	475 WEG EGLIN AFB FL	SE	

80	HQ AFMC WRIGHT-PATTERSON AFB OH	SEG	All mishaps involving AFMC managed systems, vehicles, and equipment
81	ARMSTRONG LAB LUKE AFB AZ	HRA	All mishaps involving Night Vision Devises (NVD)
82	ASC WRIGHT PATTERSON AFB OH	ENVS/RA	Missions involving Big Safari program, Reconnaissance or UAV aircraft
83	USSTRATCOM OFFUTT AFB NE	J416	Mishaps involving strategic assets (KC-135, B-52, RC-135, U-2/TR-1, B-2, E-4B)

NOTES:

1. Reference **http://www.nctc.navy.mil/** for current message addresses.

2. Include the appropriate SPD and item manager (IM) as addressees when mishaps involve Air Force materiel deficiencies. Include the appropriate SPD and Engine Manager (EM) for power plant and FOD incidents. Send messages only to appropriate ALC SPDs, IMs or EMs not indiscriminately to all SPDs, IMs or EMs.

3. ANG units will send copy of all messages to appropriate ANG State Headquarters and the Adjutant General (TAG). ANG units will send all Class A and B Mishap preliminary, status, and final reports to

AIG 7301//CC/SE//.

4. Use the Address Indicator Group (AIG) for the weapons system if one exists. MAJCOMs may add AIGs specific to their command.

AIG 9380	A-10
AIG 9381	C-17
AIG 9382	Night vision devices
AIG 9383	C-5
AIG 9384	F-111
AIG 9385	Ground Safety
AIG 9386	Helicopter
AIG 9387	C-130
AIG 9388	C-12

AIG 9392	KC-135
AIG 9393	F-22
AIG 9394	T-1
AIG 9395	T-38/F-5
AIG 9397	T-37
AIG 9398	C-141
AIG 9399	F-16
AIG 9401	T-39/C-21
AIG 9404	Worldwide SE/SEW

AIG 9389	F-4
AIG 9390	B-52
AIG 9391	All flight mishap messages (Preliminary, status, and final)
AIG 9392	Air Refueling

AIG 9405	Aero Clubs
AIG 9406	B-1
AIG 9407	F-15
AIG 9409	Safety Crosstell

***Note: If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG.*

Table 7.3. Aircraft, Engine, SPD, SSM, Contractor Logistics Support (CLS) and Common Service Information List.

1 A-10 OO-ALC/LC

2 B-1 ASC/YD, OC-ALC/LAB

3 B-2 ASC/YS,OC-ALC/LAL

4 B-52 OC-ALC/LH

5 C-5 WR-ALC/LA

6 C-9 OC-ALC/LK, (CLS)USN

7 C-12 OC-ALC/LK, (CLS) USA, USN

8 C-17 ASC/YC, (CLS)

9 C-18 EC-18B OC-ALC/LK, (CLS) (NOTE: There is also a UV-18B - See below)

10 C-20 OC-ALC/LK, (CLS) USA, USN

11 C-21 OC-ALC/LK, (CLS) USA

12 C-22 OC-ALC/LK, (CLS)

14 VC-25A OC-ALC/LK, (CLS)

15 C-26 OC-ALC/LK, (CLS)

16 C-27 OC-ALC/LK, (CLS)

17 C-29 OC-ALC/LK, (CLS)

18 C-32 ASC/GR, OC-ALC/LK, (CLS)

19 C-37 ASC/GR, OC-ALC/LK, (CLS)

20 C-130 WR-ALC/LB USCG, USN,

21 C-135 OC-ALC/LC

22 C-141 WR-ALC/LJ

23 E-3 ESC/AW, OC-ALC/LAK

24 E-4 OC-ALC/LK, (CLS)

25 E-8 (J-STARS) ESC/JS, WR-ALC/LK

26 F-15 WR-ALC/LF

27 F-16 ASC/YP and OO-ALC/YP

28 F-22 ASC/YF, (CLS)

29 F-117 ASC/YN, (CLS)

30 H-1 WR-ALC/LU USA, USN

31 H-53 WR-ALC/LU USN

32 H-60 ASC/LU, WR-ALC/LU USA, USCG, USN

33 KC-10 OC-ALC/LK, (CLS)

34 /T-1/T-6 (JPATS) ASC/YT

36 T -37 OO-ALC/LC

37 T-38 OO-ALC/LC USN

38 T-43 OC-ALC/LK

39 UV-18B OC-ALC/LK

40 U-2 ASC/RA

41 UAVs ASC/RA

42 Reconnaissance ASC/RA

48 X-32/X-35 (Joint Strike Fighter) ASC/FBJ

49 Airborne Laser Lab ASC/FBX-L

50 CV-22 ASC/LU

ENGINES and corresponding ALC/SPD (see notes 1 and 2)

1 F110 OC-ALC/LP USN

2 45 TF34 OC-ALC/LP USCG, USN

3 F404-F1D2 ASC/YN/LP, USN

4 F100 OC-ALC/LP

5 F101 OC-ALC/LP

6 F118 ASC/LP

7 TF33 OC-ALC/LP

8 F108 OC-ALC/LP USN

9 T-56 OC-ALC/LP USN

10 T64 OC-ALC/LP USN

11 TF39 OC-ALC/LP

12.J85 OC-ALC/LP

13 J69 OC-ALC/LP

14 J79 OC-ALC/LP

15 T700 OC-ALC/LP

16 F117-PW-100 ASC/YC/LP

17 T701 OC-ALC/LP

NOTES:

1. PROPULSION (AIRCRAFT GAS TURBINE ENGINES) PGM IS OC-ALC/LR

2. CONTRACTOR LOGISTICS SUPPORT (CLS) AIRCRAFT ENGINES ARE MANAGED THROUGH THE AIRCRAFT SPD. OTHER ENGINES ARE MANAGED BY OC-ALC/LP.

Table 7.4. Routing of Aircraft Formal Reports.

	Forward	To (See Notes 2 and 6)	For
1	Three copies of formal report by priority mail	HQ AFSC/SEF 9700 G Avenue, S.E. Kirtland AFB, NM 87117-5670	Review, appropriate corrective action, and permanent file
2	One copy of formal report by priority mail	HQ USAF/SEI 1400 Air Force Pentagon Washington, DC 20330	Review, appropriate action.

3	One copy of formal report	MAJCOMs concerned (See Note 1)	Review, appropriate corrective action. (MAJCOMs specify Endorsement requirements and suspense dates and may grant extensions when warranted.) All recipients except MAJCOM must destroy reports upon receipt of MOFE. MAJCOM/DRU/FOAs destroy their copies upon closeout of all recommendations.
4	One copy of formal report	Wing or equivalent level organization to which pilot is attached for flying	
5	One copy of formal report	Wing or equivalent level organization that possessed the aircraft if other than unit in line 4	
6	One copy of formal report	Wing or equivalent level organization to which pilot is assigned for duty if other than unit in line 4	
7	One copy of formal report	Ferrying unit with operational control over pilot if the pilot is borrowed from a MAJCOM not included in line 3	
8	One copy of formal report	Unit where rated officer is assigned for duty if not on flying status	
9	One copy of formal report	Intermediate commands of units specified in lines 4 through 8	
10	One copy of formal report	ANG/DOS or HQ AFRC/SE if ANG or AFRC aircraft or crews are involved	
11	One copy of formal report	Gaining MAJCOM if ANG or AFRC is the convening authority and gaining MAJCOM is not included in line 3	
12	One copy of formal report	Each agency or organization tasked in the primary recommendations (see notes 2 and 3)	Review, appropriate corrective action, and destroy upon closeout of these actions.

13	One copy of formal report	ASC/ENVS 1801 10th ST Bldg 8, AREA B Wright Patterson AFB OH 45433-7626	Review and take appropriate corrective action. Forward action memorandum or Endorsement with a copy of TDR, photos, test results, and when established, MIP interim or closing action to HQ AFSC/SEF with a copy to AFMC/SE within 90 days of mishap.
14	One copy of formal report	Air Logistics/Product Center item/engine manager (see notes 3 and 4)	
15	One copy of formal report	System Program Director, Air Logistics/ Product for aircraft, missiles, and explosives involved (see notes 3 and 4).	
16	One copy of formal report	HQ AFMC/SE Wright Patterson AFB OH 45433	Review and take appropriate corrective action. Concurrence will be in DB-10.
17	One copy of formal report	AFFSA/XV Andrews AFB MD 20331, MAJCOM/DOF and, if different, MAJCOM/DOF responsible for operating and maintaining applicable air traffic control, air communication, or NAVAID if deficiencies in air traffic control, air communications, or NAVAIDS involved	Review and appropriate corrective action. Indorse through command channels to responsible MAJCOM/ DOF. DOF takes corrective action or withdraws report(s).
18	One copy of formal report	HQ ACC/SE Langley AFB VA 23665 if deficiencies in rescue helicopter response noted in investigation	Review, appropriate corrective action, and destroy upon closeout of all corrective actions.
19	One copy of formal report	AWS/SE Scott AFB IL 62225 if deficiencies in weather services involved	
20	One copy of formal report	HQ AFOTEC/SE Kirtland AFB NM 87117 if OT&E involved or upon written request	Review, appropriate corrective action, and destroy upon closeout of all corrective actions.
21	One copy of formal report	Defense Logistics Agency /AQOI, Fort Belvoir VA if USAF contractor under DLA contract management is involved (see note 2)	
22	One copy of formal report	AFFSA/XO Andrew AFB MD 20331 if instrument flight involved	
23	One copy of formal report	311HSW/YACL 7909 Lindbergh Drive, Bldg 578 Brooks AFB, TX 78235-5352	Review analysis and appropriate corrective action.

24	One copy of formal report	HQ AFRL/HEA Mesa AZ 85206-0904 If Night Vision Devices are involved	
25	One copy of formal report	USAFSAM/FP 2610 Gillingham Dr. Brooks AFB TX 78235 if human factors are involved	Review and use in aircrew human factors education
26	One copy of TAB Y	HQ AFMOA/SGPA Bolling AFB DC 20332-6188 if fatal or disabling injury or illness occurred	Review, appropriate corrective action, and destroy upon completion of corrective actions.
27	One copy of TAB Y	MAJCOM, ANG (if possessing same/similar aircraft), and AFRC (if possessing same/similar aircraft), if fatal or disabling injury or illness occurred (see note 5)	
28	One copy of TAB Y	412 TW/TSSH Edwards AFB CA 93523 for each person involved in emergency exit or bailout	
29	One copy of TAB Y	Armed Forces Institute of Pathology Washington DC 20305 Attn: Air Force Medical Examiner if fatality occurred	Review, appropriate corrective action, and destroy upon completion of corrective actions.

NOTES:

1. This includes owning MAJCOM and all MAJCOMs operating the same MDS.

2. Do not send a report to an agency outside the USAF. Prepare those copies of the report and send them to HQ AFSC/JA for forwarding.

3. For all mishaps requiring an action by an AFMC organization, send one copy to HQ AFMC/SE, Wright Patterson AFB OH 45433-5006, as well as the tasked agency.

4. When routing formal reports to Air Logistics Centers, SPD, or product center send the reports to the Materiel Safety Offices at the applicable ALC for internal distribution and tracking (if applicable). Use the following addresses:

a. OC-ALC/LARB Tinker AFB OK 73145-3024

b. OO-ALC/SES Hill AFB UT 84056-5003

c. SA-ALC/LDE Kelly AFB TX 78241-6426

d. WR-ALC/SEM Robins AFB GA 31098-1864

NOTE: SPD and ALC support may not be collocated. Check **Table 7.3.** for applicability.

5. Do not send extra copies to HQ USAF, MAJCOMs, ANG or AFRC if they are included in formal report distribution.

6. Reference **http://www.nctc.navy.mil/** for current message addresses. See AFDIR 37-135, *Air Force Address Directory* for mail addresses.

8.1.2.4.5. (Added) For subscale RPV mishaps see paragraph **8.7.2.** of this instruction

8.4.2.3.1. (Added) Reportable damage between $20,000 and $200,000.

8.4.2.4.2. (Added) Total cost of $2,000 or more for property damage but less than $20,000. Property damage includes all government equipment, vehicles, or munitions.

8.6.1.1.4. The SIB president is the final point of release for all information from the board. The SIB president will release factual information to the AIB president via the AFSC representative in accordance with AFI 34-1101.

8.7.1.4. Class D Reporting. For all air launched missile mishaps with damage costs between $2000 and $20,000 report as a Class D Mishap via message in accordance with **Table 8.1.** using the format found in **Figure 8.2.** and **Figure 8.3.**. Do not report flight-related (missile involvement) mishaps under this paragraph.

8.7.3. Reporting Test and Evaluation Missile Mishaps

8.7.3.1. Missile mishaps that occur during test and evaluation (T&E) launches will be reported.

8.7.3.2. When determining the classification of T&E missile mishaps, do not count the cost of the missile or its payload if the mission objectives were achieved (see **8.4.1.2.**).

8.7.3.3. (Added) Alternate Reporting

8.7.3.3.1. (Added) MAJCOMs may develop alternate reporting procedures for Class A and B test and evaluation missile mishaps if the following conditions are met:

8.7.3.3.1.1. (Added) The missile or its debris does not impact outside the predicted impact limit parameters.

8.7.3.3.1.2. (Added) The loss does not result in collateral damage or injury to personnel.

8.7.3.3.1.3. (Added) The responsible agency fully investigates the mishap to determine causes and recommended corrective actions.

8.7.3.3.2. (Added) MAJCOMs will determine if alternate reporting is authorized and report these mishaps according to **Table 8.1.** Send the preliminary message report, using **Figure 8.2.**, as soon as possible but no later than 24 hours after the event occurs. Submit status reports every 30-days using **Figure 8.3.** The final message report will be submitted no later than 75 days after the event occurs using **Figure 8.3.**

8.7.3.3.3. (Added) Follow the review and tracking procedures in **Chapter 6**

8.10.2.2. Marking Privileged Messages: Place the following warning between rows of slashes immediately before the subject line of all privileged messages. *EXCEPTION:* Preliminary Class A and B aircraft and missile mishap messages ("8-hour" reports) are factual only and fully releasable unless controlled for other reasons, such as information security. Example:

////////////

FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, **Chapter 2** FOR RESTRICTIONS.

DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

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NOTE: Include Privacy Act Statement if Social Security Numbers are included in the message.

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2.5. Squadron.

2.6. Unit.

2.7. Base Code. (Use the four letter location code from SORTS)

3. Environmental factors:

3.1. Weather was a factor (Y or N).

3.2. Day or night.

3.3. Mishap did involve fire or explosion (Y or N).

4. Damage and injury cost estimates:

4.1. Mishap cost NONAF: Estimate of damage to non-Air Force property, including other DoD and non-DoD property.

4.2. AF cost damage: Cost of damage to Air Force property, including labor and materiel.

4.3. Cost total injury: Cost of injuries to Air Force personnel, including military and civilian.

4.4. Total mishap cost (sum of costs in items 4.1. through 4.3.).

5. Personnel involved: Give the following data on each person involved. If more than one person is involved, provide information in subparagraphs entitled "Person 1," "Person 2," etc. Repeat entry 5.1 through 5.12 for each person involved in the mishap. Number as 5.X through 5.X.13.

5.1. SSAN. Mandatory for military and DoD civilians involved.

5.1.1. Gender

5.1.2. Age

5.1.3. Grade*

5.1.4. Duty AFSC or job series.

5.2. Time on duty prior to mishap. Give time to nearest 10th of the hour from the time the individual reported to work until he or she was involved in the mishap.

5.3. Activity at time of mishap.*

5.4. Role in event.*

5.5. Functional area.*

5.6. Organization assigned.

5.7. MAJCOM/DRU/FOA*.

5.7.1. NAF.

5.7.2. Center/Wing (Wing-equivalent Group).

5.7.3. Group.

5.7.4. Squadron.

5.7.5. Unit.

5.7.6. Base.

5.8. Component.*

5.9. TOX testing (positive, negative, pending, not suspected or not accomplished). If positive or not accomplished, explain in narrative. TOX test information must be identified in all mishaps.

5.9.1. Substance type.*

5.9.2. Substance level.

5.10. Injury class.*

5.10.1. Part of body injured.*

5.10.2. Type injury.*

5.11. Was individual training a factor in the mishap (Y or N)? Types of training include traffic safety, job task, life support, etc. If training was factor, answer following six questions:

5.11.1. Was individual trained and, if required, certified to perform task (Y or N)?

5.11.2. Was training program, as designed, adequate to perform task (Y or N)?

5.11.3. Did training, as administered, comply with established training program (Y or N)?

5.11.4. Were written instructions available (checklist, TO, etc.) (Y or N)?

5.11.5. Were written instructions used (Y or N)?

5.11.6. Were written instructions satisfactory (Y or N)?

5.12. Safety equipment. Select available safety equipment (maximum of three) from **Attachment 5**, and state if it was used (Y or N) and if it worked (Y or N). Use following format: seat belts/yes/yes; parachute/yes/no/; helmet/no/(blank).*

6. Property data. Give following data on each piece of property involved. If more than one piece of property is involved, provide information in subparagraphs entitled "Object 1," "Object 2," etc.

6.1. Property identification.* Repeat all of entry 6.1 for each item if more than one item or property type is involved. Number as 6.X.1 through 6.X.8.

6.1.1. *Organization assigned. If the organization is same as paragraph 2, state "same as paragraph 2."

6.1.1.1 MAJCOM/DRU/FOA*.

6.1.1.2 NAF.

6.1.1.3 Center/Wing (Wing-equivalent Group).

6.1.1.4 Group.

6.1.1.5. Squadron.

6.1.1.6. Unit.

6.1.1.7. Base.

6.1.2. Vehicle or equipment serial number.

6.1.3. Object or vehicle activity at time of mishap.*

6.1.4. Was object destroyed (Y or N)?

6.1.5. Cost to repair or replace.

6.1.6. Mission-design-series (MDS).

6.1.7. Mishap within 10 miles of base (Y or N)?

6.1.8. Major system failing.*

6.1.9. Parts information. Repeat entries 6.1.9.1 through 6.1.10 as required for all failed parts. Number as 6.1.9.X through 6.1.10.X.

6.1.9.1. Failed part:

6.1.9.1.1. Failed part description.

6.1.9.1.2. Failed part number.

6.1.9.1.3. Failed part manufacturer.

6.1.9.1.4. Report control number from DR report.

6.1.10. Lot number (if applicable)

7. Narrative. Give a concise, chronological description of the facts and circumstances leading to the mishap. For areas not factors in the mishap, give details in narrative not included elsewhere in the report. Include enough information in final reports to show SIB or investigating officer reasoning in reaching findings and recommendations. In all cases, continue the sequence through point of occurrence (or discovery) for all damage and injury or until the event ends. For technical assistance on this item, contact HQ AFSC/SEW, DSN 246-0390, commercial (505) 846-0390. Specify in the narrative if an accident investigation was/was not convened and is being conducted.

8. Findings and causes. Repeat entries 8.1 through 8.X for the required number of findings and causes. Findings must not address new information that was not been previously discussed in the narrative. Use the CAR methodology from **Attachment 4**.

9. Preventive action recommended or taken. Repeat entries 9.1 through 9.X as necessary.

10. Cognizant official, unit, office symbol, telephone number (DSN and commercial) and e-mail address.

Table 8.2. Addressees for Missile Mishap Message Reports (see note 9).

	A	B	C
	Organization (see note 4)	Office Symbol	For
1	HQ AFSC KIRTLAND AFB NM	CC/SEW	All missile mishaps
2	HQ USAF WASHINGTON DC	SEI	Class A, B, C, and D missile mishaps and HAP (see notes 1 and 4)
3	HQ AFSOC HURLBURT FLD FL	SE	
4	HQ AETC RANDOLPH AFB TX	SE	
5	HQ AMC SCOTT AFB IL	SE	

6	HQ PACAF HICKAM AFB HI	SE	
7	HQ AFMC WRIGHT PATTERSON AFB OH	SE	
8	HQ ACC LANGLEY AFB VA	SE	
9	HQ AFSPC PETERSON AFB CO	SE	
10	HQ USAFA USAF ACADEMY CO	SE	
11	HQ USAFE RAMSTEIN AB GE	SE	
12	ANG ANDREWS AFB MD	DOSW	
13	HQ AFRC ROBINS AFB GA	SE	
14	USSTRATCOM OFFUTT AFB NE	J416	Ballistic and cruise missile mishaps including systems and/or components
15	MAJCOM concerned (gaining MAJCOM for ANG/AFRC) (see note 4)	as required	All mishaps
16	Intermediate commands		
17	Home base of operator (if other than the organization submitting the report)		
18	Military base of departure		
19	344 TRS LACKLAND AFB TX	TTEB	
20	ANG ANDREWS AFB MD (see note 5)	DOSW/XOOO	ANG mishaps
21	HQ AFRC ROBINS AFB GA	SE	AFRC mishaps
22	HQ AFMC WRIGHT-PATTERSON AFB OH	SE/DR	All mishaps involving material deficiencies, Tech Order changes, or AF Policy changes
23	AWS SCOTT AFB IL	SE	Mishaps involving weather events or services
24	ASC WRIGHT-PATTERSON AFB OH	CC/ENVS	Mishaps involving non-ballistic missiles support systems; ballistic missile systems and/or components
25	OO-ALC HILL AFB UT	SEW/LMES	
26	HQ AFSPC PETERSON AFB CO	SE	
27	ALC Safety and Materiel Safety Offices: OO-ALC HILL AFB UT SA-ALC KELLY AFB TX WR-ALC ROBINS AFB GA OC-ALC TINKER AFB OK	SE/LMES/YP-S SE/LDE SE/SEM SE/LARM	Missile mishaps involving TO, materiel, vehicle, or equipment deficiency; and other mishaps involving deficiencies in these areas (see note 2)

28	AAC EGLIN AFB FL	SES	Mishaps involving conventional air-launched missiles
29	HQ AFOTEC KIRTLAND AFB NM	SE	Class A missile and all OT&E mishaps
30	COMNAVSAFECEN NORFOLK NAS VA		Mishaps involving US Navy personnel or facilities and mishaps involving missiles common to USAF and USN (**Table 8.3.** and notes 3 and 4)
31	COMNAVAIRSYSCOM WASHINGTON DC		Mishaps involving missiles common to USAF and USN (**Table 8.3.** and notes 3 and 4)
32	CDRUSASC FT RUCKER AL	CSSC-SE	Mishaps involving US Army personnel or facilities and mishaps involving missiles common to USAF and USA (**Table 8.3.**)
33	SECDEF WASHINGTON DC	USD (A&T) (ES) SH	Preliminary report for mishaps involving fatality, in-patient hospitalization of three or more persons, or property damage of $1,000,000 or more
34	SAF WASHINGTON DC	MIQ	Preliminary and final report for Class A and B mishaps
35	AFIP WASHINGTON DC	OAFME	Preliminary and final report for Class A and B mishaps involving injury or death.
36	HQ AFCESA TYNDALL AFB FL	CEXF	Preliminary and final report for mishaps involving fire suppression or crash and rescue operations
37	DET 63 ASC INDIAN HEAD MD	CC	Mishaps involving EOD operations or activities
38	DEPT OF DEFENSE EXPLOSIVES SAFETY BOARD ALEXANDRIA VA	KT/IT	Class A, B and C Missile, Explosives, and Space launch vehicle mishaps
39	OC-ALC TINKER AFB OK	SE	All Class A and B aircraft factors mishaps (whether or not materiel were involved) and all Class C and H mishaps that identify material deficiencies or recommend TO or AF acquisition or logistics policy changes.
40	OO-ALC HILL AFB UT	SES	
41	SA-ALC KELLY AFB TX	SE	
42	SM-ALC MCCLELLAN AFB CA	SE	
43	WR-ALC ROBINS AFB GA	SE	
44	HQ ACC LANGLEY AFB VA	SE	All RPV reports
45	325FW TYNDALL AFB FL	SE	
46	53WG EGLIN AFB FL	SE	
47	475WEG EGLIN AFB FL	SE	

48	AAC EGLIN AFB FL	YOT	
49	AAC (APGM) EGLIN AFB FL	WM	All mishaps
50	HQ AFMC WRIGHT PATTERSON AFB OH	SEG	All mishaps involving AFMC managed systems, vehicles, and equipment

NOTES:

1. Include the aircraft system program director (SPD) or equivalent as an addressee when explosives or missile mishaps involve aircraft armament systems.

2. Include the appropriate SPD and item manager (IM) as addressees when mishaps involve Air Force materiel deficiencies.

3. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference **http://www.nctc.navy.mil/** for current message addresses.

4. Include MAJCOM/DRU/FOAs that are common users of the mishap missile materiel as message addressees when exchange of information would enhance mishap prevention efforts. Also use the Address Indicator Group (AIG) for the weapon system if one exists. MAJCOM/DRU/FOAs may also add AIGs specific to their command.

* *NOTE*: If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG(s).

5. ANG units will send copy of all messages to appropriate ANG State Headquarters and the Adjutant General (TAG).

6. Use the Address Indicator Group (AIG) for the weapons system if one exists. MAJCOM/DRU/FOAs may add AIGs specific to their command.

AIG 9380	A-10
AIG 9381	C-17
AIG 9383	C-5
AIG 9384	F-111
AIG 9385	Ground Safety
AIG 9386	Helicopters
AIG 9387	C-130
AIG 9388	C-12
AIG 9389	F-4
AIG 9390	B-52
AIG 9391	All flight mishap messages (Preliminary, status, and final)
AIG 9392	Air Refueling

AIG 9392	KC-135
AIG 9393	F-22
AIG 9394	T-1
AIG 9395	T-38/F-5
AIG 9397	T-37
AIG 9398	C-141
AIG 9399	F-16
AIG 9401	T-39/C-21
AIG 9404	Worldwide SE/SEW
AIG 9405	Aero Clubs
AIG 9406	B-1
AIG 9407	F-15

***Note: If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG.*

Table 8.4. Routing of Missile Formal Safety Reports (see note 4).

	A	B	C
	Forward	To (see note 6)	For
1	Two copies of formal report by priority mail	HQ AFSC/SEW	Review, appropriate corrective action, and file.
2	One copy of formal report by priority mail	HQ USAF/SEI	Review appropriate action.
3	One copy of formal report	Organization to which person who had mishap is assigned (see note 5)	Review, appropriate corrective action, and return to MAJCOM safety office or convening authority for disposition within 90 days of mishap. MAJCOMs specify endorsement requirements and their suspense dates. They may grant extensions when warranted.
4		Organization that possessed missile if different from organization in line 2	
5		Intermediate commands of units specified in lines 2 and 3	
6		MAJCOM concerned	Review, appropriate corrective action, and file. Forward proposed and completed actions to HQ AFSC/SEW within 90 days of mishap. Provide copies of endorsement to each formal report addressee.
7		ANGRC/DOS or HQ AFRC/SE if ANG or AFRC asset involved	
8		Gaining MAJCOM if ANG or AFRC asset involved	
9		Appropriate State Headquarters and the Adjutant General (TAG) if ANG aircraft involved	
10		ASC/ENVS Wright Patterson AFB OH 45433 if AGM-69, AGM-86, AGM-129, PQM-102, or QF-106 involved.	Review, appropriate corrective action, and file. Forward proposed and completed actions to HQ AFSC/SEW within 90 days of mishap. Provide copies of endorsement to each formal report addressee and HQ AFMC/SE.
11		OC-ALC/LAH Tinker AFB OK 73145 if AGM-65 involved.	
12		AAC/SES Eglin AFB FL 32544 if AGM-88, AIM-4, AIM-7, AIM-9, AIM-120.	

13		Air Logistics or Product Center system program director as specified in TO 00-25-115 for aircraft, missiles and explosives involved (notes 1, 2, and 4 apply)	Review and take appropriate corrective action. Forward action memorandum or Endorsement with a copy of TDR, photos, test results, and when established, MIP interim or closing action to HQ AFSC/SEW and a copy to AFMC/SE within 90 days of the mishap. See note 1.
14		Each agency or organization tasked in the primary recommendations (see note 5)	Review, appropriate corrective action, and file.
15		HQ AFMC/SE 4375 Chidlaw Rd Rm S154 Wright Patterson AFB OH 45433	Review and take appropriate action. Endorsement concurrence will be in DB10. If AFMC disagrees with ALC or non-concurs, Endorsement will be provided to each formal report addressee and HQ AFSC/SEW.
16		AFFSA/XV Andrews AFB MD 20331, MAJCOM/DOF and, if different, MAJCOM/DOF responsible for operating and maintaining applicable air traffic control, air communication, or NAVAID if deficiencies in air traffic control, air communications, or NAVAIDS involved.	Review and appropriate corrective action. Indorse through command channels to responsible MAJCOM/DOF. DOF takes corrective action, withdraws reports, indorses transmittal correspondence to HQ AFSC/SEW within 90 days of mishap, and provide copies of endorsement to each formal report addressee.
17		AWS/SE Scott AFB IL 62225 if deficiencies in weather services involved	Review, appropriate corrective action, and file. Endorse transmittal correspondence to HQ AFSC/SEW within 90 days of mishap, and provide copies of endorsement to each formal report addressee.
18		HQ AFOTEC/SE Kirtland AFB NM 87117 if OT&E involved or upon written request	
19		OO-ALC/SES/WMCS Hill AFB UT 84406 if non-nuclear ammunition are involved	

20		SMC/AXZ 160 Skynet St, Ste 2315 Los Angeles AFB CA 90245-4683 if system or component of space system or space launch vehicle involved or if lift system or component of ballistic missile system or ballistic missile booster involved	
21		HQ AFSPC/SE Peterson AFB CO 80914 if system or component of space system or space launch vehicle involved or if lift system or component of ballistic missile system or ballistic missile booster involved.	Review, appropriate corrective action, and file.
22		ESC/SE Hanscom AFB MA 01731 if ground electronics subsystem involved	
23		AAC/WM 207 West D Ave, Ste 308 Eglin AFB, FL 32542-6844	
24		HQ AFMOA/SGPA Bolling AFB DC 20332-6188 (See note 3)	
25		HQ USAF/IL 1030 Air Force Pentagon Washington DC 20330-5006 All weapon mishaps	
26		WR-ALC/SE 245 Cochran Street, Ste C9 Robins AFB, GA 31098-1623 All tactical missile mishaps	
27		Armed Forces Institute of Pathology Washington DC 20305 If fatality occurred (see note 5)	

NOTES:

1. ALC action correspondence is not required unless the safety report contains findings or recommendations involving materiel failure or malfunction, depot-level maintenance, design deficiencies, or technical order deficiencies.

2. For all mishaps requiring an action by an AFMC organization, send one copy to HQ AFMC/SE, as well as the tasked agency.

3. In mishaps with significant medical contribution or resulting in a medical condition or physical injury, send a copy of the formal report.

4. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

5. Do not send a report to an agency outside the USAF. Prepare those copies of the report and send them to HQ AFSC/JA for forwarding.

9.3.1.3.1. Reportable damage between $20,000 and $200,000

9.3.1.4.1. Total cost of $2,000 or more for property damage but less than $20,000. Property damage includes all government equipment, vehicles, or munitions.

9.6.3. (Added) Engineering Analysis Group (EAG) and Accident Investigation Board (AIB) Interaction

The SIB must maintain a good working relationship with the AIB and the EAG to assure a thorough safety investigation. The SIB will provide timely and incremental release of necessary factual information through the AIB to the public and commercial space industry manufacturers.

9.6.3.1. (Added) To establish a good working relationship, the SIB should formally meet with the AIB and the EAG at the beginning of the investigation to address the following topics at a minimum:

9.6.3.1.1. (Added) Review responsibilities of the SIB, the AIB, and the EAG

9.6.3.1.2. (Added) Review privileged information criteria.

9.6.3.1.3. (Added) Review responsibilities to protect mishap information from unauthorized public release to maintain investigation integrity.

9.6.3.1.4. (Added) Review process to control contractor personnel access to investigation information

9.6.3.1.5. (Added) Assure only those with a valid need to know have access to mishap investigation information.

9.6.3.1.6. (Added) Review the process to release impounded information and evidence for investigation purposes.

9.6.3.1.7. (Added) Review the process to release mishap information to the public and to the contractors involved for internal business purposes only.

9.6.3.1.8. (Added) Review process to track AIB and SIB requests for technical information from contractors and share answers to prevent duplication of effort.

9.6.3.1.9. (Added) Review process to plan, coordinate, approve, and execute tests which may alter or destroy evidence.

9.6.3.1.10. (Added) Review process to examine, exonerate, and if cleared, release systems to minimize impact to day-to-day operations.

9.6.3.1.11. (Added) Review process to determine debris recovery strategy.

9.7.6.2. Marking Privileged Messages: Place the following Privilege Warning between rows of slashes immediately before the subject line of all privileged messages. *EXCEPTION:* Preliminary Class A and B aircraft, missile, and space mishap messages ("8-hour" reports) are factual only and fully releasable unless controlled for other reasons, such as information security. Example:

////////////

SUBJECT: TYPE SPACE (if applicable), CLASS, SPACE, CROSS CATEGORY INVOLVEMENT, SUBCATEGORY, REPORT STATUS, MISHAP EVENT NUMBER.

Example: Delta II GPS 2R1, Class A, Space Mishap, Final Report, 96/03/07, CPRL, 001A

NOTE: For category, cross category involvement, and subcategory, see **Attachment 5**. For mishap event number see paragraph 9.7.5.3.

NOTE: For classified reports see AFI 31-401, *Information Security Program Management*.

NOTE: Include Privacy Act Statement if Social Security Numbers are included in the message.

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C., CHAPTER 40; 37 U.S.C., CHAPTER 9; EO 9397, NOVEMBER 1943. PRINCIPAL PURPOSES: SAFETY MISHAP REPORTING ONLY. ROUTINE USES: SAFETY MISHAP REPORTING ONLY. DISCLOSURE: DISCLOSURE OF SSN IS VOLUNTARY.

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2.2. Numbered Air Force, ALC.

2.3. Wing/Group.

2.4. Squadron/Unit.

2.5. Base code. (Use the four letter Home Location Code from SORTS).

3. Environmental factors:

3.1. Weather was a factor (Y or N).

3.2. Day or night.

3.3. Mishap did involve fire or explosion (Y or N).

3.4. Space Environment was a factor (Y or N).

4. Damage and injury cost estimates:

4.1. Mishap cost NONAF: Estimate of damage to non-Air Force property, including other DoD and non-DoD property.

4.2. AF cost damage: Cost of damage to Air Force property, including labor and materiel.

4.3. Cost total injury: Cost of injuries to Air Force personnel, including military and civilian.

4.4. Total mishap cost (sum of costs in items 4.1 through 4.3).

5. Personnel involved: Give the following data on each person involved. If more than one person is involved, provide information in subparagraphs entitled "Person 1," "Person 2," etc. Repeat entry 5.1 through 5.1.19 for each person involved in the mishap. Number as 5.X through 5.X.19.

5.1. Gender.

5.2. Age.

5.3. Grade.*

5.4. Duty AFSC or job series.

5.5. Time on duty prior to mishap. Give time to nearest 10th of the hour from the time the individual reported to work until he or she was involved in the mishap.

5.6. Activity at time of mishap.*

5.7. Role in event.*

5.8. Functional area.*

5.9. Organization assigned.

5.10. MAJCOM.*

5.11. Numbered Air Force, ALC.

5.12. Wing/Group.

5.13. Squadron/Unit.

5.14. Base.

5.15. Component.*

5.16. TOX testing (positive, negative, pending, or not accomplished). If positive or not accomplished, explain in narrative. TOX test information must be identified in all mishaps.

5.16.1. Substance type.*

5.16.2. Substance level.

5.17. Injury class.*

5.17.1. Part of body injured.*

5.17.2. Type injury.*

5.18. Was individual training a factor in the mishap (Y or N)? Types of training include traffic safety, job task, life support, etc. If training was factor, answer following six questions:

5.18.1. Was individual trained and, if required, certified to perform task (Y or N)?

5.18.2. Was training program, as designed, adequate to perform task (Y or N)?

5.18.3. Did training, as administered, comply with established training program (Y or N)?

5.18.4. Were written instructions available (checklist, TO, etc.) (Y or N)?

5.18.5. Were written instructions used (Y or N)?

5.18.6. Were written instructions satisfactory (Y or N)?

5.19. Safety equipment. Select available safety equipment (maximum of three) from **Attachment 5**, and state if it was used (Y or N) and if it worked (Y or N). Use following format: seat belts/yes/yes; parachute/yes/no/; helmet/no/(blank).*

6. Property data. Give the following data on each piece of property involved. If more than one piece of property is involved, provide information in subparagraphs entitled "Object 1," "Object 2," etc.

6.1. Property identification.* Repeat all of entry 6.1 for each item if more than one item or property type is involved. Number as 6.X.1 through 6.X.12.

6.1.1. Organization assigned. If the organization is same as paragraph 2, state "same as paragraph 2."

6.1.1.1. MAJCOM.*

6.1.1.2. Numbered Air Force, ALC.

6.1.1.3. Wing/Group.

6.1.4. Vehicle or equipment serial number.

6.15. Object or vehicle activity at time of mishap.*

6.1.6. Was object destroyed (Y or N)?

6.1.7. Cost to repair or replace.

6.1.8. Mission-design-series (MDS).

6.1.9. Major system failing.*

6.1.10. Parts information. Repeat entries 6.1.10.1 through 6.1.10.1.6 as required for all failed parts. Number as 6.1.10.X through 6.1.10.X.6.

6.1.10.1. Failed part:

6.1.10.1.1. Failed part description.

6.1.10.1.2. Failed part number.

6.1.10.1.3. Failed part manufacturer.

6.1.10.1.4. How malfunction code (see Dash 6 TO).

6.1.10.1.5. Work unit code (see Dash 6 TO).

6.1.10.1.6. Report control number from DR report.

6.1.11. Lot number (if applicable).

7. Narrative. Give a concise, chronological description of the facts and circumstances leading to the mishap. For areas not factors in the mishap, give details in narrative not included elsewhere in the report. Include enough information in final reports to show SIB or investigating officer reasoning in reaching findings and recommendations. In all cases, continue the sequence through point of occurrence (or discovery) for all damage and injury or until the event ends. For technical assistance on this item, contact HQ AFSC/SEW, DSN 246-6059, commercial (505) 846-6059. Specify in the narrative if an accident investigation was/was not convened.

8. Findings and causes. Repeat entries 8.1 through 8.X for the required number of findings and causes. Findings must not address new information that was not previously discussed in the narrative.

9. Preventive action recommended or taken. Repeat entries 9.1 through 9.X as necessary.

10. Cognizant official, unit, office symbol, and telephone number (DSN and commercial).

NOTE: The CMR format provides the user appropriate fields based on mishap class and category.

Table 9.3. Addresses for Space Mishap Message Reporting.

	A	B	C
	Organization (see notes 1, 2, and 3)	Office Symbol	For
1	HQ USAF KIRTLAND AFB NM	SE	All space mishaps
2	HQ USAF WASHINGTON DC	SEI	
3	HQ AFSOC HURLBURT FLD FL	SE	
4	HQ AETC RANDOLPH AFB TX	SE	
5	HQ AMC SCOTT AFB IL	SE	
6	HQ PACAF HICKAM AFB HI	SE	
7	HQ AFMC WRIGHT PATTERSON AFB OH	SE	

8	HQ ACC LANGLEY AFB VA	SE	
9	HQ AFSPC PETERSON AFB CO	SE	
10	HQ USAFA USAF ACADEMY CO	SE	
11	HQ USAFE RAMSTEIN AB GE	SE	
12	ANGRC ANDREWS AFB MD	SE/XO	
13	HQ AFRC ROBINS AFB GA	SE	
15	Intermediate commands		
16	Home base of operator (if other than the organization submitting the report)		
17	Military base of departure		
18	SMC LOS ANGELES AFB CA	AXZ	
19	344 TRS LACKLAND AFB TX	TTEB	
20	HQ AFMC WRIGHT-PATTERSON AFB OH	DR	All mishaps involving material deficiencies, Tech Order changes, or AF Policy changes
21	AWS SCOTT AFB IL	SE	Mishaps involving weather events or services
22	OO-ALC HILL AFB UT	SES/SEW/ LMES	Support systems; ballistic missile systems and/or components
23	HQ AFSPC PETERSON AFB CO	SE	
24	HQ AFOTEC KIRTLAND AFB NM	SE	Class A space and all OT&E mishaps
25	COMNAVSAFECEN NORFOLK NAS VA		Mishaps involving US Navy personnel or facilities and mishaps involving systems common to USAF and USN
26	COMNAVAIRSYSCOM WASHINGTON DC		Mishaps involving systems common to USAF and USN
27	CDRUSASC FT RUCKER AL	CSSC-SE	Mishaps involving US Army personnel or facilities and mishaps involving systems common to USAF and USA
28	COMDT COGARD WASHINGTON DC		Mishaps involving US Coast Guard personnel or facilities and mishaps involving systems common to USAF and USCG
29	SECDEF WASHINGTON DC	USD (A&T) (ES) SH	Preliminary report for mishaps involving fatality, in-patient hospitalization of three or more persons, or property damage of $1,000,000 or more
30	SAF WASHINGTON DC	MIQ	Preliminary and final report for Class A and B mishaps

31	AFIP WASHINGTON DC	OAFME	Preliminary and final report for Class A and B mishaps involving injury or death.
32	HQ AFCESA TYNDALL AFB FL	CEXF	Preliminary and final report for mishaps involving fire suppression or crash and rescue operations
33	SA-ALC KELLY AFB TX	SF/LFCS	Mishaps involving fuels or related products
34	DET 63 ASC INDIAN HEAD MD	CC	Mishaps involving EOD operations or activities
35	DEPT OF DEFENSE EXPLOSIVES SAFETY BOARD ALEXANDRIA VA	KT/IT	Class A, B and C Space launch vehicle mishaps
36	USSTRATCOM OFFUTT AFB NE	J416	Mishaps resulting in degraded mission capabilities.

NOTES:

1. Include system program director (SPD) or equivalent as an addressee.

2. Include MAJCOMs that are common users of the mishap materiel (space systems, equipment, launch vehicles, ordnance devices, explosives, etc.) as message addressees when exchange of information would enhance mishap prevention efforts.

3. Safety offices are responsible for revalidating addressee lists prior to each message transmission. Do not send privileged messages to addressees at line 29 at any time.

Table 9.4. Routing of Formal Space Mishap Reports.

	A	B	C
	Forward	To	For (see note 3)
1	One copy of formal report by priority mail	HQ AFSC/SE	Review, appropriate corrective action, and file
2	One copy of formal report by priority mail	AF/SEI	Review appropriate action.
3	One copy of formal report	Organization to which person who had mishap is assigned (see note 6)	Review, appropriate corrective action, and file at wing or equivalent and their organizational level safety office. MAJCOMs specify Endorsement requirements suspense dates. They may grant extensions when warranted.
4		Organization that possessed or controlled mishap asset if different from organization in line 3	

5		Intermediate commands of units specified in lines 3 and 4	
6		MAJCOM concerned	Review, appropriate corrective action, and file. Endorse transmittal correspondence to HQ AFSC/SEW within 90 days of mishap. Provide copies of Endorsement to each formal report addressee.
7		Responsible MAJCOM if developmental asset involved	
8		Gaining MAJCOM if developmental asset involved	
9		System Program Director, Air Logistics or Product Center, as specified in TO 00-25-115 for aircraft, missiles and explosives involved (notes 1 and 4 apply)	Review and take appropriate corrective action. Forward action memorandum or endorsement with a copy of TDR, photos, test results, and when established, MIP interim or closing action to HQ AFSC/SEW and a copy to HQ AFMC/SE within 90 days of the mishap. See note 1.
10		Each agency or organization tasked in the recommendations (See note 6)	Review, appropriate corrective action, and file.
11		HQ AFMC/SE Wright Patterson AFB OH 45433 (note 2 applies)	Review and take appropriate corrective action, Endorsement concurrence will be in DB-10. If HQ AFMC disagrees with ALC or non-concurs, endorsement will be provided to each formal report addressee and to HQ AFSC/SEW within 90 days of mishap
12		HQ ACC/SE Langley AFB VA 23665-2786 if helo ops deficiencies involved	Review, appropriate corrective action, and file. Endorse transmittal of correspondence to HQ AFSC/SEW within 90 days of mishap, and provide copies of the endorsement to each formal report addressee
13		HQ AFOTEC/SE Kirtland AFB NM 87117	

14		OO-ALC/WMCS Hill AFB UT 84406 if ammunition and explosives materiel other than nuclear involved (see note 4)	.
15		SMC/AXZ 160 Skynet St, Ste 2315 Los Angeles AFB CA 90245-4683	Review, appropriate corrective action, and file.
16		HQ AFSPC/SE Peterson AFB CO 80914 (see note 7)	
17		ESC/SE Hanscom AFB MA 01731 if ground electronics subsystem involved	
18		NASA Headquarters/QS Washington DC 20546 (See note 6)	
19		DOT/FAA/AST-200 800 Independence Avenue, SW Washington DC 20591 (See note 6)	
20		HQ AFMOA/SGPA Bolling AFB DC 20332-6188 (See note 5)	
21		Armed Forces Institute of Pathology Washington DC 20305 If fatality occurred (see note 6)	

NOTES:

1. ALC action correspondence is not required unless the safety report contains findings or recommendations involving materiel failure or malfunction, depot-level maintenance, design deficiencies, or technical order deficiencies.

2. For all mishaps requiring an action by an AFMC organization, send one copy to HQ AFMC/SE, Wright Patterson AFB OH 45433-5006, as well as the tasked agency.

3. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

4. When routing formal reports to Air Logistics Centers, send the reports to the Materiel Safety Offices at the applicable ALC for internal distribution and tracking. Use the following addresses:

OC-ALC/LARM Tinker AFB OK 73145

OO-ALC/SES Hill AFB UT 84056

SA-ALC/LACS Kelly AFB TX 78241

SM-ALC/LAFS McClellan AFB CA 95652

WR-ALC/SEM Robins AFB GA 31098-1864

NOTE: SPM and ALC support may not be collocated.

5. In mishaps with significant medical contribution or resulting in a medical condition or physical injury, send a copy of the formal report.

6. Do not send a report to an agency outside the USAF. Prepare those copies of the report and send them to HQ AFSC/SEW for forwarding.

7. HQ AFSPC/SE will forward copies of launch-related mishap reports to 30/45 SW/SE.

10.1.1.1. (Added) All safety investigations for mishaps occurring on or after 3 October 2000 include privileged information. Explosives and chemical agent safety investigation reports are privileged reports that contain both privileged and non-privileged information. However, promises of confidentiality are not given to witnesses in explosive or chemical agent safety investigations. Consequently, witness statements for these categories of mishaps are not privileged. The Safety Board deliberative process to include Board findings, conclusions, analysis and recommendations are privileged for all types of mishaps, including explosive mishaps.

10.4.2.3.1. Reportable damage between $20,000 and $200,000.

10.4.2.4.1. (Added) Total cost of $2,000 or more for property damage but less than $20,000. Property damage includes all government equipment, vehicles, or munitions.

10.7.2.3. Use a need-to-know determination in selecting additional internal addressees for explosive safety messages.

10.8.3. Deleted.

10.8.4. Deleted.

Table 10.2. Addressees for Explosive Mishap Message Reports.

	A	B	C

	Organization (see notes 4)	Office Symbol	For
1	HQ USAF KIRTLAND AFB NM	SE/SEW	All explosives mishaps (see notes 1 and 4)
2	HQ USAF WASHINGTON DC	SEI	
3	HQ AFSOC HURLBURT FLD FL	SE	
4	HQ AETC RANDOLPH AFB TX	SE	
5	HQ AMC SCOTT AFB IL	SE	
6	HQ PACAF HICKAM AFB HI	SE	
7	HQ AFMC WRIGHT PATTERSON AFB OH	SE	
8	HQ ACC LANGLEY AFB VA	SE	
9	HQ AFSPC PETERSON AFB CO	SE	
10	HQ USAFA USAF ACADEMY CO	SE	
11	HQ USAFE RAMSTEIN AB GE	SE	
12	ANG ANDREWS AFB MD	DOSW	
13	HQ AFRC ROBINS AFB GA	SE	
14	MAJCOM concerned (gaining MAJCOM for ANG/AFRC) (see note 4)	as required	All mishaps
15	Intermediate commands		
16	Home base of operator (if other than the organization submitting the report)		
17	Military base of departure		
18	344 TRS LACKLAND AFB TX	TTEB	
19	ANG ANDREWS AFB MD (see note 5)	DOSW/XOOO	ANG mishaps
20	HQ AFRC ROBINS AFB GA	SE	AFRC mishaps
21	HQ AFMC WRIGHT-PATTERSON AFB OH	SE/DR	All mishaps involving material deficiencies, Tech Order changes, or AF Policy changes
22	AWS SCOTT AFB IL	SE	Mishaps involving weather events or services
23	ASC WRIGHT-PATTERSON AFB OH	CC/ENVS	Mishaps involving non-ballistic missiles components
24	OO-ALC HILL AFB UT	LMES	Ballistic missile support systems and/or components

25	HQ AFSPC PETERSON AFB CO	SE	
26	ALC Safety and Materiel Safety Offices: OO-ALC HILL AFB UT SA-ALC KELLY AFB TX WR-ALC ROBINS AFB GA OC-ALC TINKER AFB OK	SE/SES/YP-S SE/LFCS SE/LDE SE/LARM	Explosives mishaps involving TO, materiel, vehicle, or equipment deficiency; and other mishaps involving deficiencies in these areas (see note 2)
27	OO-ALC HILL AFB UT	SE/SES/ WMCS	Explosives and egress mishaps
28	HQ AFOTEC KIRTLAND AFB NM	SE	Class A missile and all OT&E mishaps
29	SMC LOS ANGELES AFB CA	SE	Explosives mishaps involving space vehicles or equipment
30	SECDEF WASHINGTON DC	USD (A&T) (ES) SH	Preliminary report for mishaps involving fatality, in-patient hospitalization of three or more persons, or property damage of $1,000,000 or more.
31	SAF WASHINGTON DC	MIQ	Preliminary and final report for Class A and B mishaps
32	AFIP WASHINGTON DC	OAFME	Preliminary and final report for Class A and B mishaps involving injury or death.
33	HQ AFCESA TYNDALL AFB FL	CEXF	Preliminary and final report for mishaps involving fire suppression or crash and rescue operations
34	DET 63 ASC INDIAN HEAD MD	CC	Mishaps involving EOD operations or activities
35	DEPT OF DEFENSE EXPLOSIVES SAFETY BOARD ALEXANDRIA VA	KT/IT	All explosives mishaps
36	9 MUNS BEALE AFB CA	CC	
37	COMNAVSEASYSCOM WASHINGTON DC	SEA-652	Mishaps involving R&D or manufacture of explosives or munitions
38	CDRAMCCOM ROCK ISLAND IL	AMSMC-SF	
39	DLA FORT BELVIOR VA	AQOI	Mishaps involving R&D or manufacture of explosives or munitions and aircraft mishaps involving USAF contractors under DLA contract management
40	AAC EGLIN AFB FL	WM	All weapon mishaps

41	HQ AETC RANDOLPH AFB TX	TTO	
42	HQ AFMC WRIGHT PATTERSON AFB OH	SEG	All mishaps involving AFMC managed items, and equipment

NOTES:

1. Include the aircraft system program director (SPD) or equivalent as an addressee when explosive mishaps involve aircraft armament systems.

2. Include the appropriate SPD and item manager (IM) as addressees when mishaps involve Air Force materiel deficiencies.

3. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/** for current message addresses. See AFDIR 37-135 for mail addresses.

4. Include MAJCOM/DRU/FOAs that are common users of the mishap materiel (aircraft, engines, equipment, weapons, munitions, ordnance devices, explosives, missiles, vehicles, etc.) as message addressees when exchange of information would enhance mishap prevention efforts. Also use the Address Indicator Group (AIG) for the weapon system if one exists. MAJCOM/DRU/FOAs may also add AIGs specific to their command.

**Note: If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG(s).

5. ANG units will send copy of all messages to appropriate ANG State Headquarters and the Adjutant General (TAG).

6. Use the Address Indicator Group (AIG) for the weapons system if one exists. MAJCOM/DRU/FOAs may add AIGs specific to their command.

AIG 9380	A-10
AIG 9381	C-17
AIG 9383	C-5
AIG 9384	F-111
AIG 9385	Ground Safety
AIG 9386	Helicopters
AIG 9387	C-130
AIG 9388	C-12
AIG 9389	F-4
AIG 9390	B-52
AIG 9391	All flight mishap messages (Preliminary, status, and final)
AIG 9392	Air Refueling

AIG 9392	KC-135
AIG 9393	F-22
AIG 9394	T-1
AIG 9395	T-38/F-5
AIG 9397	T-37
AIG 9398	C-141
AIG 9399	F-16
AIG 9401	T-39/C-21
AIG 9404	Worldwide SE/SEW
AIG 9405	Aero Clubs
AIG 9406	B-1
AIG 9407	F-15

**Note: If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG.*

Table 10.3. Routing of Explosive Formal Safety Reports.

	A	B	C
	Forward	To (See Note 3)	For (See Note 2)
1	Two copies by priority mail	HQ AFSC/SEW	Review, appropriate corrective action, and file.
2	One copy of formal report by priority mail	HQ USAF/SEI	Review appropriate action.
3	One copy of formal report.	Organization to which person who had mishap is assigned (see note 5)	Review appropriate corrective action, and file at wing, or equivalent and their organizational level, safety office. MAJCOMs specify endorsement requirements suspense dates.
4		Organization that possessed explosives if different from organization in line 2	
5		Host installation commander if organizations in lines 2 and 3 are tenants	
6		Intermediate commands of units specified in lines 2 and 3	
7		MAJCOM concerned	Review, appropriate corrective action, and file. Endorse transmittal correspondence to HQ AFSC/SEW within 90 days of mishap. Provide copies of Endorsement to each formal report addressee.
8		ANGRC/DOS or HQ AFRC/SE if ANG or AFRC asset involved	
9		Appropriate State Headquarters and the Adjutant General (TAG) if ANG aircraft involved	
10		Gaining MAJCOM if ANG or AFRC asset involved	
11		HQ AFOTEC/SE Kirtland AFB NM 87117 if OT&E involved or upon written request	
12		Air Logistics or Product Center system program director as specified in TO 00-25-115 for aircraft, missiles and explosives involved (notes 1, 2, and 4 apply)	Review and take appropriate corrective action. Forward Action memorandum or Endorsement with a copy of TDR, photos, test results, and when established, MIP interim or closing action to HQ AFSC/SEW and a copy

13		OO-ALC/WMCS Hill AFB UT 84406	to AFMC/SE within 90 days of mishap. See note 1.
14		Each agency or organization tasked in the recommendations (see note 6)	Review, appropriate corrective action, and file.
15		HQ AFMC/SE Wright Patterson AFB OH 45433 (see note 2)	Review and take appropriate corrective action. Endorsement concurrence will be in DB-10. If AFMC disagrees with ALC or non-concurs, Endorsement will be provided to each formal report addressee and HQ AFSC/SEW
16		HQ AFMOA/SGPA Bolling AFB DC 20332-6188 (See note 5)	Review, appropriate corrective action, and file.
17		HQ USAF/IL 1030 Air Force Pentagon Washington DC 20330-5006	
18		AAC/SES Eglin AFB FL 32542	
19		AAC/WM 207 West D Ave, Ste 308 Eglin AFB, FL 32542-6844	
20		Det 63, 615 SMSQ/CC 2008 Stump Neck Road Indian Head MD 20640 if EOD operations or activities involved	
21		DDESB/KT (See note 6)	Review and file.

1. ALC action correspondence is not required unless the safety report contains findings or recommendations involving materiel failure or malfunction, depot-level maintenance, design deficiencies, or technical order deficiencies.

2. For all mishaps requiring an action by an AFMC organization, send one copy to HQ AFMC/SE, Wright Patterson AFB OH 45433-5006, as well as the tasked agency.

Address elements for reference only. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

3. When routing formal reports to Air Logistics Centers, send the reports to the Materiel Safety Offices at the applicable ALC for internal distribution and tracking. Use the following addresses:

a. OC-ALC/LARM Tinker AFB OK 73145

b. OO-ALC/SES Hill AFB UT 84056

c. SM-ALC/LAFS McClellan AFB CA 95652

d. WR-ALC/SEM Robins AFB GA 31098-1864

NOTE: SPM and ALC support may not be collocated.

4. In mishaps with significant medical contribution or resulting in a medical condition or physical injury, send a copy of the formal report.

5. Do not send a report to an agency outside the USAF. Prepare those copies of the report and send them to HQ AFSC/SEW for forwarding.

11.1.1.2. (Added) All safety investigations for mishaps occurring on or after 3 October 2000 include privileged information. Ground and industrial safety investigation reports are privileged reports that contain both privileged and non-privileged information. However, promises of confidentiality are not given to witnesses in ground or industrial safety investigations. Consequently, witness statements for these categories of mishaps are not privileged. The Safety Board deliberative process to include Board findings, conclusions, analysis and recommendations are privileged for all types of mishaps, including ground and industrial mishaps.

11.5.4.4. Sports and Recreation. Mishaps that result in lost time injuries or fatalities to off-duty military personnel during participation in some form of sporting or recreational activity. Examples of sports and recreational activities are softball, weight lifting, handball, golf, football, sightseeing, dancing at a night club, auto racing, bicycling (except when involved with a motor vehicle), motor vehicles driven off road or in sanctioned races, and parachuting/sky diving.

11.5.6. Deleted.

11.5.6.1. Deleted.

11.6.4.1.1. Reportable damage between $20,000 and $200,000

11.6.5.1.1. Reportable damage between $2,000 and $20,000. Property damage includes all government-owned equipment and vehicles.

11.6.6.1.1 Deleted.

11.6.6.1.2. Deleted.

11.6.6.1.3. Deleted.

11.7.2. Ground Mishap Report Format.

11.7.2.1. All reportable ground Class A, B, C, and HAP reports will be completed and approved in the Safety Automated System (SAS). The mishap report figures depicted in this chapter provide general guidance and may not reflect the current mishap report format generated in SAS. (NOTE: Any changes made to a report during the coordination and review process must be updated in SAS.)

11.7.2.1.1. Deleted.

11.7.2.1.2. Deleted.

11.7.2.1.3. Deleted.

11.7.2.2. (Added) Each mishap report is tracked by a single Mishap Event Number that is automatically assigned by the Safety Automated System when a report is initially entered. Because the mishap event number is the single common worldwide identifier of a mishap, include this number on all correspondence relating to a specific mishap (endorsements, classification changes, etc.).

11.7.2.3. (Added) The Mishap Event Number consists of the base code, date of the mishap, a series of SAS assigned numbers, and the alpha classification of the event being reported. An optional Unit Control Number (UCN) is available for additional unit tracking. Use of the UCN is determined locally or by the MAJCOM.

11.7.2.4. (Added) All SAS ground mishap reports (except Preliminary messages) transmitted through the Defense Message System (DMS) system must be encrypted.

11.7.2.5. (Added) Defense Message System addresses equivalent to the AUTODIN (SARAH LITE) addressees shown in **Table 11.2.** are available through the Global DMS Directory.

11.11.1.1. **Chapter 5** provides detailed guidance and information on formal safety reports. **Figure 2.3.** provides a sample witness statement format for use when a confidential witness statement is needed. Submit formal ground reports to the addressees in **Table 11.3.** Use memorandums of transmittal as outlined in paragraph **5.5.6.** and **Figure 5.2.** Mark assembled privileged safety reports with the statement contained in **Figure 11.1.** See AFPAM 91-211, *Air Force Guide to Mishap Investigation*, for specific guidance on assembling a formal report. The following is supplemental information to **Chapter 5** for preparing and submitting formal ground mishap reports:

11.11.3.1. Place additional documents as needed at the tabs listed on the AF Form 711H. Include only exhibits supporting the investigation, analysis, findings, and recommendations. Fully discuss them in the analysis at Tab T. When findings and recommendations involve deficiencies or recommended changes to T.O.s, flight manuals, policy directives, instructions, etc., include copies of applicable portions of the publications in Tab T (as the documents appeared at the time of the mishap). Also include copies (not the original) of submitted AFTO 22s or AF Forms 847 as attachments to Tab T.

11.11.4.3. Deleted.

11.11.4.4. Deleted.

11.11.4.5. Deleted.

11.11.4.6. Tab Z, SIB proceedings, is optional.

11.11.5.6. Deleted.

11.12.3. Deleted

11.12.4.1.7. AF Form 711, USAF Mishap Report

11.12.5.1. Mark reports as outlined in paragraph **11.11.** See **Chapter 5** for additional guidance on preparing message and formal reports.

11.14.1. Guidelines.

11.14.1.1. All Class C mishaps (except off-duty sports and recreation) will be accomplished using the CMR message format contained in SAS (**Figure 11.3.** provides guidance on preparing the report).

11.14.1.2. (Added) Class C off-duty sports and recreation mishaps will be accomplished using the summary mishap (SMR) message format contained in SAS (**Figure 11.4.** contains guidance on preparing the report).

11.16.1.1. When damage occurs to an Air Force GMV or GVO, use all property damage costs and personnel injuries to determine reportability.

11.17.1.1. Report off-duty Class A and B mishaps as specified in **Table 11.1.** Send reports to the appropriate agencies listed in **Table 11.2.** using the CMR format in SAS (**Figure 11.3.** provides guidance on preparing a CMR). Defense Message System addresses equivalent to AUTODIN (SARAH LITE) addressees shown in **Table 11.2.** are available through the Global DMS Directory. See paragraph **5.2.4.** for transmission of messages during emergency condition MINIMIZE.

11.17.1.2. (Added) The appropriate MAJCOM will approve all Class A and B mishaps before final transmission of the message through DMS or AUTODIN.

11.17.2.1. All Class C mishaps (except off-duty sports and recreation) will be accomplished using the CMR message format contained in SAS (**Figure 11.3.** provides guidance on preparing a CMR message). As a minimum, complete a final message within 30 calendar days of the mishap and forward it through higher headquarters to HQ AFSC/SEG as established by the higher headquarters hierarchy in SAS. Defense Message System addresses equivalent to the AUTODIN (SARAH LITE) addressees shown in **Table 11.2.** are available through the Global DMS Directory.

11.17.2.2. (Added) Off-duty Class C sports and recreation mishaps will be reported using the Summary Mishap Report (SMR) format contained in SAS. Guidance on preparing a SMR message is provided in **Figure 11.4.** As a minimum, complete a final message report within 30 calendar days of the mishap and forward the message through higher headquarters to HQ AFSC/SEG as established by the higher headquarters hierarchy in SAS. Defense Message System addresses equivalent to the AUTODIN (SARAH LITE) addressees shown in **Table 11.2.** are available through the Global DMS Directory.

11.20.2.2. Deleted.

11.20.2.4. When preparing a courtesy report, coordinate with the accountable unit to determine message preparation and procedures to alter report ownership.

11.20.3.1. Obtain traffic or other training data, and other required information from the organization experiencing the loss.

11.20.3.2. When preparing a courtesy report, coordinate with the accountable unit to determine message preparation and procedures to alter report ownership to the accountable unit.

Figure 11.1. Sample Privileged Warning Statement.

Include the following statement on all Ground (except Preliminary) Mishap Reports.

****

FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHERADVERSE ACTIONS. SEE AFI 91-204, **Chapter 2**

FOR RESTRICTIONS. DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FORMISHAP PREVENTION PURPOSES.

****

Figure 11.2. Format for Preliminary and Initial Status (72 Hour) Message Reports for Ground Class A, B, and C Mishaps and HAP Events.

NOTE: The format reflected in this mishap message report is provided for informational purposes only and may not reflect the message format generated in SAS.

NOTE: Use this guidance to prepare Class A and B Ground mishap preliminary (8-hour) and initial status (72-hour) report messages required by **Table 11.1.** This guidance should also be used to complete preliminary Class C mishaps and HAP events when submissions of these message reports are deemed appropriate by the investigator. Preliminary (8-hour) message reports must include purely factual information only. Ensure no privileged safety information is included (nothing based on witness testimony, board analysis, etc.).

NOTE: SAS messages must be encrypted before transmission through DMS.

SUBJECT: Class, Category, Sub-category, Duty Status, Cross Category, Report Status, and Mishap Event Number (Example: Class B, Ground and Industrial-Industrial/Work Environment (On-Duty), None, Preliminary Report, WXYZ20001231 71001B).

1. Date and time of the mishap. Indicate the date and local time local time (24 hour clock) of an event/mishap.

2. Installation submitting report. Indicate the base code and whether the event/mishap occurred on-base or off-base. *Note*: If the base code is unknown enter the name of the base.

3. Duty status. On duty or off-duty.

4. Name of the nearest Air Force installation to the mishap.

5. Location of mishap. If on a military base, give specific location, e.g., Building 555, Munitions Storage Area, Flight Line Parking Spot N23, etc. If the mishap occurred off base, use street and highway references, as well as distance and direction from nearest Air Force installation.

6. Object information.

6.1. Nomenclature: Air Force equipment or facilities identification. For ground mishaps involving aircraft and missiles, include the mission-design-series (MDS) and weapon system serial number. For mishaps involving an aircraft engine, include engine type. For vehicles and equipment, list nomenclature and serial numbers. For facilities, list building number and principal purpose. For mishaps involving explosives, give the complete nomenclature of the item, e.g., M8A1 parachute flare, MK4 Mod 3 impulse cartridge, or FMU 56/B fuse. For any mishap involving LANTIRN navigation and targeting pods or engines, include the type equipment and the serial number. (Note: Do not include privileged information.)

6.2. Accountable MAJCOM: Indicate the MAJCOM and squadron accountable for the mishap equipment or injured personnel. Normally, this entry shows chain of command for unit of possession or unit of assignment.

6.3. Was object destroyed? (Y or N). Indicate if object was or was not destroyed, summarize damage assessment.

7. Personnel information. Include known information about personnel fatalities and injuries. Do not include names due to next of kin notification considerations. Do not include SSANs on preliminary message reports.

7.1. Grade. Age. AFSC/Job Series.

7.2. Injury class and type.

7.3. Air Force component. (USAF (active duty) DAFC, NAF, AFFN, etc.)

8. Narrative of circumstances. Give a brief description of the mishap and pertinent preceding events. Provide abbreviated, factual information. Do not include information implying cause or containing material gained through interviews with personnel involved or other witnesses. Describe the extent of injuries and Air Force property damage, e.g., building destroyed by fire or explosion, worker fatally injured, etc. Do not delay the report for lack of information. If complete data is not available, provide it in a status report.

9. Initial estimates of collateral damage and injury costs. Describe non-AF property damage and list injuries to non-AF personnel resulting from on-duty AF operations. (List the injury but do not include a dollar value for non-AF personnel injuries. Also, do not include non-AF property damage sustained in mishaps involving off-duty military personnel.) Include status of on-going rescue and recovery operations, hazard containment, and security. Provide information on the level of media interest.

10. Contacts. List the name, unit of assignment, and telephone number (DSN and commercial) of the Interim Safety Board President, if applicable, and cognizant official.

Figure 11.3. Format for Consolidated Mishap Report (CMR) Ground Messages.

NOTE: The format reflected in this message report is provided for informational purposes only and may not reflect the report format generated in SAS.

NOTE: Use this guidance for most Ground Class A, B, and C mishap and HAP event report messages required by **Table 11.1.** Also use it to report fire related injuries, and ground mishaps with aviation, space, missile or nuclear involvement, and events deemed appropriate by the investigator. For preliminary (8-hour) and initial status (72-hour) reports, use **Figure 11.2.** For Off-Duty Class C Sports and Recreation mishaps, use **Figure 11.4.**

FROM: (Originator)

TO: (See **Table 11.2.** and **Table 11.3.**)

SECURITY CLASSIFICATION

NOTE: For classified reports, see AFI 31-401, Information Security Program Management, for appropriate markings.

SUBJECT: Class, Category, Sub-Category, Duty Status, Cross Category, Report Status, and Mishap Event Number (Example: Class A, Ground and Industrial-Industrial/Work Environment, (On-Duty), None, Final Report, WXYZ20001231 20001A).

NOTE: Include the following Privacy Act Statement when a social security account number (SSAN) is included in the report:

****

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C., CHAP 40; 37 U.S.C., CHAP 9; E.O. 9397, NOV 43. PRINCIPAL PURPOSES: USE FOR SAFETY MISHAP REPORTING ONLY. ROUTINE USES: USE FOR SAFETY MISHAP REPORTING ONLY.

DISCLOSURE: DISCLOSURE OF SSN IS VOLUNTARY.

****

NOTE: Include the following statement on all Ground Mishap Reports (except the Preliminary (8-hour) message.

****

FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, **Chapter 2** FOR RESTRICTIONS. DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

****

1. Location of mishap:

1.1. Location: (such as Utah Test and Training Range) on which mishap occurred. If mishap occurred off base state "off military property." "Courtesy" reporting should be accomplished by the nearest Air Force installation

1.2. Name of base or military property.

1.3. Duty status: on-duty or off-duty.

1.4. State and country of mishap.

1.5. Latitude and longitude: For traffic-related and off-base mishaps, use street and highway references, as well as distance and direction from the nearest Air Force base.

1.6. Date of the mishap.

1.7. Local time.

2. Accountability.

2.1. MAJCOM:

2.2. Numbered Air Force, ALC.

2.3. Wing/Group.

2.4. Squadron/Unit.

2.5. Base Accountable: (Enter the four letter Home Location Code from SORTS and base name)

2.6. AEF Assigned: (Indicate if mishap is associated with an AEF)

3. Environmental factors:

3.1. Was weather a factor (Y or N)?

3.2. Light condition at time of mishap? [e.g., Dusk (Outdoors)]

3.3. Did mishap involve fire or explosion (Y or N)?

3.4. Meteorological conditions: (rain, snow, ice, etc.)

4. Damage and injury cost estimates:

4.1. Non-AF mishap cost: Estimate of damage to non-Air Force property, including other DoD and non-DoD property resulting from on-duty AF operations.

4.2. Total AF damage cost: Cost of damage to Air Force property, including labor and material

4.3. Total AF injury cost: Cost of injuries to Air Force personnel, including military and DAF civilian employees. Do not include a cost for non-AF civilians.

4.4. Total mishap cost (sum of costs in items 4.1 through 4.3).

4.5. Environmental cost.

5. Personnel involved: Provide the data below on each person involved. If more than one person is involved, provide information in subparagraphs entitled "Worker 1, Operator 1, Passenger 1," etc. Repeat entry 5.X through 5.X.17 for each person involved in the mishap. Replace "X" in the paragraph number with a sequential number for each person involved. Complete all entries for the first individual (5.1 through 5.1.17) before entering information for the second and subsequent individuals (5.2 through 5.2.17, etc.). For DAF personnel injuries, list by degree of injury with the most severe injury listed first.

5.1. Last name, first name, MI of mishap individual: (Data Mask before transmission through DMS.)

5.1.1. SSAN: (Mandatory for Air Force personnel involved in ground mishaps. Do not omit or substitute required information with "available upon request" or similar wording). NOTE: Data Mask before transmission through DMS.

5.1.2. Gender.

5.1.3. Age.

5.1.4. Rank/Grade.

5.1.5. Duty AFSC or job series.

5.1.6. Time on duty prior to mishap. Round time to the nearest hour from the time the individual reported to work until he or she was involved in the mishap.

5.1.7. Activity at time of mishap.

5.1.8. Role in event.

5.1.9. Functional area.

5.1.10. Organization assigned.

5.1.10.1. MAJCOM.

5.1.10.2. Numbered Air Force, ALC.

5.1.10.3. Wing/Group.

5.1.10.4. Base.

5.1.10.5. Squadron/Unit.

5.1.11. Component.

5.1.12. TOX test results (positive, negative, pending, or not accomplished). If positive or not accomplished, explain in the narrative. TOX test information is a special emphasis item and must be indicated in all mishap reports. If pending, up channel test results as soon as known.

5.1.12.1. Substance type.

5.1.12.2. Substance level.

5.1.13. Injury.

5.1.13.1. Injury class.

5.1.13.2. Days hospitalized.

5.1.13.3. Days on quarters

5.1.14. Part of body injured.

5.1.15. Type injury.

5.1.16. Training.

5.1.16.1. Was individual training a factor in the mishap (Y or N)? State if the individual's training or written instructions were or were not a factor in the mishap. Types of training include traffic safety, job task, life support, etc. If training was a factor, answer the following six questions:

5.1.16.2. Was individual trained and, if required, certified to perform task (Y or N)?

5.1.16.3. Was the training program, as designed, adequate to perform task (Y or N)?

5.1.16.4. Did training, as administered, comply with the established training program (Y or N)?

5.1.16.5. Were written instructions available (checklists, TO, etc.) (Y or N)?

5.1.16.6. Were written instructions used (Y or N)?

5.1.16.7. Were written instructions satisfactory (Y or N)?

5.1.17. Safety equipment. List required safety equipment for the task/operation (maximum of three) and state if it was used (Y or N) and if it worked (Y or N). Use the following format: seat belt/yes/yes; parachute/yes/no/; helmet/no/(leave blank).

5.1.18. Rated Officer (Y or N)?

5.1.19. On flying status (Y or N)?

5.1.20. Duty status: (on-or off-duty)?

5.1.21. Further status: (TDY, etc.).

5.1.22. Outcome: (contacted live wire, fell off ladder, etc.).

5.1.23. Fatigue (Y or N)?

5.1.24. Nutrition (Y or No)?

6. Property data. Give the following data on each piece of property involved. If more than one piece of property is involved, provide information in subparagraphs entitled "Object 1, Object 2, etc."

6.1. Property identification. Repeat entry 6.1 for each property type involved. Number as 6.X.1 through 6.X.13.

6.1.1. Organization assigned. If the organization is same as paragraph 2, state "same as paragraph 2."

6.1.1.1. MAJCOM.

6.1.1.2 Numbered Air Force, ALC.

6.1.1.3. Wing/Group.

6.1.2. Description.

6.1.3. Vehicle or equipment serial number or aircraft tail number.

6.1.4. Object or vehicle activity at time of mishap.

6.1.5. Was object destroyed (Y or N)?

6.1.6. Cost to repair or replace.

6.1.7. Persons involved with this object or property.

6.1.7.1. Person’s last name. Repeat 6.1.7.1 as 6.1.7.X for each person involved with this object.

6.1.8. Mission-design-series (MDS). For aircraft/missile involved.

6.1.9. Major system failure/damage.

6.1.10. Parts information. Repeat entries 6.1.10.1 through 6.1.10.1.6 as required for all failed parts. Number as 6.1.10.X.1 through 6.1.10.X.6.

6.1.10.1. Failed part.

6.1.10.1.1. Failed part description.

6.1.10.1.2. Failed part number.

6.1.10.1.3. Failed part manufacturer.

6.1.10.1.4. How malfunction code (from applicable T.O.).

6.1.10.1.5. Work unit code (from applicable T.O.).

6.1.10.1.6. Report control number from deficiency report (if applicable).

6.1.11. Lot number of explosive items for mishaps involving missiles or explosives.

6.1.12. Engine information. Repeat entries 6.1.12.1 through 6.1.12.1.3 for each mishap engine. Number as 6.1.12.X.1. through 6.1.12.X.3.

6.1.12.1. Mishap engine.

6.1.12.1.1. Engine installed position number.

6.1.12.1.2. MDS of engine.

6.1.12.1.3. Engine serial number.

6.1.13. Pod Information (LANTIRN, etc.). (Repeat for each mishap pod, e.g., 6.1.13.3 and 6.1.13.4. would report data for second pod, etc.)

6.1.13.1. Equipment designator of pod.

6.1.13.2. Serial Number of pod.

7. Narrative. Give a concise, chronological description of the facts and circumstances leading to the mishap. For areas determined not to be factors in the mishap, give details in the narrative that are not included elsewhere in the report. Include enough information in the final report to show the SIB or investigating officer rationale/reasoning in determining findings and recommendations. In all cases, continue the sequence through the point of occurrence (or discovery) for all damage and injuries or until the event ends. Specify in the narrative if an accident investigation was convened and the specific organization conducting the investigation (e.g., 544 WG conducting an accident investigation). In vehicle mishaps, list traffic courses by type and date of completion.

8. Findings and causes. See paragraph **5.8.** and **5.9.** for general information on determining findings and causes. List as Finding 1, Finding 2, etc. After listing the primary findings and causes, list Other Findings of Significance as OFS 1, OFS 2, etc. Findings must not address new information not previously discussed in the narrative.

9. Preventive action taken or recommended. Give preventive actions taken or recommended. See paragraph **5.10.** for general information on determining recommendations. List as Recommendation 1, Recommendation 2, etc. After mishap recommendations, list Other Recommendations of Significance as ORS 1, ORS 2, etc. In the mishap recommendations, do not recommend briefing personnel on the mishap. List completed preventive actions as Corrective Action 1, Corrective Action 2, etc. Completed briefings may be annotated as completed corrective actions.

10. Cognizant official. Provide name, unit, office symbol, and telephone number (DSN and commercial).

Figure 11.4. Format for Class C Off-Duty Sports and Recreation Summary Mishap Report (SMR) Messages.

NOTE: The format reflected in this message report is provided for informational purposes only and may not reflect the report format generated in SAS.

NOTE: Use this guidance to report Class C off-duty Sports and Recreation mishaps required by **Table 11.1.**

FROM: (Originator)

TO: (See **Table 11.2.**)

SECURITY CLASSIFICATION

NOTE: For classified reports, see AFI 31-401, Information Security Program Management, for appropriate markings.

SUBJECT: Mishap Class, Sports and Recreation, Duty Status, Report Status, and Mishap Event Number (Example: Class C, Sports and Recreation, Off-duty, Final Report, FYBZ200012301 22001C).

NOTE: Include the following Privacy Act Statement on all SMR messages.

PRIVACY ACT STATEMENT

AUTHORITY: 10 U.S.C., CHAPTER 40; 37 U.S.C., CHAPTER 9; EO 9397, NOVEMBER 1943. PRINCIPAL PURPOSE: USE FOR SAFETY MISHAP REPORTING ONLY. ROUTINE USES: USE FOR SAFETY MISHAP REPORTING ONLY.

NOTE: Include the following statement on all Ground CMR messages.

****

FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, **Chapter 2** FOR RESTRICTIONS. DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

****

1. Location of mishap: Identify the specific location where the mishap occurred, e.g., base gym, off-base public street, public park, etc. Include base name, or direction and distance to the nearest AF installation.

2. Local time.

3. Accountability:

3.1. MAJCOM/DRU/FOA.

3.2. NAF.

3.3. Center/Wing (Wing-equivalent Group)

3.4. Squadron.

3.5. Unit.

3.6. Base Code.

4. Total injury cost to AF personnel.

5. Person involved. Provide the following data on the person involved.

5.1. Last Name.

5.1.1. SSAN: (Mandatory for Air Force personnel involved in ground mishaps. Do not omit or substitute the SSAN with "available upon request" or similar wording. (NOTE: Data Mask SSAN before transmission through DMS.)

5.1.2. Gender.

5.1.3. Age.

5.1.4. Rank.

5.1.5. Duty AFSC.

5.1.6. TOX test results (positive, negative, pending, not accomplished, or not suspected). Since TOX test results are a special emphasis item, if positive or not accomplished, explain in the narrative. TOX testing information must be indicated in all mishap reports.

5.1.6.1. Substance type.

5.1.6.2. Substance level.

5.7. Days hospitalized.

5.8. Days on quarters.

5.9. Part of the body injured.

5.10. Type of injury.

6. Narrative. Give a short, concise description of the sports activity and circumstances leading up to and including the mishap. *NOTE*: Use only the "Reason" portion of the CAR from **Attachment 4**, paragraph **A4.5.** If PPE was required, state requirements and indicate if used and if it worked in the narrative.

7. Cognizant official and investigator, unit, office symbol, and telephone number (DSN and commercial).

Figure 11.5. Instructions to Complete AF Form 739, Occupational Injuries and Illness Log

Record each on-duty occupational injury or illness to Air Force military and civilian personnel within 6 workdays of notification (see paragraph **11.19.** of this instruction for additional information for recording requirements). DoDI 6055.7 requires off-duty military injuries to be recorded. Maintain separate logs for civilian on-duty, military on-duty, and military off- duty injuries. Source data for appropriated fund civil-

ian employee injury and illness claims include the CA Form 1, *Federal Employee's Notice of Traumatic Injury and Claim for Continuation of Pay/Compensation*; CA Form 2, *Notice of Occupational Disease and Claim for Compensation*; and CA Form 6, *Authorization for Examination and/or Treatment*. Appropriated fund civilian employees file occupational injury and illness claims through the Civilian Personnel Office of Workers' Compensation Program (OWCP). Source data for non-appropriated fund (NAF) civilian employee occupational injury and illness claims is the LS-201, *Notice of Injury*, filed through the Services Squadron Human Resource Office. Sources for the collection of military injury data include hospital Admission and Disposition (A&D) sheets, First Aid Injury Logs, Managed Care, and unit notification.

Complete entries on the AF Form 739 as follows:

NOTE: A pull-down menu is available for selected entries/blocks.

1. Column A - Case Number. Enter a case or mishap number.

2. Column B - Date of the Injury/Illness. Enter the month, day, and year of occurrence.

3. Column C - Name and component. Enter the name (Last, First, and Middle Initial), and component (DAF, NAF, YOP, USAF (military personnel), AFFN, etc.) of the individual. A list of components is available on the pull-down menu.

4. Column D - AFSC/Job Series. Enter the Air Force Specialty Code (AFSC) for military personnel or Occupational Series code for civilian employees. See AFMAN 36-503, *Skill Coding*, for civilian skills coding information.

5. Column E - Unit/Office Symbol. Enter the organization and office symbol of the employee.

6. Column F - Class. Enter the mishap class (see paragraph **3.2.** of this instruction). A list of mishap classes is available on the pull-down menu.

7. Column G -Injury/Illness Type. Indicate the most serious injury, e.g., fatality (FT), permanent total (PT) disability, lost workday (LW), etc. A list of injury types is available on the pull-down menu.

8. Column H - Illness Code. Enter the code that most accurately describes the illness. A list of illness codes is available on the pull-down menu.

9. Column I - No Lost Time. Place an "X" in the appropriate block listed below:

9.1. Column I (1) - Loss of Consciousness. Enter an "X" in Column I(1) when the injured individual lost consciousness and the case did not involve a fatality or lost workday.

9.2. Column I(2) - Transferred. Enter an "X" if the mishap individual was transferred to another job due to an occupational injury or illness and the case did not involve lost workdays.

9.3. Column I(3) - Medical Treatment Greater Than First Aid. Enter an "X" for cases of occupational injury or illness not involving fatalities or lost workdays but resulting in treatment greater than first aid (Class D injury/illness). See OMB Bulletin 1220-0029, *Recordkeeping Guidelines for Occupational Injuries and Illness*.

10. Column J - Lost Time. Indicate the total time lost in the appropriate block below:

10.1. Column J (1) - Hours. Enter the total number of hours (1 to 7) lost (Class D injury/illness resulting in less than 8 hours away from work). Do not count the day of injury. Do not count time spent away from work to receive medical treatment or examination(s).

10.2. Column J (2) - Days. Enter full days lost (i.e., 8 hours or greater). If the actual number of days lost is not known, enter an estimate of lost workdays.

11. Column K - Description/Location of Injury/Illness and Activity At Time of Occurrence. Complete this column for all entries. Examples: Lacerated right index fingerócutting a piece of wood, Building 1505, Wood Hobby Shop, SVS; Hearing loss, Building 1450, Pavements and Ground, CES.

12. Totals. Add total number of recorded cases.

13. Certifying Official. Enter the date and signature of the official certifying the accuracy of information entered on the log.

Table 11.1. Reporting/Recording Schedule for Ground Mishaps.

	A	B	C	D
	If the mishap is a	then submit	not later than	by
1	Class A or B on-duty	Preliminary report (see notes 1 and 2)	Within 8 hours of the mishap (see note 10)	Priority message using the format in **Figure 11.2.**, (see note 3)
2		Status report (see note 4)	Within 72 hours of the mishap	Preliminary message format, **Figure 11.2.**
3		Status report (see note 5)	15 calendar days, then as required.	CMR message format, **Figure 11.3.**
4		Final report	Within 30 calendar days (see notes 6 and 7)	CMR format, **Figure 11.3.**
5		Formal report (see note 9)	Within 30 calendar days of the mishap (see notes 6 and 7)	AF Form 711-series and CMR format, **Figure 11.3.** (see note 11)
6	Class A or B off-duty	Preliminary report (see notes 1 and 2)	End of the second duty day following the mishap	Preliminary message format, **Figure 11.2.**, including courtesy reporting by the nearest AF installation (see note 3)
7		Status report (see note 5)	As required	CMR format, **Figure 11.3.**
8		Final report	Within 30 calendar days of the mishap (see notes 6, 7 and 8)	CMR Format, **Figure 11.3.**

9		Formal report (when directed by MAJCOM) (see note 9)	Within 30 calendar days of the mishap (see notes 6, 7 and 8)	AF Form 711-series and CMR format, **Figure 11.3.** (see note 11)
10	Class C on- and off-duty (except off-duty Sports and Recreation)	Preliminary report [optional] (see notes 1 and 2)	As required	Preliminary message format, **Figure 11.2.** (see note 3)
11		Status report (see note 5)	As required	CMR format, **Figure 11.3.**
12		Final report	Within 30 calendar days (see notes 6 and 7)	CMR format, **Figure 11.3.**
13		Formal report (when directed by MAJCOM) (see note 9)	Within 30 calendar days (see notes 6 and 7)	AF Form 711-series and CMR (see note 11)
14	Class C off-duty Sports and Recreation	Preliminary report [optional] (see notes 1 and 2)	As required	Priority message using the format in **Figure 11.2.** (see note 3)
15		Status report (see note 5)	As required	CMR format, **Figure 11.3.**
16		Final report	Within 30 calendar days (see notes 6, 7 and 8)	Summary Mishap Report (SMR) (**Figure 11.4.**
17		Formal report (when directed by MAJCOM) (see note 9)	Within 30 calendar days (see notes 6, 7, and 8)	AF Form 711-series and CMR as directed by MAJCOM) (see note 11)
18	HAP event	Preliminary report [optional] (see notes 1 and 2)	As soon as possible	Preliminary message format, **Figure 11.2.** (see note 3)
19		Status report (see note 5)	As required	CMR format, **Figure 11.3.**
20		Final report	Within 30 calendar days (see notes 6 and 7)	CMR format, **Figure 11.3.**
21		Formal report (if required by higher headquarters or HQ USAF/SE) (see note 9)	Within 30 calendar days (see notes 6 and 7)	AF Form 711-series and CMR as directed by higher headquarters or HQ USAF/SE (see note 11)
22	Class D or X	Log entries	Within 6 work days of notification	AF Form 739 or equivalent log
23		Annual summary	15 November through MAJCOM channels to HQ AFSC/SEG	Message or memorandum

NOTES:

1. See paragraph **5.2.** for instructions during MINIMIZE.

2. Use non-privileged, unclassified **Figure 11.2.** format for Preliminary report.

3. Overseas commands use IMMEDIATE precedence.

4. Use the format in **Figure 11.2.** for the initial (72-hour) status report. Include new information discovered since the Preliminary message and identify SIB members or single investigating officer. Include the safety privilege statement on all status reports. (see **Chapter 2** of this instruction for additional information).

5. Include information not previously reported. It is not necessary to use the entire **Figure 11.3.** format for status reports.

6. Do not delay final reports awaiting test results. If the test results significantly change the outcome of a final report, send a status report describing the changes. Use the format in **Figure 11.3.** to modify a previously transmitted CMR final report.

7. For extension of due date, send request to the investigating MAJCOM/DRU/FOA. The MAJCOM will evaluate the request and forward valid requests to HQ AFSC/SEG for approval.

8. Mishaps reported in a SMR format that are later upgraded to Class A or B mishaps will require a status report to change the classification of the mishap and a final CMR report.

9. Do not send extra forms to HQ AFSC, MAJCOM/DRU/FOAs, ANG, or AFRC if they are mailed in formal reports.

10. For Air Force or non-Air Force civilians, ensure OSHA is notified in accordance with

paragraph **1.1.8.7.**

11. AF Form 711-series may be obtained through the Air Force Safety Center (AFSC/SEF, Aviation Safety) web page at: **http://www-afsc.saia.af.mil/**

Table 11.2. Addressees for Ground Message Reports.

	A	B	C
	Organization (see notes 3 and 5)	Office Symbol	For
1	HQ USAF KIRTLAND AFB NM	SE	All Class A and B mishaps
2	HQ AFSC KIRTLAND AFB NM	SEG	All mishap and HAP reports
3	HQ USAF WASHINGTON DC	SEI/XO	All Class A mishaps
4	HQ AFSOC HURLBURT FLD FL	SE	Class A, B and C mishap and HAP reports
5	HQ AETC RANDOLPH AFB TX	SE	
6	HQ AMC SCOTT AFB IL	SE	
7	HQ PACAF HICKAM AFB HI	SE	
8	HQ AFMC WRIGHT PATTERSON AFB OH	SE	

9	HQ ACC LANGLEY AFB VA	SE	
10	HQ AFSPC PETERSON AFB CO	SE	
11	HQ USAFA USAF ACADEMY CO	SE	
12	HQ USAFE RAMSTEIN AB GE	SE	
13	ANG ANDREWS AFB MD	DOSG	
14	HQ AFRC ROBINS AFB GA	SE	
15	Intermediate commands	as required	
16	Home base of operator or crew (if other than the organization submitting the report)		
17	Home base of aircraft or command of assignment (if other than that of the reporting unit)		
18	Military base of departure		
19	344 TRS LACKLAND AFB TX	TTEB	
20	HQ USAF WASHINGTON DC	RE/REO	All AFRC Mishaps
21	HQ AFMC WRIGHT PATTERSON AFB OH	SE/DR	All mishaps involving material deficiencies, and Tech Order changes.
22	HQ AFFSA ANDREWS AFB MD	XV	Mishaps involving air traffic control services
23	MAJCOM concerned	DOF	
24	Intermediate commands	DOF	
25	AFWA OFFUTT AFB NE	SE	Mishaps involving weather events or services
26	SMC LOS ANGELES AFB CA	AXZ	Mishaps involving space vehicles, boosters, systems, and support systems; and ballistic missile systems and/or components
27	OO-ALC HILL AFB UT	LMES	
28	HQ AFSPC PETERSON AFB CO	SE	
29	ASC WRIGHT PATTERSON AFB OH	ENVS	Mishaps involving aircraft, non-ballistic missiles, or explosives
30	OO-ALC HILL AFB UT	WMCS SES	Mishaps involving explosives or egress (CAD/PAD) items required for ejection (See note 5)
31	AAC EGLIN AFB FL	WM	

32	ALC Safety and Materiel Safety Offices: OO-ALC HILL AFB UT SA-ALC KELLY AFB TX WR-ALC ROBINS AFB GA OC-ALC TINKER AFB OK AAC EGLIN AFB FL	SE/SES/YPS SE/LDE SE/SEM SE/LARM WM	Aircraft, explosives, and missile mishaps; ground mishaps involving TO, materiel, vehicle, or equipment; and other mishaps involving deficiencies in the areas listed above
33	Appropriate ALC engine manager (see note 4) OC-ALC TINKER AFB OK SA-ALC KELLY AFB TX 361 TRS SHEPPARD AFB TX	LP/SE/LARM LP/SE LFCS TSRJ	Class A and B mishaps involving power plants
34	AAC EGLIN AFB FL	SES/SEW	Mishaps involving conventional air-launched missiles and explosives
35	HQ AFOTEC KIRTLAND AFB NM	SE	Class A aircraft, missile, and space mishaps and all OT&E mishaps
36	311 HSW BROOKS AFB TX SA-ALC KELLY AFB TX	YACL LFCS	Mishaps involving life support systems
37	COMNAVSAFECEN NORFOLK NAS VA	Code 10/11/13/14	Mishaps involving US Navy personnel or facilities and mishaps involving aircraft or missiles common to USAF and USN (**Table 7.3.** and **Table 8.3.**)
38	COMNAVAIRSYSCOM WASHINGTON DC		Mishaps involving missiles common to USAF and USN (**Table 8.3.**)
39	CDRUSASC FT RUCKER AL	CSSC-SE	Mishaps involving US Army personnel or facilities and mishaps involving aircraft or missiles common to USAF and USA (**Table 7.3.** and **Table 8.3.**)
40	COMDT COGARD WASHINGTON DC		Mishaps involving US Coast Guard personnel or facilities and mishaps involving aircraft common to USAF and USCG (**Table 7.3.**)
41	HQ SECDEF WASHINGTON DC	USD (ATL) (ES/FP)	Preliminary report for mishaps involving fatality, in-patient hospitalization of three or more civilian personnel, or property damage of $1,000,000 or more
42	SAF WASHINGTON DC	MIQ	Preliminary and final report for Class A and B mishaps

43	AFIP WASHINGTON DC	OAFME	Preliminary and final report for Class A and B mishaps involving injury or death.
44	HQ AFCESA TYNDALL AFB FL	CEXF	Preliminary and final report for mishaps involving fire suppression or crash and rescue operations
45	SA-ALC KELLY AFB TX	SF/LFCS	Mishaps involving fuels or related products
46	DET 63 ASC INDIAN HEAD MD	CC	Mishaps involving EOD operations or activities

NOTES:

1. Include all mishaps involving aircraft assigned to associate reserve programs (C-5, C-141, KC-10, and C-9).

2. Air Force Directory (AFDIR) 33-131, Message Address Directory was rescinded. Reference **http://www.nctn.navy.mil/dpvs/dpvs.html** for current message addresses prior to each message transmission. Do not send privilege safety messages to the addressees at lines 39-43 at any time.

3. Send messages only to appropriate ALC SPDs or engine IMs specified in TO 00-25-115, Logistics Maintenance Engineering Management Assignment, not indiscriminately to all SPDs or IMs.

4. Include MAJCOMs that are common users of the mishap materiel (aircraft, engines, equipment, weapons, munitions, ordnance devices, explosives, missiles, vehicles, etc.) as message addressees when exchange of information would enhance mishap prevention efforts. Also use the Address Indicator Group (AIG) for the weapon system if one exists. MAJCOM/DRU/FOAs may also add AIGs specific to their command.

AIG 9380	A-10
AIG 9381	C-17
AIG 9383	C-5
AIG 9384	F-111
AIG 9385	Ground Safety (HQ AFSC and MAJCOM Use Only)
AIG 9386	Helicopters
AIG 9387	C-130
AIG 9388	C-12
AIG 9389	F-4
AIG 9390	B-52
AIG 9392	KC-135
AIG 9393	F-22

AIG 9394	T-1
AIG 9395	T-38/F-5
AIG 9397	T-37
AIG 9398	C-141
AIG 9399	F-16
AIG 9401	T-39/C-21
AIG 9404	Worldwide SE/SEW
AIG 9405	Aero Clubs
AIG 9406	B-1
AIG 9407	F-15
AIG 9409	Safety Crosstell

* Note: If mishap base is not listed on the AIG, investigating MAJCOM/DRU/FOA will retransmit message under appropriate AIG(s).

5. Include the aircraft armament system program director (SPD) or equivalent as an addressee when explosives or missile mishaps involve aircraft armament systems.

6. MAJCOMs will approve the release of all Class A and B mishap reports before transmittal through the Defense Message System (DMS) or AUTODIN (SARAH LITE message).

7. Ground mishap messages (except 8-hour Preliminary) will be encrypted before transmittal through DMS.

8. Defense Message System addresses equivalent to the AUTODIN (SARAH LITE) addressees shown in this table are available through the Global DMS Directory.

Table 11.3. Routing Class A and B Ground Formal Safety Reports

	A	B	C
	Forward	To	For
1	Original and one copy of the formal report by priority mail within 30 calendar days	HQ AFSC/SEG 9700 G Ave SE Kirtland AFB NM 87117-5670	Review, take appropriate action, and file
2	One copy of formal report by priority mail	HQ USAF/SEI 1400 Air Force Pentagon, Rm 5E161 Washington DC. 20330-1400	Review
3	One copy of formal report	Organization of person who had the mishap (see note 6)	Review, take appropriate corrective action, and file. MAJCOMs specify endorsement requirements and their suspense dates.
4		Organization that sustained the loss if different from organization in line 3	
5		Host base safety office	
6		Intermediate commands of units specified in lines 3 and 4	
7		MAJCOM concerned	Review, take appropriate corrective action and file. Endorse transmittal correspondence to HQ AFSC/SEG within 90 days of mishap. Provide copies of endorsement to each
8		ANGRC/DOS or HQ AFRC/SE if ANG or AFRC asset involved	
9		Gaining MAJCOM if ANG or AFRC asset involved	

10		Appropriate State Headquarters and the Adjutant General (TAG) if ANG aircraft involved	formal report addressee.
11		Air Logistics/r Product Center item manager as specified in TO 00-25- 115 if failure or malfunction of materiel, suspected design deficiency, DR, TDR, or TO change involved (see notes 1, 2, and 3)	Review and take appropriate corrective action. Forward action memorandum or endorsement with a copy of TDR, photos, test results, and when established, MIP interim or closing action to HQ AFSC/SEG and a copy to HQ AFMC/SE within 90 days of the mishap. (see note 1)
12		Each agency or organization tasked in the recommendations (see note 6)	Review, take appropriate corrective action, and file.
13		HQ AFMC/SE Wright Patterson AFB OH 45433 (see note 2)	Review and take appropriate corrective action. Endorsement concurrence will be in DB-10. If HQ AFMC disagrees with ALC/PCTR or non-concurs, endorsement will be provided to each formal report addressee and HQ AFSC/SEG within 90 days of mishap.
14	One copy of formal report	HQ AFOTEC/SE Kirtland AFB NM 87117 if OT&E involved or upon written request	Review, take appropriate corrective action, and file. Endorse transmittal correspondence to HQ AFSC/SEG within 90 days of mishap, and provide copies of endorsement to each formal report addressee.
15		HQ AFCESA/DF Tyndall AFB FL 32403 if fire suppression or crash/ rescue involved	
16		HQ AFMC/SE Wright Patterson AFB OH 45433 if systems, vehicles, or equipment under management of AFMC involved	Review and take appropriate corrective action. Endorsement will be provided to each formal report addressee and HQ AFSC/SEG.
17		ASC/SE Wright Patterson AFB OH 45433	Review for "lessons learned" to be included in design processes and file.

18	One copy of AF Form 711GA	HQ AFMOA/SGPA Bolling AFB DC 20332-6188 (See note 5)	Review, take appropriate corrective action, and file.

NOTES:

1. ALC action correspondence is not required unless the safety report contains findings or recommendations involving materiel failure or malfunction, depot-level maintenance, design deficiencies, or technical order deficiencies.

2. For all mishaps requiring an action by an AFMC organization, send one copy to HQ AFMC/SE, Wright Patterson AFB OH 45433-5006, as well as the tasked agency.

3. Address elements are for reference only. See AFDIR 37-135 for current mail addresses. Air Force Directory (AFDIR) 33-131, Message Address Directory was rescinded. Reference **http://www.nctn.navy.mil/dpvs/dpvs.html** for current message addresses prior to each message transmission.

4. When routing formal reports to Air Logistics Centers, send the reports to the Materiel Safety Offices at the applicable ALC for internal distribution and tracking. Use the following addresses:

a. OC-ALC/LARM Tinker AFB OK 73145

b. OO-ALC/SES Hill AFB UT 84056

c. SA-ALC/LACS Kelly AFB TX 78241

d. SM-ALC/LAFS McClellan AFB CA 95652

e. WR-ALC/SEM Robins AFB GA 31098-1864

NOTE: SPD and ALC support may not be collocated. Check **Table 7.3.** for applicability.

5. In mishaps with significant medical contribution or resulting in a medical condition or physical injury, send one copy of the formal report with an AF Form 711GA.

6. Do not send a report to an agency outside the USAF. Prepare those copies of the report and send them to HQ AFSC/SEG for forwarding. Refer to paragraphs **5.5.6.3.** and **6.1.4.2.** for additional guidance.

12.6.2.1. A reporting flag word identifying a nuclear weapon system accident which could not create the risk of war. This includes accidental or unauthorized launching, firing, or use by U.S. forces or U.S. supported allied forces of a nuclear capable weapons system.

12.6.2.2. An accidental, unauthorized, or unexplained nuclear detonation.

12.6.2.3. Non-nuclear detonation or burning of a nuclear weapon or nuclear component.

12.6.2.4. Radioactive contamination.

12.6.2.5. Jettisoning of a nuclear weapon or nuclear component.

12.6.2.6. (Added) Public hazard, actual or perceived.

12.6.5.2. Deleted.

12.6.5.2.2. Exposure of a nuclear weapon or nuclear component to any natural phenomenon over which man has no control (e.g., flood, earthquake, lightning, etc.) whereby there is a possibility of damage to the weapon. Use of judgment is required however; if there is any doubt as to the condition of the weapon report the incident.

12.6.5.2.6. Deleted.

12.15.3.6. Mark the covers or two-part, limited-use formal reports with the following statements:

//

FOR OFFICIAL USE ONLY.

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, **Chapter 2** FOR RESTRICTIONS.

DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

//

Figure 12.2. Format for Nuclear Weapon System Safety Deficiency Reports.

From: Message originator.

To: List addressees from **Table 12.1.**

Security Classification. Use the proper security markings prescribed by AFI 31-401 for classified messages.

SUBJECT: REPORT TYPE, REPORTING UNIT DESIGNATION, FLAGWORD, TWO-DIGIT CALENDAR YEAR OF OCCURRENCE, AND REPORTING UNIT'S SEQUENCE NUMBER.

NOTE: The reporting unit assigns sequence numbers consecutively from 1 October to 30 September of each year for each flagword category. If the deficiency occurs on 30 September and the report is prepared in October of the following year, number it according to the year of occurrence. Report all voided and unused DULL SWORD numbers to HQ AFSC/SEW as soon as possible.

Examples:

PRELIMINARY 509 BW DULL SWORD 96-001

SUPPLEMENTAL REPORT NO. 1, 5 BW DULL SWORD 96-008

FINAL 5 BW DULL SWORD 96-008

ONE-TIME 509 BW DULL SWORD 96-010

Special Markings. Insert the following statement:

////////////

Item 6. POINT OF CONTACT, REPORT PREPARER, REPORT APPROVER: Identify the individual to be contacted for technical assistance. Also identify the report preparer as well as the releasing official. Include names, ranks, duty titles, and phone numbers.

Figure 12.4. Format for Nuclear Reactor System and Radiological Mishap Reports.

From: Message originator.

To: List the addressees in **Table 12.4.**, followed by the appropriate system AIGs, if any.

Security Classification. For classified messages, use the security markings prescribed by AFI 31-401.

Subject and Control Number. Show the report control number in the subject line. Ensure this number, which becomes the single common identifier of the event, includes the following: type of message and reporting flagword (e.g., Supplemental Report 1, FADED GIANT); year, month, and day of mishap using six digits (e.g., 89-02-20); unit (e.g., SM-ALC); and unit report number (e.g., -1). Include the report control number specified in the preliminary report (with the type of message updated) in the subject line of all supplemental and final reports.

Special Markings. Insert the following statement:

////////////

Item 4. MAJCOM, Organization, and Base. Identify who possessed the nuclear reactor system or radiological material at the time of the event or its discovery. Specify by MAJCOM; subordinate command or Numbered Air Force, wing, group, squadron, or unit, and base name and code. If different organizations were involved, identify each with the material they possessed. Use the same format to identify the organization submitting the safety report if the reporting organization is not the supporting organization.

Item 5. List of Personnel Directly Involved. Identify all military members or federal civilian employees involved in the event, non-US Air Force individuals whose actions or inaction resulted in damage to US Air Force property or injury to US Air Force personnel, and all persons injured. Begin the list with the individual most directly involved. Identify USA or USN personnel assigned to the US Air Force and identify civilian employees by their employment agency or department (Civ-USAF, Civ-USA, Civ-FAA, etc.). List each individual's name (last name, first name, and middle initial), military or civilian grade, social security number, duty title and AFSC, degree of injury (N-none, TT-temporary total, PP-permanent partial, PT-permanent total, F-fatal, or M-missing) and lost workdays lost due to injury.

Item 6. Damage, Injury, and Cost Estimates. Describe briefly all damage to US Air Force and non-USAF property and equipment, as well as any personnel injuries. Enter the best estimate available, and update in later reports as required.

If nuclear material was involved, describe the type and extent of any contamination, measured intensities, rate of decay, decontamination procedures established, security and disposition of the nuclear material, and the extent of personnel exposure to radiation or radioactive material.

Include the status of required medical and security assistance, when appropriate.

Describe the disposition of items damaged, destroyed, or malfunctioning.

In the final report, summarize damages, injuries, and costs at the close of the investigation (see paragraph **3.4.** to determine mishap costs).

Item 7. Factual Information.

Refer to the paragraph from this chapter under which the report is being submitted.

Describe the type of operation being performed at the time of occurrence or discovery. Include the name of the technical order or procedure being used and the paragraph number, if applicable.

For nuclear reactor systems, describe the system operating parameters and circumstances leading to the event. Include the following information:

Operating mode (as defined in the technical specifications) at the time of the event.

Percent of permitted thermal power at which the reactor was operating when the event occurred.

Item 8. Summary of Circumstances. Use the following general guidance to summarize the sequence of events:

Present the summary chronologically, starting with the earliest related point and continuing until the time of occurrence.

Write the summary so it provides an explanation of the event without referring to the rest of the report or other documents. Record facts, conditions, and circumstances just as the investigators discovered them.

Tell how, but not necessarily why, the event occurred. Do not discuss the importance of facts or how these facts relate to conclusions drawn from the investigation.

Use technical order references to clarify ambiguities.

Define abbreviations.

Add the following information to the summary of circumstances:

When appropriate, describe weather conditions and the type of lighting. For all involved individuals, include their certification dates (if certification is required), descriptions of experience, and the dates they last performed similar operations. Describe workload schedules and furnish a list of supervisory personnel who were present.

Describe the operation being performed or any other related details experienced when the event occurred or was discovered.

Describe how and when the event was detected.

For nuclear reactor systems, identify the reactor protection system and operator actions taken to control the situation.

Describe the extent and nature of any fire or explosion.

Item 9. Other Reports or Notifications Submitted. Provide the type of report and the unit-assigned number of related reports submitted separately.

List the date-time group of any OPREP-3 messages.

Give all materiel deficiency report control numbers according to T.O. 00-35D-54.

Give reference numbers for AFTO Form 22 reports, as well as any other applicable reports.

If agencies outside the USAF were notified, briefly describe the reason for notification, who was notified, how they were notified, and date and time of notification.

Provide details if a news release was or will be made.

Item 10. Technical and Engineering Evaluations of Material by DoD Agencies. Summarize any technical and engineering evaluations of material by DoD agencies.

Item 11. SIB. List the SIB members or investigating officer by name (last name, first name, and middle initial), military or civilian grade, duty title and AFSC, organization, and SIB position. Include a full official mailing address for each voting member.

Item12. Diagrams. Provide a list of any diagrams supplied to other organizations, and give their status (e.g., date drawn, date mailed, and recipients).

Item 13. Photographs. Provide a list of any photographs sent to other organizations, and give their status (e.g., date photographed, date mailed, and recipients).

Item 14. Investigation, Analysis, Findings, Causes, and Recommendations. Draw on the rest of the report to form a complete picture of the event. Preliminary reports may give a best initial judgment of the causes. Final reports shall contain a thorough analysis of all evidence, and then provide the findings, causes, and recommendations. Record the opinions of the SIB members or investigating officer in this section, and ensure either acceptance or rejection of all evidence in the report, including fatigue or stress factors. Identify and describe all causes according to paragraphs **5.10.** through 5.13. Except in the case of a formal minority report from the SIB, avoid any conflicting findings, causes, or recommendations. (Refer to **Chapter 5** for more details on this part of the report).

Analyze the occurrence for safety implications, and then include the following information (as applicable) in the analysis of effects and consequences:

For nuclear reactor systems, maximum and minimum operating conditions and parameters during temporary fluctuations, equipment malfunction, and operator error.

Damage to systems, components, and structures.

Personnel injuries and exposures.

Quantity and composition of radioactive materials released (existing background levels and release levels).

Consequences (actual or potential) on public health and safety.

Recommended Corrective Action. Discuss any proposed corrective action to prevent recurrence.

Failure Data. Determine if equipment failure started the event or if the equipment failed as a result of the accident, incident, or safety deficiency. Next, provide a record of the previous failures and malfunctions of the affected systems and components or similar equipment. Identify the equipment or components (e.g., component manufacturer and name plate data).

Item 15. Action Taken. List any actions taken to remedy the malfunction, damage, or error; to provide safety and security, and to prevent recurrence.

Item 16. Additional Information. Provide any pertinent information on materiel deficiency reports or service reports and other reports required by this instruction.

Item 17. Report Preparer. Give the name, grade, title or position, and telephone number of the person submitting the report.

Table 12.1. Addressees for Nuclear Weapon System Reports.

	A	B	C	D
	Organization	Office	Reports	Remarks
1	HQ USAF KIRTLAND AFB NM	SE SEW	NUCFLASH, BROKEN ARROW, EMPTY QUIVER, BENT SPEAR, and DULL SWORD	OPREP-3 addressee
2	HQ USAF WASHINGTON DC	SEI, ILMW XONO		

3	NUCLEAR WEAPONS PRODUCT SUPPORT CENTER KIRTLAND AFB NM	WNLT		
4	HQ AFMC WRIGHT-PATTERSON AFB OH	SEW DRAW		
5	NWPSC KIRTLAND AFB NM	WN		
6	MAJCOM or command concerned	as required		
7	Numbered Air Force or intermediate command	as required		
8	USSTRATCOM OFFUTT AFB NE	J416		
9	AFSFC LACKLAND AFB TX	SFO		OPREP-3 addressee Security-related reports only
10	HQ AFMOA BOLLING AFB DC	SGO	NUCFLASH and BROKEN ARROW	OPREP 3 addressee
11	US NAVY CNO WASHINGTON DC CINCPACFLT PEARL HARBOR HI COMNAVAIRPAC SAN DIEGO CA COMPATWINGSPAC BARBERS POINT HI COMSTRATCOMMWING ONE TINKER AFB OK COMNAVSAFECEN NORFOLK VA NAVAIRWARCENACDIV PATUXENT RIVER MD NAVAIRWARCENWPNDIV DET ALBUQUERQUE NM	(see note 2) I27102		Security, command and control related reports involving the E-6B aircraft configured to perform the ALCS mission only
12	System Program Director Air Logistics/Product Center (see TO 00-25-115)	as required (see note 3)		Materiel failure, malfunction, damage, and TO deficiency related reports only

13	Item Manager Air Logistics Center OC-ALC TINKER AFB OK OO-ALC HILL AFB UT SA-ALC KELLY AFB TX SM-ALC MCCLELLAN AFB CA WR-ALC ROBINS AFB GA	as required (see note 3) SEW/LARM SEW/LMES/YP-S SEW/LARW SEW/FMIC SEW/SEM		Materiel failure malfunction damage and/or T.O. deficiency related reports involving general-use support equipment (not FSG 11 or NOCM) only
14	OO-ALC HILL AFB UT	LMR/LMES/SEW		Ballistic missile component, system, or booster related reports only
15	HQ AFIC KELLY AFB TX	SE		COMSEC or crypto equipment related report only
16	AFCSC KELLY AFB TX	MMIVC		
17	363 TRS SHEPPARD AFB TX	TTMTM-N		Materiel failure, malfunction, damage, and TO deficiency related reports only
18	344 TRS LACKLAND AFB TX	TTLS		Materiel failure, malfunction, damage, and TO deficiency related reports only
19	AGMC NEWARK AFS OH	SE	DULL SWORD	Ballistic missile related reports involving guidance systems, computer faults, or chromate leaks only
20	AAC EGLIN AFB FL	ALZ APGM		Materiel failure, malfunction, damage, or T.O. deficiency related reports involving munitions handling equipment or vehicles used to transport or lift nuclear weapons
21	896 MUNS NELLIS AFB NV	SE		Reports involving nuclear weapons or associated DOE test and handling equipment only
22	898 MUNS KIRTLAND AFB NM	CC		
23	DTRA KIRTLAND AFB NM	NSO		
24	HQ USAF WASHINGTON DC	SP		Security related reports involving air logistical movements only

25	MAJCOM owning security force	SP		
26	MAJCOM of host base	SP		
27	HQ AMC SCOTT AFB IL	SE/SP/XO TACC/DOO		
28	HQ AMC SCOTT AFB IL	SE/XO LGA/LGT TACC/DOO		Materiel failure, malfunction, or damage involving aircraft and munitions handling equipment used in air logistical movements only
29	HQ AMC SCOTT AFB IL	DOA		Reports involving air logistical movements only

NOTES:

1. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

2. Use the following mailing addresses for US Navy reports:

Chief of Naval Operations 2000 Navy Pentagon Washington DC 20350-2000	Commander Strategic Communications Wing One 7641 Mercury Road Tinker AFB OK 73145-8701
Commander In Chief US Pacific Fleet 250 Makalapa Drive Pearl Harbor HI 96890-7000	Commander Naval Safety Center 375 A Street Norfolk VA 23511-4399
Commander Naval Air Force US Pacific Fleet NAS North Island PO Box 357051 San Diego CA 92135-7051	Commander Naval Air Warfare Center Aircraft Division MS 2/516 (3rd Floor) Patuxent River MD 20670-5304
Commander Patrol Wings US Pacific Fleet Naval Air Station Barbers Point HI 96862-4415	Officer In Charge NAVAIRWARCENWPNSDIV DET 2050 Second Street SE Kirtland AFB NM 87117-5000

3. Provide reports involving specific weapon systems or certified support equipment to the appropriate system program office or air logistics centers (e.g., for F-16 related reports, send to F-16 program office/ item manager).

Table 12.4. Addressees for Nuclear Reactor System and Radiological Mishap and Safety Deficiency Reports.

	A	B	C	D
	Organization (see note)	Office	Reports	Remarks
1	HQ USAF WASHINGTON DC	SE	FADED GIANT	OPREP-3 addressee
2	HQ AFSC KIRTLAND AFB NM	CC/SEW	FADED GIANT and MISSING PENNY	
3	MAJCOM or command concerned	as required		
4	Numbered Air Force or intermediate command	as required		
5	AFSFC LACKLAND AFB TX	SFO		OPREP-3 addressee; Security-related reports only
6	HQ AFMC WRIGHT-PATTERSON AFB OH	SEW/DRAW		Materiel failure, malfunction, damage and T.O. deficiency related reports only
7	System Program Director Air Logistics/ Product Center (see TO 00-25-115)	SE		
8	Item Manager Air Logistics Center OC-ALC TINKER AFB OK OO-ALC HILL AFB UT SA-ALC KELLY AFB TX SM-ALC MCCLELLAN AFB CA WR-ALC ROBINS AFB GA	as required SEW/LARM SEW/SES/SG SEW/LARW SEW/FMIC SEW/SEM		Materiel failure, malfunction, damage and T.O. deficiency related reports involving general-use support equipment
9	HQ AFMOA BOLLING AFB DC	SGO		Radiological related reports only. AFI 40-201 provides additional requirements

NOTE: Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

Chapter 13 Deleted.

14.4.4. (Added) Civil Air Patrol Aircraft.

14.4.4.1. (Added) Mishaps involving Civil Air Patrol USAF members or Air Force contractors flying Civil Air Patrol owned assets on approved Air Force missions will be handled per this AFI.

14.4.4.2. (Added) Mishaps involving Civil Air Patrol volunteers or CAP Corporation employee's will be handled by the NTSB/FAA.

15.1.1.1. Those mishaps that do not involve aircraft and result in damage to an Air Force Unmanned Aerial Vehicle (UAV) and Aerostats as defined in this Instruction. If a UAV is destroyed and destruction was not a desired objective of the planned mission, it is considered a UAV mishap. If destruction was a desired objective of the planned mission, it is a mishap only if destruction occurs outside authorized range airspace and/or if collateral damage results. UAV mishaps are further sub-categorized as Tactical UAV, Full Scale Aerial Target RPV (FSAT RPV), Sub-scale RPV, and Buoyant UAV, based upon the type of vehicle involved. If more than one UAV is involved, use the sub-category that appears first in the list above, with a cross-reference to the other sub-category. *Example: Class A Tactical UAV mishap, Full Scale RPV-Involved.* Use other appropriate cross-category references per **Chapter 3**. Mishaps involving UAV turbine engines in which the damage is confined to the engine are reported with an Engine-Confined subcategory per paragraph **7.1.5.**

15.4.5.1. Investigate and report Buoyant UAV mishaps using the procedures and report formats for Aircraft mishap investigations in **Chapter 7**. The reporting category is Buoyant UAV.

Attachment 1, Terms. There are two entries for the definition of "INJURY." Delete both entries, add back the definition once and change to read:

INJURY. Traumatic bodily harm, comprising such conditions as fractures, lacerations, sprains, strains, dislocations, concussions, and compressions, which results from an unplanned event. Classify single exposure incidents occurring in the work place or within a single duty shift as injuries when they involve foreign objects in the eye, such as a piece of metal, or chemical burns to the eye or skin, such as those

A3.5.1. TAB A: AF Form 711, *USAF Mishap Report*. Fill out AF Form 711 on each Aircraft, Unmanned Aerial Vehicle, Explosive/Chemical, Ground, Missile, Nuclear, Space, and Miscellaneous Air Operations mishap requiring a formal report. Place the form in Part I of the report. In most cases, the instructions on the form explain the required entries. See below for completing items where the instructions are not self-explanatory.

A3.5.3. TAB C AF Form 711B, *Aircraft Flight Mishap Report*. Use for Class A, B and C Aircraft (Flight and Flight-involved) and Unmanned Aerial Vehicle. Do not include information learned solely from confidential sources. Only include information that can be supported by other factual data in Part I. Use one

form for each aircraft involved. Most of the items in the form are self-explanatory. See below for specific instructions.

A3.5.4. TAB D AF Form 711C, *Aircraft Maintenance and Materiel Report*. Use for Class A, B and C Aircraft and Unmanned Aerial Vehicle mishaps if a formal report is prepared.

A3.5.14. TAB P Statement of Damage to Private Property. Omit if no private property was damaged in the mishap. If private property is damaged, the Investigating Officer will draft a statement indicating the type of property damage involved (e.g. 20' x 30' x 15' deep crater in NW corner of property, 5 acres of grasslands destroyed, etc.) The statement will not contain damage cost estimates, but only describe the damage incurred. Additionally do not state the cause of the property damage (e.g. 5 acres of grassland destroyed by post impact fire). Statement should be no more than a brief description of the type and extent of damage to civilian personnel and property.

A5.2. CMR Values For Aircraft Mishaps

AIRCRAFT		
CROSS CATEGORY	SUBCATEGORY	
Ground	Aircraft Structural Failures (ExcludingLanding Gear)	Fuel System Failures
Missile	Bird strikes	Hydraulic or Pneumatic Failures
Explosive	Bleed Air Failures	Landing Gear Failures
Space	Cargo Drop	Midair Collisions
None	Collision with the Ground (Range)	Miscellaneous
	Collision with the Ground (Non-Range)	Other
	Communication/Navigation	Pilot Induced Control Loss
	Electrical Failures	Pilot Induced Flameouts
	Engine Confined FOD	Pilot Induced Landing Mishaps
	Engine Confined Non-FOD	Pilot Induced Takeoff Mishaps
	Engine Failures	Propeller Failures
	Facilities	Tests
	Flight Controls	Undetermined
	Flight Instrument Failures	Weather

AIRCRAFT - PERSONNEL

ROLE IN EVENT (Activity At Time Of Mishap)		CREW POSITION Use 2-letter flight authorization code from AFI 11-401, Flight Management	
		First Letter	Second Letter
Aircraft Commander (not operating the aircraft) Air Traffic Controller Boom Operator Copilot Defensive Systems Operator ECM Operator EWO/WSO Flight Engineer Flight Examiner Flight Surgeon Gunner Instructor Pilot Loadmaster	Medical Technician Navigator Navigator (Other) Non Crew Member Pararescue Paratrooper Passenger Person on Ground Pilot Other Crew Member Radar Navigator Radar Operator Radio Operator Student pilot/co-pilot Student Navigator	E (evaluator) F (qualified) I (instructor) M (mission qualified) O (senior evaluator) S (student) U (unqualified) X (other/inactive)	A (other nonrated crew) B (boom operator) C (copilot) E (electronic warfare officer) F (flight engineer) G (aerial gunner) H (flight nurse) J (pararescue member) K (comm syst officer) L (loadmaster) N (navigator) P (pilot) R (nav-bombardier) S (flight surgeon) W (weapon syst officer) Z (air battle staff)

AIRCRAFT - PERSONNEL		
SAFETY EQUIPMENT	RPI CODE From AFI 11-401 *Flight Management*.	EJECTION/BAILOUT ATTEMPT

Engine fire supp	0 (nonrated duty)	Bailout atmpt succ
Fire extinguisher	1 (pilot)	Bailout atmpt unsucc
Life preserver	2 (navigator/observer)	Inadv/mech init-succ
Life raft	3 (staff or support, wing level or below, nonflying)	Inadv/mech init-unsucc
Oxygen mask	4 (staff or support, above wing level, nonflying)	No ejection seat
O_2 system (aircraft)	5 (flight surgeon)	Not initiated
O_2 system (portable)	6 (staff or support, wing level or below, flying)	Other crew init succ
Other	7 (Air Force exchange position)	Other crew init unsucc
Safety strap	8 (staff or support, above wing level, flying)	Self init succ
Seat restraint		Self init unsucc
Smoke masks		

AIRCRAFT - OBJECT/VEHICLE
AIRCRAFT ACTIVITY AT TIME OF MISHAP

Air to Air Training	Close/Fingertip Formation	GCA Surveillance Approach	Pattern (Final/Initial/etc)
Air to Ground Gunnery	Confidence Maneuver	Go Around from Final	Photo (Hand Held Camera)
Air Refueling	Controlled Range	Gun Air to Air	Popup Pattern
Air Refueling (Boom/Receptacle)	Conventional	High Angle	Practice Ordinance
Air Refueling (Probe/Drogue)	Crossover/Under	High Altitude	Radar Delivery
Abort (Takeoff Discontinued)	Dissimilar Air Combat Training	Parachute Extraction	Aerial Reconnaissance
Air Combat Maneuvers	DART/Tow	Hover	Recovery
Acrobatics	Dissimilar Basic Fighter Maneuvers	ILS	Rockets
Air Combat Tactics	Defending	Localizer only ILS	Roll for T/O or Landing
Air to Ground Missiles	Dissimilar Formation	Station Keeping (SKE)	Route Formation
Automatic Landing System	Ditching	Initial Intercept	Search and Rescue
Airborne Approach RDR	Cargo Drops	Join/Rejoin	Simulated Flameout Pattern
Attacking	Dry	Low Level	Airshow Demonstration
Auto Rotation	ECM	Low Angle Bomb	Simulated Emergency/ Precautionary Landing
Base Leg	Emergency/Precautionary Landing	LANTIRN	Flight Splitup/Leaving Formation
Basic Fighter Maneuvers	Enroute	Low Altitude Targeting Infrared/Radar	Strafe
Bombs	Close Air Support FAC	Level	Touch and Go
Close Air Support	Functional Check Flt	Live Air to Air Ordinance	TACAN Landing
Cell Formation	Final	Live Air-to-Ground Ordinance	Tactical Formation
Chase Formation	Flare (final roundout for landing)	Low Level at Min Enroute Altitude	Temporarily in Formation
	Formation	Visual Low Level	TFR
	Ground Controlled Approach (GCA)	Lost Wingman	Trail Formation
	GCA Monitor Only	Low Approach	Unauthorized
	GCA Precision Approach	Night Mission	Visual Approach
		Night Vision Goggles	Visual Delivery
			VOR Approach

AIRCRAFT - OBJECT/VEHICLE

MISSION SYMBOL See AFI 11-401, *Flight Management,* for a complete listing	PHASE OF FLIGHT	MAJOR SYSTEM THAT FAILED
A1 Scheduled Flights	Autorotate	Airframe
A2 Sched Air Evac Flt	Cruise Climb	Bleed Air
A6 Tactical training	Cruise Descent	Boom AR System
M1 Cargo	Cruise Low Level	Boundary Layer Control System
M3 Cargo or Passengers	Cruise Maneuvering	Communication System
M8 JA/ATT	Cruise	Computer
N1 Training & Standard.	Hover	Control Display
N2 Tactical Training	Landing Final Approach	Electrical System
O1 Combat	Landing Flare	Engines-Reciprocating
O2 Combat Support	Landing Pattern	Engines-Turbine
O3 Aircraft Delivery	Landing Rollout	Flight Controls
O4 Test	Arming Ordinance	Fuel System
O5 Direct Test Support	Parked Chocks	Hydraulic System
O8 Mx Tests/FCF	Parked Dearming Ordinance	Instruments
O9 Op. Reconnaissance	Parked Engines Running	Landing Gear
OA Cross Country	Parked Refueling	Ordnance
OB Red Flag	Parked Found During Inspection	Other
OD Special Exer	Parked Engine Start	Oxygen System
S2 Personnel	Simulated Flameout Pattern	Pitot/Static System
S7 Aircrew Qualification	Takeoff Abort/Discontinued	Pneumatic System
S8 Proficiency Training	Takeoff Initial Climb	Power Plant Components
SA HHQ Directed	Takeoff Runup Check	Pressurization, Bleed Air
SF Special Exercise Lcl	Takeoff Roll	Probe & Drogue AR System
SG Special Exer ORI	Taxi After Landing	Prop System
T1 Student Training	Taxi Out	Rotor System
T2 Formal Training		Survival Life Support Equipment
T3 Operational Trng		Susp/Rel Sys
T6 Low Level Missions		Warning Systems

Attachment A5.7. Deleted.

Attachment 6 Deleted.

Attachment 7 Deleted.

Attachment 9

IC 2001-2 TO AFI 91-204, SAFETY INVESTIGATIONS AND REPORTS

22 MAY 2001

SUMMARY OF REVISIONS

This revision incorporates IC 2001-2 and includes numerous changes. It updates the Table of Contents for **Chapter 12** and **Chapter 13**: instructs Interim Safety Boards to contact AFSC/SEFE on disposition of CVR/FDR following a mishap (paragraph **1.1.8.2.**); adds further guidance for an AF representative to Joint Mishap Investigations (paragraph **1.6.2.1.**); further clarifies privilege guidelines for ground and explosive mishaps (paragraphs **2.1.2.1.**, **2.1.2.3.**); removes references to the "Safety Data Exchange Roster" (paragraph **2.3.6.2.4.**): clarifies guidance for appointing an SIB President (paragraph **7.3.2.3.**); updates definition of Missile Support Equipment (paragraph **8.5.1.2.**); all reactor and radiological mishap information has been consolidated in **Chapter 12**; updates references (paragraph **12.1.1.2.**); all nuclear weapon mishap information has been moved to **Chapter 13**; modified definitions for BENT SPEAR, BROKEN ARROW, DULL SWORD, MISSILE SUPPORT EQUIPMENT, and NUCLEAR COMPONENTS (**Attachment 1**).

1.1.8.2. Appoint an Interim Safety Board (ISB) to preserve evidence following guidelines established in Air Force Pamphlet (AFPAM) 91-211. Assist the ISB to ensure all equipment associated with the mishap is impounded and turned over to the formal SIB. Coordinate with AFSC/SEFE (DSN 246-5867) on the removal and shipping of Flight Data Recorders and/or Cockpit Voice Recorders prior the permanent Safety Investigation Board arrival. Notify other bases with involved equipment (including aerial tankers) of the need for impoundment. Under existing agreements, ARC commanders may form the ISB.

1.6.2.1. When a Joint Mishap occurs AFSC will coordinate with the other Service Safety Centers and the CSAF. All involved services will contribute representatives to the investigation board and the investigating service's rules and procedures will be used. The Air Force will cooperate fully in any non-Air Force safety investigations. Air Force representatives to Joint Safety Investigations will be graduates of formal Air Force safety training courses. When an AF personnel requirement is determined for a non-AF Safety Investigation Board, AFSC will contact the MAJCOM(s) that can best meet the requirement (normally the AFSC/CV will work with the MAJCOM/SE). The MAJCOM SE will then let the AFSC/CV know who they have nominated. Once AFSC has agreed to the individual AFSC will provide a fund site to the MAJCOM and establish direct communication with the individual. Colonels and above will be graduates of the Air Forces Board Presidents Course. All others will have attended the Flight Safety Officer (FSO) course or Aircraft Mishap Investigation Course (AMIC) as a minimum. Air Force representatives to Joint Safety Investigations are responsible to the Air Force Chief of Safety and the CSAF while assigned to Safety Investigation Boards and will provide weekly updates to AF/SE on board activity, unless other significant events occur that should be passed immediately. AFSC will provide technical or other assistance the AF representative requires while on the board. At the conclusion of the Safety Investigation, all Primary Board Members are required to sign the Letter of Authentication (or other services equivalent). Additionally, after the board is complete AFSC will require three items to close the AF representatives. responsibility to AFSC:

Copy of orders

Copy of travel voucher settlement

A formal trip report to the AF/SE to include any issues that remain open, challenges or successes of the Joint board, and suggestions to improve AFSC courses to support joint mishap investigations.

2.1.2.1. All safety investigations for mishaps occurring on or after 3 October 2000 include privileged information. Prior to 3 October 2000, investigations involving ground, explosive, and industrial mishaps were generally not privileged. As of 3 October 2000, all mishap investigations (aircraft, space, missile, ground, explosives and nuclear safety investigation reports) include privileged reports that contain both privileged and non-privileged information. (Note: Aero Club mishap investigations are not privileged; see paragraph **14.5.1.3.**). However, promises of confidentiality are not normally given to witnesses in ground, explosive, or industrial safety investigations. Consequently, witness statements (which are privileged in space, missile, nuclear, and flight mishaps) for ground, industrial, and explosive mishaps are still not privileged. The Safety Board deliberative process to include Board conclusions, analysis, and recommendations are privileged for all types of mishaps, including ground, industrial, and explosive mishaps. SIB message reports (except the 8-hour preliminary message report) and Part II of Class A and B formal reports are privileged portions of the reports. Additionally, Class C and HAP reports for these categories are not prepared in two parts, but contain privileged information. HATRs are not considered safety investigations and are not privileged. (Note: There may be occasions, such as mishaps involving complex systems, military unique items (such as guided missiles, laser devices, or armored vehicles), or military operations or exercises where a witness(es) to a ground, industrial, and explosives investigations will not testify without a government promise of confidentiality. When this appears to be the case, contact HQ USAF/SE for approval to grant confidentiality to that (those) witness(es).

2.1.2.3. Promise of Confidentiality. The Air Force may give a promise of confidentiality to encourage frank and open communications to individuals who provide witness statements to a SIB or investigating officer and to government contractors, who built, designed, or maintained the equipment and participate in the investigation. Only primary duty safety personnel as members of the DCG, or the designated ISB and SIB members may offer promises of confidentiality for witness testimony. This information is privileged and protected from disclosure to unauthorized personnel. A promise of confidentiality will not be given on a blanket basis to every witness. The safety investigation has the discretion to determine who will be given a promise of confidentiality except as noted in paragraph **2.1.2.1.** above. Where a promise of confidentiality has been extended, **Figure 2.3.** provides a sample witness statement format for use with written, privileged witness statements. Where a promise of confidentiality has not been extended, **Figure 2.4.** provides a sample witness statement format for use with written, nonprivileged witness statements. **Figure 2.6.** contains the taped interview privileged witness statement. Investigators must read the **Figure 2.6.** Promise of Confidentiality advisory to each witness being offered privilege or **Figure 2.4.** if the witness is not offered confidentiality, and must read the appropriate statement onto all tape recordings of interviews.

2.3.6.2.4. Limiting Use with Foreign Nationals. Release of privileged safety information to foreign nationals is governed by NATO STANAGs 3101, *Exchange of Accident/Incident Information Concerning Aircraft and Missiles*, and 3531, *Safety Investigation and Reporting of Accidents/Incidents Involving Military Aircraft and/or Missiles.* They also apply to requests for privileged safety information or related data from NATO military organizations.

7.3.2.3. By CSAF direction, for Class A Aircraft Flight Mishaps involving a fatality, select a Brigadier General-select or higher-ranking officer as SIB President. For a Class A mishap not involving a fatality select a Colonel or higher-ranking officer although this is not CSAF mandated.

8.5.1.2. Missile Support Equipment. (Not applicable to air-launched missiles). Any component of ground launched missile systems used to handle or transport missiles or missile components. MSE also includes all equipment below grade in the launcher. MSE includes, but is not limited to, system unique vehicles such as reentry vehicle or guidance and control vans, payload transporters, transporter-erectors, support trucks, emplacers, equipment racks, motor generators, etc.

CHAPTER 12

NUCLEAR REACTOR SYSTEM AND RADIOLOGICAL MISHAPS AND SAFETY DEFICIENCIES

12.1.1.1. All nuclear reactor system and radiological accidents and incidents are reportable under this instruction. Nuclear safety deficiencies, which could result in a mishap, are also reportable under this instruction.

12.1.1.2. DoDD 3150.8, *DoD Response to Radiological Accident*, requires immediate notification of appropriate officials of a nuclear mishap. CJCSM 3150.03, *Joint Reporting Structure, Event and Incident Reports*, AFMAN 10-206, *Reporting Instructions*, and this chapter implement the requirement.

12.1.1.3. Reporting nuclear reactor system and radiological safety deficiencies supports the objectives of AFI 91-109, *Air Force Nuclear Reactor Program*, AFI 91-110, *Nuclear Safety Review and Launch Approval for Space or Missile Use of Radioactive Material and Nuclear Systems*, and AFI 40-201, *Management of Radioactive Materials in the Air Force*. These objectives are to prevent nuclear mishaps, to minimize their effects if they should occur, and to reduce the occurrence of other nuclear safety deficiencies. Deficiency reports bring actual or potential problems to the immediate attention of agencies that can evaluate the situation and correct the problems.

12.2.1.1. All nuclear reactor system and radiological mishaps will be investigated according to **Chapter 4**.

12.2.1.2. All nuclear reactor system and radiological safety deficiencies will be reported as per **Table 12.3.**

12.2.2. Investigating Officer Criteria. For nuclear reactor or radiological mishaps, select a nuclear surety officer who knows the nuclear system or materials and the related hazards involved.

12.2.2.1. Deleted.

12.2.2.2. Deleted.

12.2.2.3. Deleted.

12.2.3. Nuclear Reactor or Radiological Mishap SIB Primary Members:

12.2.3.4. Nuclear Expert knowledgeable of the reactor or radiological system.

12.2.3.5. Medical Officer or health physicist knowledgeable in radiation effects and contamination.

12.2.4. Nuclear Reactor/Radiological Mishap SIB Additional Primary Members:

12.2.5. Nuclear Reactor or Radiological Mishap SIB Non Primary Members:

12.2.5.2. Safety Advisor, if a trained safety officer is not already a member of the SIB.

12.2.5.3. Representatives from other federal agencies, as advisors or consultants, if appropriate.

12.2.5.4. Deleted.

12.2.6. Deleted.

12.2.6.1. Deleted.

12.2.6.2. Deleted.

12.2.6.2. Deleted.

12.2.6.3. Deleted.

12.2.6.4. Deleted.

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12.2.6.6. Deleted.

12.2.7. Deleted.

12.2.7.1. Deleted.

12.2.7.2. Deleted.

12.2.7.3. Deleted.

12.2.8. Deleted.

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12.2.8.2. Deleted.

12.2.8.3. Deleted.

12.4.1.4. Deleted.

12.5.1.6. All nuclear reactor system and radiological mishaps and safety deficiency reports are licensed reports as required by AFI 33-324, *The Information Collections And Reports Management Program; Controlling Internal, Public, And Interagency Air Force Information Collections*.

12.5.1.6.1. All forms in the AF Form 711-series are licensed under RCS: HAF-SE(AR)9404.

12.5.1.6.2. All other reports are collectively licensed under RCS: HAF-SE(AR)9406.

12.5.1.7. Deleted.

12.5.1.7.1. Deleted.

12.5.1.7.2. Deleted.

12.5.1.7.3. Deleted.

12.5.1.8. Deleted.

12.5.3.2. PRELIMINARY. Submit a preliminary report when it is impossible to provide all required information before the reporting deadline. Furnish the missing information as soon as possible in supplemental reports or in a final report. Preliminary reports remain open until appropriate corrective action is taken or positively identified. *NOTE:* If safety deficiencies require evaluation by another agency such as the weapon design agency or an Air Force item management agency, the report will remain open until that agency's evaluation and concurrence to close the report is received.

12.5.3.3. SUPPLEMENTAL. Submit a supplemental report to furnish additional information concerning any previous report.

12.5.3.4. ONE-TIME. Submit a one-time report when all required information is available and corrective action has either been taken or positively identified prior to the reporting deadline (e.g., failed item repaired at unit level, failed item sent to depot for repair, repetitive occurrences of a known failure, etc.).

12.5.3.5. FINAL. Submit a final report when all required information becomes available after the initial reporting deadline and corrective action has been taken or positively identified.

12.5.4. Deleted.

12.5.4.1. Deleted.

12.5.4.2. Deleted.

12.5.4.3. Deleted.

12.5.4.4. Deleted.

12.6. Nuclear Reactor System and Radiological Reporting Criteria:

12.6.1. PINNACLE FADED GIANT:

12.6.1.1. A nuclear reactor system or radiological accident, as defined by the following criteria:

12.6.1.2. Nuclear criticality or event resulting in significant damage to the reactor core, or a significant release of fission products from the reactor core.

12.6.1.3. Release of radioactive material such that, had an individual been present for 24 hours, the individual could have received an intake five times the federal annual occupational limit of 5 rems.

12.6.1.4. Exposure of an individual's whole body to 25 roentgen equivalent man (rem) or more of radiation; exposure of the eye to 75 rems or more of radiation; or exposure of any extremity to 250 rems or more of radiation.

12.6.2. BEELINE FADED GIANT:

12.6.2.1. A nuclear reactor system or radiological incident, as defined by the following criteria:

12.6.2.2. Events or acts caused by humans or nature (e.g., fire, explosion, projectile impact, sabotage, earthquake, flood, tornado, hurricane, or riot), damaging a nuclear reactor system.

12.6.2.3. Exposure of an individual's whole body to 5 rems or more of radiation; exposure of the eye to 15 rems or more of radiation; or exposure of any extremity to 50 rems or more of radiation.

12.6.2.4. Release of radioactive material so that, had an individual been present for 24 hours, the individual could have received an intake in excess of the federal annual occupational limit.

12.6.2.5. Deleted.

12.6.3. MISSING PENNY:

12.6.3.1. A deviation from prescribed safety and security standards for a nuclear reactor system or radiological activity (i.e. a nuclear reactor system or radiological safety deficiency), as defined by the following criteria:

12.6.3.2. Radiological Events:

12.6.3.2.1. Release of radioactive material posing a threat to life, health, or property.

12.6.3.2.2. Uncontrolled release of radioactivity to radiologically unrestricted areas above the allowable limits specified in Title 10, *Code of Federal Regulations*, Part 20 (10 CFR 20).

12.6.3.2.3. Exposure of any individual exceeding one occupational dose limit.

12.6.3.3. Nuclear reactor system events:

12.6.3.3.1. Violation of safety limits (as identified in technical specifications) not resulting in an accident or incident.

12.6.3.3.2. Abnormal degradation in reactor fuel, fuel cladding, coolant boundary, or containment boundary resulting in a measurable release of radioactive material.

12.6.3.3.3. Operation with any safety system setting less conservative than specified in the technical specifications. This includes the limiting safety system settings (LSSS) and the reactor protective system (RPS) settings.

12.6.3.3.4. Automatic or manual scram as a result of exceeding the LSSS or RPS settings, or the actuation of an engineered safety feature relating to the safety of the public, operating personnel, or facility.

12.6.3.3.5. Operation in violation of any limiting condition for operation (as specified in the technical specifications).

12.6.3.3.6. Malfunction of a reactor, experiment, or experimental facility safety system component which could or does render a required safety system (as identified in the technical specifications) incapable of performing its intended safety function. Do not report a malfunction discovered during normal surveillance tests or checks.

12.6.3.3.7. Unanticipated or uncontrolled change in reactivity greater than $1.00 (one dollar).

12.6.3.3.8. Condition which could or did result in operating the reactor or maintaining the decommissioned or entombed reactor in a manner less safe than conditions analyzed in the facility safety analysis report or other guidelines and restrictions.

12.6.3.3.9. Inadequate implementation of administrative or procedural controls which could create a credible possibility of an unsafe condition with regard to reactor operations or maintaining the integrity of the decommissioned or entombed reactor facility.

12.6.3.3.10. Event or condition (internal or external) posing a threat to the safety of the nuclear reactor (operational or decommissioned), or significantly hampering the ability of facility personnel to perform duties required for the safe operation of the reactor.

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12.6.4.1. Deleted.

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12.6.5.7.1. Deleted.

12.6.5.7.2. Deleted.

12.7. Nuclear Reactor System and Radiological Mishap Reports.

12.7.1.1. Report nuclear reactor system and radiological mishaps according to **Table 12.2.**

12.7.1.1.1. Deleted.

12.7.1.1.2. Deleted.

12.7.1.2. Deleted.

12.7.1.3. Deleted.

12.7.2. Preparing Nuclear Reactor System and Radiological Mishap Reports:

12.7.2.1. The format for nuclear reactor system and radiological mishap reports is shown in **Figure 12.1.**

12.7.2.2. MAJCOMs may supplement this instruction to include as addressees any internal organizations with a need to know and may use AIGs to include addressees (within the command only) as recipients of selected messages.

12.7.2.3. MAJCOMs may send reports conveying significant safety information peculiar to the system to MAJCOMs possessing like systems.

12.7.2.4. Include the original report control number in the subject line of supplemental and final reports. Number supplemental reports sequentially (Supplemental Report 1, Supplemental Report 2, etc.).

12.7.2.5. Include items 1 through 4 from **Figure 12.1.** in all nuclear reactor system and radiological mishap reports to facilitate recording and correlating data. List other items as either "no change" or "not applicable" (as appropriate) in the supplemental and final reports.

12.7.2.6. Include the name, rank, organization, SIB position, and full official mailing address of each voting member in the first supplemental report for a mishap resulting in an SIB.

12.7.2.7. Include important findings of the investigation in the supplemental reports. Use the reports to keep addressees informed on the progress of the investigation and to advise them of any unsafe conditions or materiel failures.

12.7.2.8. As a minimum, send nuclear reactor system and radiological supplemental reports until all on-site investigations are completed.

12.7.2.9. Use the same principles for writing the narrative portion of the final report as for the formal report (see **Chapter 4** and **Chapter 5** for guidance).

12.7.2.10**.** Provide a final report unless the initial report was a one-time report.

12.7.2.11. Deleted.

12.7.2.12. Deleted.

12.7.2.13. Deleted.

12.7.2.13.1. Deleted.

12.7.2.13.2. Deleted.

12.7.2.14. Deleted.

12.7.3. Deleted.

12.7.3.1. Deleted.

12.7.3.2. Deleted.

12.7.3.3. Deleted.

12.7.3.4. Deleted.

12.8. Nuclear Reactor System and Radiological Safety Deficiency Reports.

12.8.1. Reporting Schedules.

12.8.1.1. Report nuclear reactor system and radiological safety deficiency reports according to **Table 12.3.**

12.9. Preparing Nuclear Reactor System and Radiological Safety Deficiency Reports.

12.9.1. Guidelines.

12.9.1.1. The format for nuclear reactor system and radiological safety deficiency reports is shown in Figure 12.2. Do not include privileged safety information in the safety deficiency reports or mark them as limited-use reports. Refer to **Table 12.1.** for addressees.

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12.9.2.3.2. Deleted.

12.9.3. Deleted.

12.9.3.1. Deleted.

12.10. Nuclear Reactor System and Radiological OPREP-3 Reports:

12.10.1. Prepare and submit OPREP-3 Reports.

12.10.1.1. Report as prescribed by AFMAN 10-206 and JCS Pub 1-03.6. Send copies of the OPREP-3 reports to the addressees listed in **Table 12.1.**, as required by AFMAN 10-206. Do not include privileged safety information in OPREP-3 reports.

12.10.1.2. Deleted.

12.10.1.3. Deleted.

12.10.1.4. Deleted.

12.10.2. Deleted.

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12.10.3.1. Deleted.

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12.10.3.3.9. Deleted.

12.10.3.3.10. Deleted.

12.11. Nuclear Reactor System and Radiological Mishap Formal Reports.

12.11.1. Guidelines.

12.11.1.1. Submit formal reports according to this instruction for nuclear reactor system and radiological accidents and incidents, unless directed otherwise by HQ AFSC/SEW. HQ AFSC/SEW and the USAF Radioisotope Committee shall jointly review formal reports on radiological events.

12.11.2. Reporting Schedules.

12.11.2.1. Submit formal reports for reactor and radiological mishaps according to **Table 12.2.**

12.11.2.2. Deleted.

12.11.2.3. Deleted.

12.11.2.4. Deleted.

12.11.2.5. Deleted.

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12.11.2.9. Deleted.

12.11.2.10. Deleted.

12.11.3. Preparing Nuclear Reactor System/Radiological Formal Mishap Reports:

12.11.3.1. Prepare formal reports according to **Chapter 4** and **Chapter 5** and these instructions. Use continuation pages, if needed.

2.11.3.2. Prepare the report on plain white paper, using the title "Nuclear Reactor System (or Radiological) Accident/Incident Report." Provide an adequate level of detail by including or condensing all information provided in message reports. Where appropriate, include the photographs referenced in message reports.

12.11.3.3. Refer to **Table 12.2.** for addressees.

12.11.3.4. Special Markings. Use the following markings on formal reports:

12.11.3.5. Do not stamp unclassified pages in Part I with markings indicating special handling requirements or identifying them as "FOR OFFICIAL USE ONLY."

12.11.3.6. Mark the covers or two-part, limited-use formal reports with the following statements:

////////////

THIS CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, **Chapter 2** FOR RESTRICTIONS.

DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

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12.15.3.6. Deleted.

12.15.3.6.1. Deleted.

12.15.3.7. Deleted.

Figure 12.1. Format for Nuclear Reactor System and Radiological Mishap Reports.

From: Message originator.

To: List the addressees in **Table 12.1.**, followed by the appropriate system AIGs, if any.

Security Classification. For classified messages, use the security markings prescribed by AFI 31-401.

Subject and Control Number. Show the report control number in the subject line. Ensure this number, which becomes the single common identifier of the event, includes the following: type of message and reporting flagword (e.g., Supplemental Report 1, FADED GIANT); year, month, and day of mishap using six digits (e.g., 89-02-20); unit (e.g., SM-ALC); and unit report number (e.g., -1). Include the report control number specified in the preliminary report (with the type of message updated) in the subject line of all supplemental and final reports.

Special Markings. Insert the following statement:

////////////

Item 5. List of Personnel Directly Involved. Identify all military members or federal civilian employees involved in the event, non-US Air Force individuals whose actions or inaction resulted in damage to US Air Force property or injury to US Air Force personnel, and all persons injured. Begin the list with the individual most directly involved. Identify USA or USN personnel assigned to the US Air Force and identify civilian employees by their employment agency or department (Civ-USAF, Civ-USA, Civ-FAA, etc.). List each individual's name (last name, first name, and middle initial), military or civilian grade, social security number, duty title and AFSC, degree of injury (N-none, TT-temporary total, PP-permanent partial, PT-permanent total, F-fatal, or M-missing) and lost workdays lost due to injury.

Item 6. Damage, Injury, and Cost Estimates. Describe briefly all damage to US Air Force and non-USAF property and equipment, as well as any personnel injuries. Enter the best estimate available, and update in later reports as required.

If nuclear material was involved, describe the type and extent of any contamination, measured intensities, rate of decay, decontamination procedures established, security and disposition of the nuclear material, and the extent of personnel exposure to radiation or radioactive material.

Include the status of required medical and security assistance, when appropriate.

Describe the disposition of items damaged, destroyed, or malfunctioning.

In the final report, summarize damages, injuries, and costs at the close of the investigation (see paragraph 3.4 to determine mishap costs).

Item 7. Factual Information.

Refer to the paragraph from this chapter under which the report is being submitted.

Describe the type of operation being performed at the time of occurrence or discovery. Include the name of the technical order or procedure being used and the paragraph number, if applicable.

For nuclear reactor systems, describe the system operating parameters and circumstances leading to the event. Include the following information:

Operating mode (as defined in the technical specifications) at the time of the event.

Percent of permitted thermal power at which the reactor was operating when the event occurred.

Item 8. Summary of Circumstances. Use the following general guidance to summarize the sequence of events:

Present the summary chronologically, starting with the earliest related point and continuing until the time of occurrence.

Write the summary so it provides an explanation of the event without referring to the rest of the report or other documents. Record facts, conditions, and circumstances just as the investigators discovered them.

Tell how, but not necessarily why, the event occurred. Do not discuss the importance of facts or how these facts relate to conclusions drawn from the investigation.

Use technical order references to clarify ambiguities.

Define abbreviations.

Add the following information to the summary of circumstances:

When appropriate, describe weather conditions and the type of lighting. For all involved individuals, include their certification dates (if certification is required), descriptions of experience, and the dates they last performed similar operations. Describe workload schedules and furnish a list of supervisory personnel who were present.

Describe the operation being performed or any other related details experienced when the event occurred or was discovered.

Describe how and when the event was detected.

For nuclear reactor systems, identify the reactor protection system and operator actions taken to control the situation.

Describe the extent and nature of any fire or explosion.

Item 9. Other Reports or Notifications Submitted. Provide the type of report and the unit-assigned number of related reports submitted separately.

List the date-time group of any OPREP-3 messages.

Give all materiel deficiency report control numbers according to T.O. 00-35D-54.

Give reference numbers for AFTO Form 22 reports, as well as any other applicable reports.

If agencies outside the USAF were notified, briefly describe the reason for notification, who was notified, how they were notified, and date and time of notification.

Provide details if a news release was or will be made.

Item 10. Technical and Engineering Evaluations of Material by DoD Agencies. Summarize any technical and engineering evaluations of material by DoD agencies.

Item 11. SIB. List the SIB members or investigating officer by name (last name, first name, and middle initial), military or civilian grade, duty title and AFSC, organization, and SIB position. Include a full official mailing address for each voting member.

Item12. Diagrams. Provide a list of any diagrams supplied to other organizations, and give their status (e.g., date drawn, date mailed, and recipients).

Item 13. Photographs. Provide a list of any photographs sent to other organizations, and give their status (e.g., date photographed, date mailed, and recipients).

Item 14. Investigation, Analysis, Findings, Causes, and Recommendations. Draw on the rest of the report to form a complete picture of the event. Preliminary reports may give a best initial judgment of the causes. Final reports shall contain a thorough analysis of all evidence, and then provide the findings, causes, and recommendations. Record the opinions of the SIB members or investigating officer in this section, and ensure either acceptance or rejection of all evidence in the report, including fatigue or stress factors. Identify and describe all causes according to paragraphs **5.10.** through 5.13. Except in the case of a formal minority report from the SIB, avoid any conflicting findings, causes, or recommendations. (Refer to **Chapter 5** for more details on this part of the report).

Analyze the occurrence for safety implications, and then include the following information (as applicable) in the analysis of effects and consequences:

For nuclear reactor systems, maximum and minimum operating conditions and parameters during temporary fluctuations, equipment malfunction, and operator error.

Damage to systems, components, and structures.

Personnel injuries and exposures.

Quantity and composition of radioactive materials released (existing background levels and release levels).

Consequences (actual or potential) on public health and safety.

Recommended Corrective Action. Discuss any proposed corrective action to prevent recurrence.

Failure Data. Determine if equipment failure started the event or if the equipment failed as a result of the accident, incident, or safety deficiency. Next, provide a record of the previous failures and malfunctions of the affected systems and components or similar equipment. Identify the equipment or components (e.g., component manufacturer and name plate data).

Item 15. Action Taken. List any actions taken to remedy the malfunction, damage, or error; to provide safety and security, and to prevent recurrence.

Item 16. Additional Information. Provide any pertinent information on materiel deficiency reports or service reports and other reports required by this instruction.

Item 17. Report Preparer. Give the name, grade, title or position, and telephone number of the person submitting the report.

Figure 12.2. Format for Nuclear Reactor System/Radiological Safety Deficiency Reports.

Item 1. Title. Use the title "MISSING PENNY Report."

Item 2. Report Number. Sequentially assign an event number (begin with 001 for each calendar year and for each reactor unit using the following format: reactor unit-year-sequential number). Example: MNRC-1998-001.

Item 3. Dates:

Item 3a. Report Date. Show the date in abbreviated form (e.g., 20 Jan 89).

Item 3b. Occurrence Date. Show the date in abbreviated form (e.g., 20 Jan 89).

Item 4. Location:

Item 4a. Base. Identify the installation where the MISSING PENNY occurred.

Item 4b. Facility. Give the name of the organization for radiological events or the name of the reactor facility, including unit number at multiple reactor unit sites for nuclear reactor system events.

Item 5. Operation. Describe the operations underway at the time of the safety deficiency. For nuclear reactor systems, give the operating mode (as defined in the technical specifications) at the time of the event.

Item 6. Power Level. For nuclear reactor system safety deficiencies, give the percent of permitted thermal power at which the reactor was operating when the event occurred. This item is not applicable to radiological safety deficiencies.

Item 7. Findings/Causes. Identify all the findings and causes of the MISSING PENNY using paragraphs **5.7.** and **5.8.** of this instruction.

Item 8. Abstract. Provide a brief description of major occurrences during the event. Include all actual component or system failures, all relevant operational errors or procedural violations, and any significant corrective action taken or planned as a result of the event.

Item 9. Release Levels. Give the recorded levels of release for radionuclides exceeding permissible limits.

Item 10. Historical Background and Normal Operating Levels. Provide historical background of radionuclides. These levels are determined by environmental radiological monitoring prior to operating the nuclear reactor. For nuclear reactor systems, provide normal operating levels of radiation in the vicinity of the event.

Item 11. Component Identification. Identify the component and manufacturer, if known, for those components contributing to the event.

Item 12. Text. Provide enough detail for readers familiar with handling radioactive materials or the design of nuclear reactors to understand what occurred (causes of the event, reactor status [when applicable] before the event and sequence of occurrences during the event). Explain how systems, components, and personnel performed, but do not address specific hardware problems in excessive detail (paragraphs **5.7.** through **5.8.**). Describe unique characteristics of the facility or operation influencing the event, either favorably or unfavorably. Describe the event from the perspective of those involved (e.g., in the case of a reactor operator: what the operator saw, did, and understood or misunderstood).

Figure 12.3. Format for Nuclear Reactor System and Radiological Mishap Formal Reports.

Item 1. Reactor, Device, or Material involved.

Item 1a. Reactor. If the event occurred at a reactor facility, identify the reactor by name, location, and unit (if a multiple reactor unit site). Maintain identification consistency with any previous FADED GIANT reports.

Item 1b. Device. If the mishap involved a nuclear power source or other device, identify by type, model, and serial number. Maintain identification consistency with any previous FADED GIANT reports.

Item 1c. Material. Identify the type and quantity of radioactive material involved.

Item 2. Type of Operation. Provide a brief description (one or two sentences) of the operation in process at the time of the event. For nuclear reactor systems, include the operating mode (as defined in the technical specifications) and the percent of permitted thermal power at which the reactor was operating.

Item 3. Nuclear Material Information:

Item 3a. Provide information on the type and extent of contamination, measured intensities, rate of decay, and established decontamination procedures. Discuss these factors individually in separate sub-paragraphs. When several radioactive species with different radiological significance are involved, list and describe each of the species separately.

Item 3b. Provide historical background and normal operating levels for each of the radioactive species addressed in item 3a.

Item 3c. Describe the disposition of contaminated material.

Item 4. Related Factors. Include the findings and causes discussed in paragraphs 3.12. through 3.15. Identify any component involved in the event.

Item 5. Comments. Use this paragraph to provide comments. Ensure the comments do not include those in Item 11 of the basic AF Form 711. Include immediate, intermediate, continuing, or long-range corrective action and the estimated completion date in Item 11 of the basic form.

Figure 12.4. Deleted

Figure 12.5. Deleted.

Figure 12.6. Deleted.

Table 12.1. Addressees for Nuclear Reactor System and Radiological Mishap and Safety Deficiency Reports.

	A	B	C	D
	Organization (see note)	Office	Reports	Remarks
1	HQ USAF WASHINGTON DC	SE	FADED GIANT	OPREP-3 addressee
2	HQ AFSC KIRTLAND AFB NM	CC/SEW	FADED GIANT and MISSING PENNY	
3	MAJCOM or command concerned	as required		
4	Numbered Air Force or intermediate command	as required		
5	AFSFC LACKLAND AFB TX	SFO		OPREP-3 addressee; Security-related reports only

6	HQ AFMC WRIGHT-PATTERSON AFB OH	SEW/DRAW		Materiel failure, malfunction, damage and T.O. deficiency related reports only
7	System Program Director Air Logistics/ Product Center (see TO 00-25-115)	SE		
8	Item Manager Air Logistics Center OC-ALC TINKER AFB OK OO-ALC HILL AFB UT SA-ALC KELLY AFB TX SM-ALC MCCLELLAN AFB CA WR-ALC ROBINS AFB GA	as required SEW/LARM SEW/SES/SG SEW/LARW SEW/FMIC SEW/SEM		Materiel failure, malfunction, damage and T.O. deficiency related reports involving general-use support equipment
9	HQ AFMOA BOLLING AFB DC	SGO		Radiological related reports only. AFI 40-201 provides additional requirements

NOTE: Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

Table 12.2. Reporting Schedule for Nuclear Reactor System and Radiological Mishap Reporting.

	A	B	C	D	E
	Report	submit	by	to	Remarks

1	OPREP-3	as required by AFMAN 10-206	appropriate precedence message (see AFMAN 10-206)	addressees in **Table 12.1.** and as required by AFMAN 10-206	do not include privileged safety information
2	Preliminary (use format in **Figure 12.4.**)	within 8 hours	appropriate precedence message	addressees in **Table 12.1.**	include the term "preliminary" in subject line
3	Supplemental (use format in **Figure 12.4.**)	Accident: daily or as directed by HQ AFSC/SEW Incident: every 10 days or when information changes significantly			include the term "supplemental" in subject line
4	Final (use format in **Figure 12.4.**)	within 30 calendar days			include the term "final" in subject line; send requests for due date extension to investigating MAJCOM and info HQ AFSC/SEW
5	Formal	within 30 calendar days	AF Form 711-series		send requests for due date extension to investigating MAJCOM and info HQ AFSC/SEW

Table 12.3. Reporting Schedule for Nuclear Reactor System and Radiological Safety Deficiency Reports.

	A	B	C	D	E
	Report	submit	by	to	Remarks

1	MISSING PENNY (use free form format)	within 24 hours of discovery	routine precedence message	HQ AFSC/SEW	Report Items **12.6.3.2.1.**, **12.6.3.2.2.**, **12.6.3.3.1.**, and **12.6.3.3.2.**
2		within 48 hours of discovery			Report Items **12.6.3.2.3.**, and **12.6.3.3.3.** through **12.6.3.3.10.**
3	MISSING PENNY (use format in **Figure 12.2.**)	within 45 days of discovery	letter	addressees in **Table 12.1.**	Report all Missing Penny events listed in paragraph **12.6.3.**

Table 12.4. Deleted.

Table 12.5. Deleted.

Table 12.6. Deleted.

Chapter 13

NUCLEAR WEAPON SYSTEM ACCIDENT, INCIDENT, AND DEFICIENCY REPORTING

13.1. General Information.

13.1.1. All nuclear weapon system accidents and incidents are categorized as nuclear mishaps and are reportable under this instruction. Nuclear safety deficiencies, which could result in a mishap, are also reportable under this instruction. Reports required by a MAJCOM neither supersede nor nullify this instruction's reporting requirements. This instruction does not supersede or nullify reporting requirements under other directives.

13.1.2. DoDD 3150.8, *DoD Response to Radiological Accidents*, requires immediate notification of appropriate officials of a nuclear accident or incident. CJCSM 3150.03, *Joint Reporting Structures, Event and Incident Reports*, CJCSI 6241.02*, United States Message Text Formatting Policy And Procedures,* DoD 3150.8-M, *Nuclear Weapon Accident Response Procedures*, DoDI 6055.7, *Accident Investigation, Reporting, and Record Keeping*, and AFMAN 10-206, *Reporting Instructions*, and this chapter implement this requirement.

13.1.3. The requirement for reporting nuclear weapon system safety deficiencies supports the objectives of AFI 91-101, *Air Force Nuclear Weapons Surety Program*. These objectives are to prevent nuclear mishaps, to minimize their effects if they should occur, and to reduce the occurrence of other nuclear safety deficiencies. Deficiency reports bring actual or potential problems to the immediate attention of agencies that can evaluate the situation and correct the problem.

13.1.4. This chapter establishes and implements the requirements for reporting and investigating nuclear weapon system accidents, incidents, and safety deficiencies for the purposes of mishap prevention.

13.1.5. Whether or not to report an event remains a matter of the commander's judgment. Prepare and submit OPREP-3 reports as prescribed by AFMAN 10-206 and CJCSI 6241.02. For nuclear weapon system mishaps and nuclear weapon system safety deficiencies send copies of the OPREP-3 reports to the addressees in **Table 13.1.**., as required by AFMAN 10-206. Do not include privileged safety information in OPREP-3 reports.

13.1.6. While the results of safety investigations play a direct role in the mishap prevention process; the indiscriminate use of statistical comparisons between units can jeopardize accurate reporting and are inappropriate due to the rare nature of nuclear mishaps. Do not make statistical comparisons of different commands or units using nuclear mishap reports as a source.

13.1.7. Because the criteria for the submission of nuclear weapon system safety deficiency reports are so broad, comparing nuclear safety statistics between commands and operating units may not provide accurate trend information for managerial analysis. Use nuclear weapon system safety deficiency reports only to identify potential problems and corrective measures. Do not publish statistical comparisons of different commands or units using nuclear weapon system safety deficiency reports as a source.

13.1.8. Use the appropriate flagword, e.g., DULL SWORD, BENT SPEAR, etc. when reporting nuclear weapon system mishaps and safety deficiencies.

13.1.9. If the event status changes after submitting an original report, submit another report using the new flagword. Upgrade the flagword only when time-critical responses are required. Do not downgrade the flagword of a nuclear weapon system mishap report without the concurrence of HQ AFSC/SEW because this would decrease the time-criticality of responses.

13.1.10. When a nuclear safety deficiency involves another mishap category (any class) described in this instruction, submit separate reports.

13.2. Nuclear Weapon System Report Types.

13.2.1. For the purposes of this chapter, a nuclear accident, incident, or safety deficiency involving a nuclear weapon system involves but is not limited to such items as nuclear safety certified software and hardware; codes and code materials; Prime Nuclear Airlift Force (PNAF) movements; and nuclear safety rules and procedures associated with the security, operations, maintenance, storage, and transportation of a nuclear weapon system. *A nuclear weapon system is defined to be a combat delivery vehicle with its nuclear weapon or weapons and associated support equipment, noncombat delivery vehicles, facilities, and services. A nuclear weapon is a complete assembly in its intended ultimate configuration which, upon completion of the prescribed arming, fusing, and firing sequence, is capable of producing the intended nuclear reaction and release of energy. A nuclear component is defined to be weapon components composed of fissionable or fusionable materials that contribute substantially to nuclear energy released during detonation. Nuclear components include radioactive boosting materials.*

13.2.2. Nuclear Weapon System Accident:

13.2.2.1. NUCFLASH is the reporting flagword used to identify a nuclear weapon system accident that could create the risk of war (see paragraph **13.3.1.** for criteria).

13.2.2.2. BROKEN ARROW is the reporting flagword used to identify a nuclear weapon system accident that could not create the risk of war (see paragraph **13.3.2.** for criteria).

13.2.2.3. EMPTY QUIVER is the reporting flagword used to identify loss, theft, seizure, or destruction of a nuclear weapon or nuclear component. Loss includes, but is not limited to, intentional nuclear

weapon jettisoning according to approved Air Force procedures, or inadvertent release of a nuclear component.

13.2.3. Nuclear Weapon System Incident:

13.2.3.1. BENT SPEAR is the reporting flagword used to identify a nuclear weapon system incident which involves the criteria outlined in paragraph **13.3.3.**

13.2.4. Nuclear Weapon System Deficiency:

13.2.4.1. DULL SWORD is the reporting flagword used to identify a nuclear weapon system deficiency that does not fall in the nuclear weapon system accident or incident categories but meets one or more of the criteria outlined in paragraph **13.3.4.**

13.2.5. There are four types of reports which may be submitted. Use the following guidance to determine what type of report to submit:

13.2.5.1. PRELIMINARY: Submit a preliminary report when it is impossible to provide all information before the reporting deadline. Furnish the missing information as soon as possible in supplemental reports or in a final report. Preliminary reports remain open until appropriate corrective action is taken or positively identified. *NOTE: If safety deficiencies require evaluation by another agency such as the nuclear weapon design agency or an Air Force item management agency, the report will remain open until that agency's evaluation and concurrence to close the report is received.*

13.2.5.2. SUPPLEMENTAL: Submit a supplemental report to furnish additional information concerning any previous report.

13.2.5.3. ONE-TIME: Submit a one-time report when all required information is available and corrective action has either been taken or positively identified prior to the reporting deadline (e.g., failed item repaired at unit level, failed item sent to depot for repair, repetitive occurrences of a known failure, etc.).

13.2.5.4. FINAL: Submit a final report when all required information becomes available after the initial reporting deadline and corrective action has been taken or positively identified.

13.3. Reporting Criteria.

13.3.1. NUCFLASH: Includes accidental, unauthorized, or unexplained events meeting any of the following criteria:

13.3.1.1. Accidental, unauthorized, or unexplained actual or possible nuclear detonation by US forces or US-supported allied forces.

13.3.1.2. Accidental or unauthorized launch of a nuclear-armed or nuclear-capable missile by US forces or US-supported allied forces.

13.3.1.3. Unauthorized flight or deviation from an approved flight plan by a nuclear-armed or nuclear-capable aircraft of US forces or US-supported allied forces that could be perceived as a hostile act.

13.3.2. BROKEN ARROW: A reporting flagword identifying a nuclear weapon system accident which could not create the risk of war. This includes accidental, unauthorized, or unexplained events and the following:

13.3.2.1. Accidental or unauthorized launching, firing, or use by U.S. forces or U.S. supported allied forces of a nuclear capable weapons system.

13.3.2.2. An accidental, unauthorized, or unexplained nuclear detonation.

13.3.2.3. Non-nuclear detonation (no nuclear yield) or burning of a nuclear weapon or nuclear component.

13.3.2.4. Radioactive contamination.

13.3.2.5. Public hazard, actual or perceived.

13.3.2.6. Jettisoning of a nuclear weapon or nuclear component.

13.3.3. EMPTY QUIVER: Includes loss, theft, seizure, or destruction of a nuclear weapon or nuclear component. Loss includes, but is not limited to, intentional nuclear weapon jettisoning according to approved Air Force procedures, or inadvertent release of a nuclear component.

13.3.4. BENT SPEAR: Includes mishaps not in the accident category but meeting any of the following criteria:

13.3.4.1. Radioactive contamination from burning, theft, seizure, or destruction of a radioactive limited life component.

13.3.4.2. Evident damage to a nuclear weapon or nuclear component that requires major rework, replacement, or examination or recertification by the DOE. (Report minor damage as a DULL SWORD, see paragraph **13.3.5.**)

13.3.4.3. Events requiring immediate action in the interest of nuclear surety (such as render safety procedures or failed positive measures) or which could result in adverse national or international public reaction or premature release of information (such as attempted theft or seizure of a nuclear weapon). *NOTE: Includes damage to a nuclear weapon carrier that could lead to loss of, or damage to, nuclear components.*

13.3.4.4. An event indicating a nuclear weapon or nuclear warhead has been armed.

13.3.4.5. Events which could lead to a nuclear weapon system accident and thus warrant the informational interest of, or action by, any of the following agencies:

13.3.4.5.1. Appropriate Military Department or Service.

13.3.4.5.2. Office of the Assistant to the Secretary of Defense (Nuclear and Chemical and Biological Defense Programs).

13.3.4.5.3. Office of the Assistant Secretary of Defense (Strategy and Threat Reduction).

13.3.4.5.4. Office of the Assistant Secretary of Defense (Public Affairs).

13.3.4.5.5. Federal Emergency Management Agency (within the CONUS).

13.3.5. DULL SWORD: Problems that do not meet any of the criteria in the following subparagraphs and are recognizable failure modes where specific diagnostic and corrective actions are outlined in current technical data **are not reportable**. Safety deficiencies not included in the accident or incident categories, but meeting any of the following criteria **shall be reported**:

13.3.5.1. General criteria: The following criteria apply to **all** nuclear weapon systems, nuclear weapons, and nuclear components.

13.3.5.1.1. Malfunction, failure, or anomaly that results in damage to the nuclear weapon system due to sources from electrical energy (e.g., lightning, over voltage, and power fluctuations). *NOTE: Report*

actual or suspected exposure of a nuclear weapon or nuclear component to sources of electrical or electromagnetic energy.

13.3.5.1.2. Malfunction, failure, or anomaly involving any nuclear weapon, nuclear weapon system, or nuclear component where an inspection is initiated to determine if the problem exists with like pieces of equipment.

13.3.5.1.3. Malfunction, failure, or anomaly involving the command and control system which results in indications (suspected, false, or actual) of critical function (release, launch, or arming) activation.

13.3.5.1.4. Exposure of a nuclear weapon or nuclear component to any natural phenomenon over which man has no control (e.g., flood, earthquake, lightning, etc.) whereby there is a possibility of damage to the nuclear weapon. If there is any doubt as to the condition of the nuclear weapon, report the incident.

13.3.5.1.5. Malfunction, failure, or anomaly during operations or testing, which did, or could, result in a safety or coded device to arm or be left in an unsafe condition.

13.3.5.1.6. Malfunction, failure, or anomaly that results in suspected or unconfirmed radioactive contamination.

13.3.5.1.7. Violations involving nuclear weapon system safety rules (published in AFI 91-100 series) or nuclear weapon system technical order procedures (e.g., weapon maintenance, loading, delivery, etc.).

13.3.5.1.8. Units that are organized and trained to transport, store, maintain, provide security for, or employ nuclear weapon systems must report any safety deficiency on items listed individually in T.O. 00-110N-16, *USAF Nuclear-Certified Equipment and Software*, T.O. 21M-LGM30F-12-1, *Minuteman Nuclear Surety Procedures*, or T.O. 21-LG118A-12-1, *Peacekeeper Nuclear Surety Procedures*. All other units will report safety deficiencies involving these items when:

13.3.5.1.8.1. Directed by HQ AFSC/SEW.

13.3.5.1.8.2. Directed by the MAJCOM.

13.3.5.1.8.3. The unit considers the deficiency or situation could have an adverse effect on the nuclear safety, security, or reliability of the nuclear weapon system.

13.3.5.1.9. Nuclear weapon system technical order procedure inadequacies or other problems that the unit perceives could lead to a violation of nuclear weapon system safety rules. *NOTE: When appropriate, report procedural deficiencies according to T.O. 00-5-1, Air Force Technical Order System, using AFTO Form 22.*

13.3.5.1.10. Minor damage to a nuclear weapon or nuclear component resulting from errors committed during the assembly, testing, loading, or transporting of the nuclear weapon while in Air Force custody (includes electrical components, mechanically activated components, explosives, or radioactive materials). *NOTE: Materiel deficiencies/failures (e.g., dents, scratches, scuffs, chips, rips, tears, cuts, splits, etc.) which are not safety related will be reported as applicable with T.O.s 00-35D-54, USAF Materiel Deficiency Reporting and Investigating System, 36-1-42, Technical Manual - Policies Governing Warranty Procedures for Air Force Vehicles, or 11N-5-1, Unsatisfactory Reports.*

13.3.5.1.11. Problems involving individuals under the Personnel Reliability Program (PRP) will be reported as DULL SWORDS only when these individuals have been allowed access to a no-lone zone. Report all other instances involving PRP certified individuals in accordance with AFI 36-2104.

13.3.5.1.12. Abnormal status of any indicator on a nuclear weapon according to applicable technical publication guidance.

13.3.5.1.13. Loss, theft, seizure, or destruction of a training weapon. *NOTE: For defects or failures involving a training weapon (such as TYPE 3A/5A), request guidance from the item manager in a maintenance assistance request.*

13.3.5.1.14. Tamper control (Two-Person Concept) violations of a no-lone zone permitting the opportunity to tamper with, or damage a nuclear weapon, nuclear weapon system, or certified component.

13.3.5.1.15. Tampering (actual or suspected), break-in (actual or attempted), or any security system malfunction or failure occurring during air logistical movement operations or at a nuclear weapon operational, maintenance, or storage facility. *NOTE: Does not include false or nuisance alarms or security system failures which are properly reported and responded to.*

13.3.5.1.16. Tamper detection violations involving safety-wired and sealed switches, covers, handles, or levers and Tamper Detection Indicators (TDIs) allowing access (actual or suspected) to a certified component. *NOTE: Does not include instances where a known cause damaged a TDI, and Two-Person Concept control was maintained or at least one of two TDIs used in a single location to protect a certified component remained undamaged.*

13.3.5.1.17. Frequent occurrences of a deficiency normally not reportable but having the potential to cause a nuclear mishap or safety deficiency.

13.3.5.1.18. Any problem or situation involving a nuclear weapon or nuclear component which requires an emergency response to assess or enhance security/provide fire protection, or in the commander's judgment, affects nuclear surety.

13.3.5.1.19. Report the physical loss or damage of a code component for any National Security Agency (NSA) product listed in T.O. 00-110N-16, T.O. 21M-LGM30F-12-1, or T.O. 21-LG118A-12-1 to DIRNSA/V62, Ft George G. Meade MD 20755, according to AFI 33-212, *Reporting COMSEC Incidents.*

13.3.5.2. Ground-Launched Missile Systems:

13.3.5.2.1. Malfunction, failure, or anomaly involving certified equipment or software listed in T.O. 00-110N-16, T.O. 21M-LGM30F-12-1, or T.O. 21-LG118A-12-1 discovered during operations.

13.3.5.2.2. Loss or compromise (actual or suspected) of certified critical components listed in T.O. 21M-LGM30F-12-1, *Minuteman Nuclear Surety Procedures*, or T.O. 21-LG118A-12-1, *Peacekeeper Nuclear Surety Procedures*. The DULL SWORD should indicate whether loss or compromise has occurred and follow-on actions required to recertify compromised critical components or to conduct a code change for a compromised code. *NOTES: (1) Does not include momentary loss of Two-Person Concept control if the duration does not permit tampering with a certified critical component or removal of codes without detection. (2) HQ AFSC/SEW makes the final determination if appropriate action was taken, therefore if recertification procedures are not provided in appropriate technical orders, or doubt exists regarding what action to take, request guidance from HQ AFSC/SEW before submitting a DULL SWORD report.*

13.3.5.2.3. Applicable security or command and control problems involving the E-6B aircraft when configured to perform the Airborne Launch Control System mission (see paragraphs 13.3.4.2.1. and 13.3.4.2.2).

13.3.5.3. Aircraft and Air-Launched Missile Systems:

13.3.5.3.1. Damage, malfunction, failure, or anomalies involving a nuclear certified aircraft's weapon suspension, release, or critical function monitoring system.

13.3.5.3.2. Malfunction, failure, or anomaly involving software or hardware listed in T.O. 00-110N-16 discovered during operations or testing. This includes use of non-certified hardware or software with nuclear weapon systems.

13.3.5.3.3. Unplanned, unexpected, or inadvertent release, launch, or jettison of a training weapon or non-nuclear store from any nuclear-capable station of a nuclear certified aircraft.

13.3.5.3.4. Problems involving the positioning or securing of nuclear weapon loads on non-combat delivery vehicles (cargo aircraft) during air logistical operations. Specifically, consider unsafe conditions resulting from violations of, or inadequacies with, loading procedures, and defects or failures in the nuclear cargo restraint system.

13.3.5.3.5. Damage, malfunction, failure, or anomaly involving the missile's arming and control or propulsion system when mated with a nuclear warhead.

13.3.5.4. Nuclear Certified Support Equipment: Damage, malfunction, failure, or anomaly involving non-combat delivery vehicles or support equipment listed in T.O. 00-110N-16 discovered during operations or inspections. This includes the use of non-certified support equipment, which would normally require nuclear safety certification, with nuclear weapon systems. Specific areas of concern include:

13.3.5.4.1. Stability, steering or brake system problems that affect the safe steering, stopping, towing, or holding in park of a tow or transport vehicle (cargo, loading, or lifting). *NOTE: (1) Does not include minor problems such as dents, flat tires, corrosion, or electrical accessory malfunctions and failures resulting from fair wear and tear.*

13.3.5.4.2. Defects or failures in vehicle structural members (including the pintle hooks and mounting structure, fifth wheels) that support the load or transmit the towing or braking force.

13.3.5.4.3. Inadequate restraint of loads attributed to trailer tiedown points or tiedown patterns.

13.3.5.4.4. Unsafe condition or improper operation of the hydraulic, mechanical, and structural components of lift vehicles (e.g., forklifts and K-loaders) resulting in unresponsive operation, uncontrolled raising or lowering, or improper cargo restraint.

13.3.5.4.5. Unsafe condition or improper operation of installed equipment lifting devices (e.g., overhead hoists, cranes, monorail hoist systems, and storage vaults) resulting in situations such as limit switch failure, over-speed operation, or uncontrolled raising or lowering operations.

13.3.5.5. **Nuclear Certified Test Equipment:** Damage, malfunction, failure, or anomaly involving test equipment listed in T.O. 00-110N-16, discovered when verifying proper operation of critical function circuits, or when directly interfaced with nuclear or operationally certified critical components.

13.4. Preparing and Submitting Nuclear Weapon System Reports.

13.4.1. Addressees. The addressees for ALL nuclear weapon system reports are listed in **Table 13.1.**. MAJCOMs may supplement this list to include as addressees any internal organizations with a need-to-know and may use AIGs to add addressees within the command as recipients of selected safety message reports. Do not include addressees outside of MAJCOM AIG listings.

13.4.1.1. Send reports conveying significant safety information peculiar to the nuclear weapon system to other US Air Force MAJCOMs possessing like systems.

13.4.2. Reporting Schedules. Report a nuclear weapon system mishap according to **Table 13.2.** Report DULL SWORDS according to **Table 13.3.** *NOTE: DULL SWORDS that involve nuclear weapons in a non-operational status or require evaluation by the design agency must be submitted within 3 workdays (see note 3, **Table 13.3.**).*

13.4.2.1. All nuclear safety message reports are collectively licensed under RCS: HAF-SE(AR)9406. All nuclear safety mishap reports also require a formal AF Form 711-series report. These formal reports are licensed as "Safety Investigation Reports", RCS: HAF-SE(AR)9404. Both types must be filed during declared or war emergency conditions (emergency status code C-2).

13.4.2.2. During MINIMIZE, send only preliminary and supplemental reports on nuclear weapon system mishaps, and DULL SWORDS resulting in a significant degradation of nuclear surety, or having a serious operational impact (such as a possible code compromise), by electronic transmission.

13.4.2.3. Send all other reports by first-class mail within 7 working days until MINIMIZE is canceled. MAJCOMs may consolidate reports from their units and subsequently mail them to addressees outside their command within 15 working days.

13.4.3. Format. The format for nuclear weapon system mishap reports is shown in **Figure 13.1.** The format for DULL SWORDS is shown in **Figure 13.2.** Prepare formal reports for nuclear weapon system mishaps according to instructions in **Chapter 4** and **Chapter 5**, paragraph **13.4.3.10.**, and **Figure 13.3.**

13.4.3.1. Include items 1 through 4 in all nuclear weapon system mishap reports (**Figure 13.1.**) and items 1 through 2 (**Figure 13.2.**) in all DULL SWORD reports.

13.4.3.2. For supplemental and final reports, use the date of the preliminary report.

13.4.3.3. For supplemental reports, list other items as either "no change" or "not applicable" (as appropriate).

13.4.3.4. Number each supplemental report using the original report control number, and include report control numbers for all other related reports. The report control number is the single common identifier and consists of the reporting unit designation, flagword, two-digit calendar year of occurrence, and reporting unit's sequence number.

13.4.3.5. Flag changes when any information in a particular report is changed from the previous report. For example, change "the maintenance team" to "the (new) periodic (end) maintenance team" to indicate a word was added.

13.4.3.6. In the narrative add new information as subparagraphs to follow-on reports, rather than changing previous information.

13.4.3.7. Complete all items in the final report to make it a stand-alone document, repeating information included in earlier reports.

13.4.3.8. For the narrative, corrective action, status, and recommendation entries, provide enough information to show the rationale used to establish closing actions.

13.4.3.9. For nuclear weapon system mishaps or DULL SWORDS investigated by a SIB:

13.4.3.9.1. Include important findings of the investigation in the supplemental reports. Use the reports to keep addressees informed on the progress of the investigation and to advise them of unsafe conditions or materiel failures.

13.4.3.9.2. Send supplemental reports for nuclear weapon system mishaps or DULL SWORDS investigated by a SIB at least until on-site investigations are completed.

13.4.3.10. Special Markings for Formal Reports:

13.4.3.10.1. Mark each unclassified page in Part II with the following: *NOTE: Omit the "FOR OFFICIAL USE ONLY" marking on classified pages, but show the limited-use report markings and all markings prescribed by AFI 31-401.*

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FOR OFFICIAL USE ONLY.

THIS REPORT CONTAINS PRIVILEGED, LIMITED-USE SAFETY INFORMATION. UNAUTHORIZED USE OR DISCLOSURE CAN SUBJECT YOU TO CRIMINAL PROSECUTION, TERMINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS.

SEE AFI 91-204, **Chapter 2** FOR RESTRICTIONS.

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13.4.3.10.2. Display both the above statement and the following statement on the front cover of the formal report:

COPYING OR RELEASING ANY PORTION OF THIS REPORT IS PROHIBITED WITHOUT THE EXPRESS WRITTEN PERMISSION OF HQ USAF/SE.

13.4.4. Closing Out Nuclear Weapon System Reports:

13.4.4.1. NUCFLASH, BROKEN ARROW, EMPTY QUIVER, and BENT SPEAR reports are closed upon approval of the formal report. *NOTE: BENT SPEAR reports that do not require a formal report are closed in the same manner as DULL SWORD reports. Since DULL SWORDS do not require a formal report, document all information relating to the event in the DULL SWORD report.*

13.4.4.2. While one-time DULL SWORD reports are closed upon submission of the report, preliminary reports remain open until a final report is submitted. However, if relevant information becomes available after the report is closed, use the format in **Figure 13.2.** to provide this information in a supplemental report.

13.4.4.3. When other agencies provide corrective action for DULL SWORDS, the originating organization will submit the final report to formally close the preliminary report.

13.4.4.4. For open reports where positive corrective action has been taken or defined, the MAJCOM or unit (through the MAJCOM) can administratively close these reports using a single message that identifies the reports to close and the associated corrective actions.

13.5. Release of Information.

13.5.1. Nuclear safety investigation reports are limited-use reports, which contain both privileged and non-privileged safety information. Although the general rules for controlling and handling limited-use privileged safety report information apply, special rules exist for sharing nuclear safety reports with agencies outside the Air Force.

13.5.2. HQ USAF/SE may approve the release of extracts of nuclear safety reports to certain agencies subject to the rules of paragraph **2.3.** These US governmental agencies have statutory jurisdiction, such

as the Defense Threat Reduction Agency (DTRA), and operations offices or authorized contractors of the NNSA.

13.5.3. In the interest of mishap prevention, nuclear safety reports are provided to the Unified Commanders as deemed appropriate and necessary for the theater commanders to accomplish their roles in nuclear surety. The Unified Commanders will ensure the information is treated as privileged and not released or distributed outside their respective headquarters without first obtaining permission from HQ USAF/SE. The Air Force releases this information only to reach its nuclear surety goals.

13.5.4. A special case involves the Air Force's Airborne Launch Control System hosted on the Navy's E-6B aircraft. Nuclear safety reports involving the E-6B, configured to perform the ALCS or NC2 mission, will be provided to specific Navy organizations for the purpose of mishap prevention. These organizations will ensure the information is treated as privileged and not released outside the organizations without first obtaining permission from HQ USAF/SE.

13.6. Investigating Nuclear Weapon System Mishaps.

13.6.1. All nuclear weapon system mishaps will be investigated according to **Chapter 4.**

13.6.2. Investigating Officer Criteria: Select a maintenance officer, nuclear surety officer, or officer qualified in storage, maintenance, transportation, operating, or loading and mating of the nuclear weapon system involved.

13.6.3. Nuclear Weapon System Mishap SIB Primary Members:

13.6.3.1. SIB President.

13.6.3.2. Investigating Officer.

13.6.3.3. HQ AFSC Representative.

13.6.3.4. Officer qualified in the operation of the nuclear weapon carrier.

13.6.3.5. Aircraft or missile maintenance officer qualified in storage, maintenance, transportation, or loading and mating of the nuclear weapon system.

13.6.3.6. Nuclear Surety Officer.

13.6.4. Nuclear Weapon System Mishap SIB Additional Primary Members:

13.6.4.1. Department of Energy (DOE) Representative, if DOE-DoD agreements apply for the system involved.

13.6.4.2. Medical Officer for human factors and other medical aspects (if applicable).

13.6.4.3. Additional specialists, if required by the nature of the mishap.

13.6.5. Nuclear Weapon System Mishap SIB Non-Primary Members:

13.6.5.1. SIB Recorder. An officer or senior noncommissioned officer familiar with administrative procedures.

13.6.5.2. Representatives of the nuclear weapon system program management or item management organization, if these organizations participate.

13.6.5.3. Safety Advisor, if a trained safety officer is not already a member of the SIB.

13.6.5.4. Representatives from other federal agencies, as advisors or consultants, if appropriate.

Figure 13.1. Format for Nuclear Weapon System Mishap Reports.

From: Message originator.

To: List addressees from **Table 12.1.**

Security Classification. Use the proper security markings prescribed by AFI 31-401 for classified messages.

Subject and Control Number. Use the subject line to identify the report control number. The report control number is the single common identifier and consists of the reporting unit designation, mishap flagword, two-digit fiscal year of occurrence, and reporting unit's sequence number.

The reporting unit assigns sequence numbers consecutively from 1 October to 30 September of each fiscal year for each flagword category (such as 888WG BROKEN ARROW 93-1). If a mishap occurs on 30 September and the report is prepared in October of the following fiscal year, number it according to the fiscal year of occurrence. At the beginning of the report subject line, identify the report type (preliminary, supplemental, final, or one-time). Examples are PRELIMINARY 999WG BROKEN ARROW 90-1; SUPPLEMENTAL REPORT NO. 4, 999WG BENT SPEAR 92-2; or FINAL 999WG BENT SPEAR 91-3.

Special Markings. Insert the following statement:

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involved; the next major assembly to which each component is installed; and the nuclear weapon supported (e.g., CF1504 Cable Assembly, PN 123456-01, SN 1234, MC3681 Shape Component, B61).

Aircraft, Missiles, or Reentry Vehicles. Give the Mission-Design-Series (MDS) and serial number. For reentry vehicles, give the Mark (MK) number and the serial number. During aircraft or air vehicle flights give the mission identification number.

Ground Vehicles and Support Equipment (Including DOE-Provided Items), Test and Handling Equipment, and Other Nuclear Safety Certified Equipment Listed in TO 00-110N-16. Give the nomenclature, manufacturer, serial number, national stock number, part number, and TO page number (such as, 40-ton trailer; Ramrod Ironworks; SN 42-23245; NSN 7100-01-345-6789; PN 20-1234; TO 00-110N-16, 15 Feb 89, C4, IMC 16, page 1-103).

Nuclear Logistic Movements. Provide the mission identification number for missions involving security deficiencies or aircraft flight mishaps.

Critical Components. Use TO 21M-LGM30F-12-1 or TO 21-LG118A-12-1 to obtain the information contained in the COMPONENT and OTHER DESIGNATION columns on each critical component.

Item 4. MAJCOM/DRU/FOA, NAF, Center/Wing (Wing-equivalent Group), Group, Squadron, Unit, and Base Code. Identify the owning organization for the material listed in Item 3 at the time of the event or its discovery. If the reporting organization is not the owning organization, identify each organization (such as, ACC (Owning), 989EMS, 678WG Christy AFB MS; AMC (Reporting), 234WG/SE Wells AFB AL).

Item 5. Damage, Injury, and Cost Estimates. Describe all damage to US Air Force and non-US Air Force property and equipment, as well as any personnel injuries. Provide a detailed account and the best estimate available to allow a clear understanding of the extent of the mishap. Describe the disposition of items damaged, destroyed or malfunctioning, as applicable, for each report submitted. Summarize damage, injury, and cost in the final report. Paragraph **3.4.** covers determination of mishap costs.

Item 6. Narrative. Identify the problem and provide pertinent facts. Describe the operation being performed at the time of occurrence or discovery, or the circumstances leading to the mishap. Include enough information to provide a complete and clear understanding of the sequence of events and circumstances, degree of damage, etc. (See paragraph **5.9.**). If applicable, include information on personnel involved, equipment in use, weather conditions, type of activity the operation was supporting, and technical order references. Include ranks and AFSCs if required for clarity but do not identify personnel by name. State if the conclusions are probable or confirmed, and give enough information to form a clear picture of all probable or confirmed causes. Include in the supplemental and final reports any information not available when the preliminary report was prepared.

Item 7. Findings and Causes. Record the opinions of the SIB or investigating officer, but do not repeat the narrative. (Paragraphs **5.11.** and **5.12.** describe findings, cause determination, and cause methodology.)

Item 8. Actions Taken or Recommended. Describe any actions taken or recommended, and give the rationale for those actions. When appropriate, include corrective actions for personnel errors such as retraining or recertification. Do not include disciplinary actions.

Item 9. Other Reports or Notifications Submitted. Identify the type of report and the unit-assigned number of related reports submitted separately. List the date-time group of OPREP-3 messages. List any other message or written reports submitted on this event. If non-US Air Force agencies were notified,

briefly give the reason for notification, who was notified, how they were notified, and date and time of notification.

Provide details if a news release was or will be made on the event.

Item 10. Photographs. Provide a list of organizations receiving photographs. Advise if photographs of nuclear weapons or nuclear components were taken and when they will be available for mailing. Specific guidance and forwarding instructions are provided in TO 11N-5-1, *Unsatisfactory Reports*. Photographs required for evaluation of Air Force designed components will be requested by the evaluation agency on an as needed basis. Do not refer to the unit on the photographs.

Item 11. Additional Information. Include any additional information providing insight into the event not required by another item.

Item 12. Point of Contact. Give the name, grade, title or position, and telephone number of a knowledgeable point of contact. Ensure the individual, who may also be the report preparer, has immediate access to local records used in preparing the report.

Item 13. Report Preparer and Approver. Give the name, grade, title or position, and telephone number of the person submitting the report, and the person who approved it for release.

Figure 13.2. Format for Nuclear Weapon System Safety Deficiency Reports.

From: Message originator.

To: List addressees from **Table 12.1.**

Security Classification. Use the proper security markings prescribed by AFI 31-401 for classified messages.

SUBJECT: REPORT TYPE, REPORTING UNIT DESIGNATION, FLAGWORD, TWO-DIGIT CALENDAR YEAR OF OCCURRENCE, AND REPORTING UNIT'S SEQUENCE NUMBER.

NOTE: The reporting unit assigns sequence numbers consecutively from 1 October to 30 September of each year for each flagword category. If the deficiency occurs on 30 September and the report is prepared in October of the following year, number it according to the year of occurrence. Report all voided and unused DULL SWORD numbers to HQ AFSC/SEW as soon as possible.

Examples:

PRELIMINARY 509 BW DULL SWORD 96-001

SUPPLEMENTAL REPORT NO. 1, 5 BW DULL SWORD 96-008

FINAL 5 BW DULL SWORD 96-008

ONE-TIME 509 BW DULL SWORD 96-010

Special Markings. Insert the following statement:

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MINATION OF EMPLOYMENT, CIVIL LIABILITY, OR OTHER ADVERSE ACTIONS. SEE AFI 91-204, Chapter 2 FOR RESTRICTIONS.

DESTROY IN ACCORDANCE WITH AFMAN 37-139 WHEN NO LONGER NEEDED FOR MISHAP PREVENTION PURPOSES.

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of the item involved; the next major assembly to which the component is installed; and the nuclear weapon supported (such as, CF1504 Cable Assembly, PN 123456-01, SN 1234, MC3681 Shape Component, B61).

Item 1b. Training Items. Self-explanatory.

Item 1c. Support, Test, and Handling Equipment. For support, test, handling, and other nuclear safety certified equipment listed in TO 00-110N-16, give the national stock number, part number, serial number (if applicable), and manufacturer's name.

Item 1d. Carrier. For an aircraft or missile, give the MDS and serial number. During aircraft and missile flights, give the mission identification number; for ground vehicles, give the nomenclature and serial number; and for reentry vehicles, give the Mark (MK) number and serial number.

Item 2. Type of Operation. Check the box reflecting the operation in progress at the time of the mishap or its discovery. Provide a full description if "other" is checked.

Item 3. Damage. Describe the damage to the item and provide photographs, if possible.

Item 4. Nuclear Material Information:

Type and Extent of Contamination, Measured Intensities, Rate of Decay, and Decontamination Procedures Established. Separate this portion of the report into sections, and discuss each factor individually.

Disposition of Nuclear Material Involved. Indicate shipping destination or when it was disposed of (if unknown, so state), and give any other actions taken or planned.

Item 5. Aircraft, Missile, or System Information. Describe the aircraft, missile, or system (as appropriate) configuration at the time of the event or its discovery. For aircraft weapon systems, include the position of all weapon-related switches.

Item 6. Miscellaneous Information:

Provide details if a fire occurred.

Provide details if the nuclear weapon's high explosive detonated.

Include information on any component for which a materiel deficiency report was submitted according to

T.O. 00-35D-54 (include the report control number).

Give the technical order number, title, date, pages, and step numbers if technical order noncompliance occurred.

Item 7. Accident-Related Factors. Provide factors related to the accident, and include the findings and causes discussed in paragraphs 5.11 and 5.12.

Item 8. Comments. Use this paragraph for comments on the accident or incident, and ensure the comments are other than those included in Item 11 of the basic AF Form 711. Include immediate, intermediate, continuing, or long-range corrective actions and the "get well" date in Item 11 of the basic form. Give the status of individuals under the Personnel Reliability Program and the positions they occupy (critical or controlled).

Table 13.1. Addressees for Nuclear Weapon System Reports.

	A	B	C	D
	Organization	Office	Reports	Remarks
1	HQ USAF KIRTLAND AFB NM	SE SEW	NUCFLASH, BROKEN ARROW, EMPTY QUIVER, BENT SPEAR, and DULL SWORD	OPREP-3 addressee
2	HQ USAF WASHINGTON DC	SEI, ILMW XONO		
3	HQ AFMC WRIGHT-PATTERSON AFB OH	SEW DRRW		
4	NWPSC KIRTLAND AFB NM	WN/WNL/WNLT/WNE		
5	MAJCOM or command concerned	as required		
6	Numbered Air Force or intermediate command	as required		
7	USSTRATCOM OFFUTT AFB NE	J416		
8	AFSFC LACKLAND AFB TX	SFO		OPREP-3 addressee Security-related reports only
9	HQ AFMOA BOLLING AFB DC	SGO	NUCFLASH and BROKEN ARROW	OPREP 3 addressee
10	USSTRATCOM	J443	BENT SPEAR and DULL SWORD	

11	US NAVY CNO WASHINGTON DC CINCPACFLT PEARL HARBOR HI COMNAVAIRPAC SAN DIEGO CA COMPATWINGSPAC BARBERS POINT HI COMSTRATCOMM WING ONE TINKER AFB OK COMNAVSAFECEN NORFOLK VA NAVAIRWARCEN ACDIV PATUXENT RIVER MD NAVAIRWARCEN WPNDIV DET ALBUQUERQUE NM	(see note 2) I27102	BENT SPEAR and DULL SWORD	Security, command and control related reports involving the E-6B aircraft configured to perform the ALCS mission only
12	System Program Director Air Logistics/ Product Center ASC WRIGHT-PATTERSON AFB OH	as required (see note 3) YP/FBA/YC/YS		Materiel failure, malfunction, damage, and TO deficiency related reports only

13	Item Manager Air Logistics Center OC-ALC TINKER AFB OK OO-ALC HILL AFB UT WR-ALC ROBINS AFB GA	as required (see note 3) SEW/LARM/ LAMR/ LHRM/LALR SEW/LMES/LF-S SEW/SEM/ LEEV		Materiel failure malfunction damage and/ or T.O. deficiency related reports involving general-use support equipment (not FSG 11 or NOCM) only
14	OO-ALC HILL AFB UT	LMR/LMES/SEW		Ballistic missile component, system, reentry systems, reentry vehicles or booster related reports only
15	HQ AFIC KELLY AFB TX	SE	BENT SPEAR and DULL SWORD	COMSEC or crypto equipment related reports only
16	AFCSC KELLY AFB TX	MMIVC		
17	363 TRS SHEPPARD AFB TX	TTMTM-N		Materiel failure, malfunction, damage, and TO deficiency related reports only

18	344 TRS LACKLAND AFB TX	TTLS		Materiel failure, malfunction, damage, and TO deficiency related reports only
19	OO-ALC HEATH OH	LMG	DULL SWORD	Ballistic missile related reports involving guidance systems, computer faults, or chromate leaks only
20	AAC EGLIN AFB FL	WM		Materiel failure, malfunction, damage, or T.O. deficiency related reports involving munitions handling equipment or vehicles used to transport or lift nuclear weapons
21	896 MUNS NELLIS AFB NV	CC/LGWQ	DULL SWORD	Reports involving nuclear weapons or associated DOE test and handling equipment only

22	898 MUNS KIRTLAND AFB NM	CC/LGWQ		
23	DTRA KIRTLAND AFB NM	NSO		
24	HQ USAF WASHINGTON DC	SP		Security related reports involving air logistical movements only
25	MAJCOM owning security force	SP		
26	MAJCOM of host base	SP		
27	HQ AMC SCOTT AFB IL	SE/SP/XO TACC/DOO		
28	HQ AMC SCOTT AFB IL	SE/XO/LGA/LGT TACC/DOO		Materiel failure, malfunction, or damage involving aircraft and munitions handling equipment used in air logistical movements only
29	HQ AMC SCOTT AFB IL	DOA		Reports involving air logistical movements only

NOTES:

1. Air Force Directory (AFDIR) 33-131, *Message Address Directory* was rescinded. Reference: **http://www.nctc.navy.mil/dpvs/dpvs.html/dpvs.html** for current message addresses. See AFDIR 37-135 for mail addresses.

2. Use the following mailing addresses for US Navy reports:

Chief of Naval Operations 2000 Navy Pentagon Washington DC 20350-2000	Commander Strategic Communications Wing One 7641 Mercury Road Tinker AFB OK 73145-8701
Commander In Chief US Pacific Fleet 250 Makalapa Drive Pearl Harbor HI 96890-7000	Commander Naval Safety Center 375 A Street Norfolk VA 23511-4399
Commander Naval Air Force US Pacific Fleet NAS North Island PO Box 357051 San Diego CA 92135-7051	Commander Naval Air Warfare Center Aircraft Division MS 2/516 (3rd Floor) Patuxent River MD 20670-5304
Commander Patrol Wings US Pacific Fleet Naval Air Station Barbers Point HI 96862-4415	Officer In Charge NAVAIRWARCENWPNSDIV DET 2050 Second Street SE Kirtland AFB NM 87117-5000

3. Provide reports involving specific weapon systems or certified support equipment to the appropriate system program office or air logistics centers (e.g., for F-16 related reports, send to F-16 program office/ item manager).

Table 13.2. Reporting Schedule for Nuclear Weapon System Mishap Reports.

	A	B	C	D	E
	Report	submit	by	to	Remarks
1	OPREP-3 (use format in AFMAN 10-206)	As required by AFMAN 10-206	Appropriate precedence message	Addressees in **Table 12.1.** and as required by AFMAN 10-206	Do not include privileged safety information
2	Preliminary (use format in **Figure 12.1.**)	Within 8 hours	Appropriate precedence message	Addressees in **Table 12.1.**	Include the term "preliminary" in subject line

3	Supplemental (use format in **Figure 12.1.**)	Accident: daily or as directed by HQ AFSC/SEW Incident: every 10 days or when information changes significantly			Include the term "supplemental" in subject line
4	Final (use format in **Figure 12.1.**)	Within 30 calendar days			Include the term "final" in subject line; send requests for due date extension to investigating MAJCOM and info HQ AFSC/SEW
5	Formal	Within 30 calendar days	AF Form 711-series		Send requests for due date extension to investigating MAJCOM and info HQ AFSC/SEW

Table 13.3. Reporting Schedule for Nuclear Weapon System Safety Deficiency Reports.

	A	B	C	D	E
	Report	submit	by	to	Remarks
1	Preliminary or one-time (use format in **Figure 12.2.**)	Within 15 workdays (see notes 1 and 3)	Routine precedence message (notes 1 and 2)	Addressees in **Table 12.1.**	Include the term "preliminary" or "one-time" in subject line
2	Supplemental (use format in **Figure 12.2.**)	As required after preliminary report is submitted			Include the term "supplemental" in subject line

3	Final (use format in **Figure 12.2.**)	Within 90 calendar days if not submitted as a one-time report			Include the term "final" in subject line; send requests for due date extensions to using MAJCOM and info HQ AFSC/SEW

NOTES:

1. For a possible code compromise, send a preliminary message within 24 hours with an IMMEDIATE priority precedence.

2. See paragraph **12.7.1.** for MINIMIZE instructions. A DULL SWORD event may sometimes warrant a higher priority, but do not use priorities solely to meet time suspenses.

3. Submit DULL SWORD reports that involve weapons in non-operational status or require evaluation by the design agency within 3 workdays.

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

Terms

BENT SPEAR - A reporting flagword identifying a nuclear weapon system incident. This includes mishaps not in the accident category but meeting any of the criteria in paragraph **13.3.4.**

BROKEN ARROW - A reporting flagword identifying a nuclear weapon system accident which could not create the risk of war. This includes accidental, unauthorized, or unexplained events. See paragraph **13.3.2.**

DULL SWORD - A reporting flagword identifying a nuclear weapon safety deficiency. This includes mishaps not falling into the accident or incident categories, but meeting any of the criteria in paragraph **13.3.5.**

MISSILE SUPPORT EQUIPMENT (MSE) - (Not applicable to air-launched missiles). Any component of ground launched missile systems used to handle or transport missiles or missile components. MSE also includes all equipment below grade in the launcher. MSE includes, but is not limited to, system unique vehicles such as reentry vehicle or guidance and control vans, payload transporters, transporter-erectors, support trucks, emplacers, equipment racks, motor generators, etc.

NUCLEAR COMPONENTS - Weapon components composed of fissionable or fusionable materials that contribute substantially to nuclear energy release during detonation. Nuclear components include radioactive boosting materials.

Attachment 10

IC 2001-1 TO AFI 91-204, SAFETY INVESTIGATIONS AND REPORTS

11 DECEMBER 2001

SUMMARY OF REVISIONS

This revision incorporates IC 02-01 and includes numerous changes. It updates the table of contents for **Chapter 3** and changes the way cost figures are computed in mishaps (paragraphs **3.4.**, **3.6.** and **3.7.**) to reflect guidance in DODI 6055.7. A "|" indicates revised material since the last edition.

3.4. Mishap Costs.

3.4.1. General Guidelines. It is DoD policy to determine accurate mishap costs in order to "provide a factual basis for the allocation of resources in support of DoD accident prevention programs." The use of "standard repair costs" not based upon actual mishap damage or use of artificial labor rates for repair can cause erroneous funding decisions, and must be avoided.

3.4.1.1. Using Costs To Classify a Mishap. Estimate the mishap dollar cost and classify the mishap using the best information available. Calculate the direct cost (per paragraph **3.4.3.1.**) of a mishap by adding all costs of damaged or destroyed assets. Do not classify mishaps based on injury and/or occupational illness costs. (Severity of resulting injury and/or occupational illness, not cost, is used to classify mishaps). If the initial mishap cost estimate is within 10 percent of the next classification threshold cost, the Convening Authority should consider using the higher mishap class until estimates are firm.

3.4.1.2. Updating cost estimates. When improved cost estimates result in an increased mishap classification, issue a status message within one day. When improved cost estimates result in a decreased mishap classification, validate the estimates and issue a status message within ten days. Use the best available estimate for the final report. Investigators must notify the Convening Authority if estimates may be subject to significant change after the final report. If costs are not firm, the Convening Authority must continue to track costs and update the estimate by message to the final message address list if costs change significantly. A significant change is any change that results in a different mishap classification or if final costs differ by more than 25 percent from the cost estimate in the final report. When items sent for depot repair are later determined to be non-repairable, revise costs to use acquisition cost or replacement cost methods.

3.4.1.3. Joint Service Accidents. For Joint Service Accidents, classify the mishap according to severity of all injuries or all combined damage costs (excluding injury costs). Determine costs, losses and injuries for each involved service according to asset ownership and personnel assignment, and provide a breakout report showing the losses attributable to each service, as well as non-service losses and total losses.

3.4.2. Determining Costs. Identify all reportable damage, injury, and illness resulting from a mishap. Determine whether damage is reportable per paragraph **3.4.3.** and verify that all Direct Costs per paragraph **3.4.3.1.** are included. Calculate damage costs for DoD property per paragraph **3.5.** and for non-DoD property per paragraph **3.6.** Calculate Standard Injury, Illness and Fatality Costs for DoD personnel per paragraph **3.7.**, but do not add these to damage costs. Multiple resources in different locations may be damaged or destroyed in a single mishap.

3.4.2.1. (Deleted)

3.4.2.2. (Deleted)

3.4.3. (Added) Reportable mishap damage costs.

3.4.3.1. (Added) Direct costs. Only direct damage costs are used to determine mishap classification levels. Direct costs include any reportable damage as a direct result of the mishap, to include actual costs of all destroyed or damaged property. Injury costs are not direct costs and are reported separately from damage costs. The direct cost of damage to property shall be computed using the actual costs of repair or replacement, including work hours to repair, or the best official estimates. Report costs even though the US Government is wholly or partially reimbursed or repairs are accomplished under warranty. The following are included as direct costs:

3.4.3.1.1. (Added) Any damage resulting from the mishap event prior to completion of fire fighting and rescue operations, to include additional damage caused by fire fighting and rescue operations.

3.4.3.1.2. (Added) Costs for environmental decontamination, property clean up and restoration. This applies to private property and government property.

3.4.3.1.3. (Added) Cost for transportation of damaged property to a repair facility (other than the home station for the mishap property). For aircraft ferry flights, use the flying hour costs in AFI 65-503, Table A2-1.

3.4.3.1.4. (Added) The cost of damage caused by jettisoned items (such as fuel or stores), but not the value of any intentionally jettisoned items listed in paragraph **3.4.3.2.**

3.4.3.1.5. (Added) For mishaps involving ground launched missiles, direct costs include the total man-hours missile maintenance personnel spend repairing the damage.

3.4.3.2. (Added) Non-reportable damage costs. Certain damage costs are excluded from DoD reporting requirements.

3.4.3.2.1. (Added) The cost of intentionally jettisoned items in the following list shall not be included in the cost of the mishap per DoD rules. If costs for these items can be determined, list the cost in the report for information, but do not include it in the total damage cost. The cost of any consequential damage to any property (including damage to aircraft or environmental cleanup costs) is included as a reportable direct cost, however. The list of non-reportable intentionally jettisoned items is limited to canopies, cargo, doors, drag chutes, hatches, life rafts, auxiliary fuel tanks, missiles, drones, rockets, non-nuclear munitions, and externally carried equipment not essential to flight. This exclusion does not apply to missiles, drones, rockets, or non-nuclear munitions when their malfunction was the reason for jettison.

3.4.3.2.2. (Added) When damage occurs to Air Force property as a result of non-government activities, such as a civilian operated private motor vehicle (PMV) crashing into Air Force property, report only Air Force property damage. Do not report any damage to the civilian PMV or injury to the occupants unless otherwise reportable according to this instruction.

3.4.3.2.3. (Added) Do not include additional damage occurring during recovery operations; such damage is a separate mishap. For example, if a crane drops a mishap aircraft while moving it onto a trailer, it is a ground mishap in addition to the initial flight mishap.

3.4.3.3. (Added) Indirect costs. Indirect costs include those costs resulting after a mishap, but which are not required to correct damage incurred during the mishap event. Indirect costs are not damage costs and are not used in determining mishap classification levels. If indirect costs are significant and known they should be reported in the damage costs section of the mishap report. Examples of indirect costs include:

3.4.3.3.1. (Added) Investigation costs such as TDY funding, per diem, and transportation costs for SIB members, investigators and related support personnel.

3.4.3.3.2. (Added) Costs for recovery of mishap aircraft, vehicles or components and transportation to a site where the mishap investigation is conducted.

3.4.3.3.3. (Added) Costs for ISB members and mishap site support personnel, such as those needed to secure the site and render it safe.

3.4.3.3.4. (Added) Costs for time spent inspecting, troubleshooting and setting up maintenance stands or equipment for the purpose of damage assessment. (When such costs are incurred for the purpose of planning or performing repairs, they are direct costs.)

3.4.3.3.5. (Added) Costs associated with preparing a damage cost estimate.

3.4.3.3.6. (Added) Costs for loss of use of equipment, or for substitute equipment when equipment related to the mishap is impounded or otherwise unavailable.

3.5. Damage To DoD Property.

3.5.1. General Guidelines. Damage cost estimates are intended to quantify the loss of taxpayer assets in a mishap. Determine the costs of reportable damage to all property, including equipment, facilities, and materiel resulting from Air Force mishaps. Each damaged item must be evaluated separately using the proper cost method, and the total damage costs are then added for all items to determine mishap cost. The flowchart at **Figure 3.1.** may be used to determine the appropriate cost method for damaged items.

3.5.1.1. Repairs not accomplished. Costs must be developed to remedy all mishap damage regardless of whether repairs are actually accomplished. An exception is purely cosmetic damage that will not be repaired. Mishap costs are prepared without regard to disposition of the damaged property. For example, if it would cost $20,000 to repair damage to a $2 million aircraft, but a decision is made to retire the aircraft, mishap cost is the cost to repair the mishap damage, not the cost of the aircraft.

3.5.1.2. Repairs or replacement reimbursed or under warranty. Costs to repair damage must normally be reported even if the Air Force is reimbursed or if the repair is accomplished under warranty. In such cases, determine the damage costs as if no warranty or reimbursement existed. These costs are needed to determine appropriate investment in mishap avoidance programs, and to determine whether future warranties should be purchased, etc. An exception is for warranty work performed on Commercial Off-the-Shelf components when an identical warranty for repairs is integral to the purchase price and provided to all customers for those components.

3.5.1.3. (Deleted)

3.5.2. Cost Methods.

There are three methods to determine the mishap cost: Use Acquisition Costs when property is damaged and will not be repaired or replaced. Use Replacement Costs when property is damaged and will be replaced with similar property. Use Repair Costs when property will be repaired by applying labor to cor-

rect the damage or to remove and replace damaged components. If an item is sent for repair and determined to be not repairable or beyond economical repair, use acquisition or replacement cost.

3.5.2.1. Acquisition Costs. When property is damaged and will not be replaced or repaired, calculate damage as the acquisition cost plus the cost of all modifications in then-year dollars.

3.5.2.1.1. (Added) For stock-listed equipment, use the Unit Price for the damaged item in the Air Force Master Item Identification Database (D043A) unless actual acquisition cost can be documented. Obtain the National Stock Number(s) of the specific items through the unit maintenance or job control office. For Contractor Logistic Support (CLS) maintained items, use the contractor stock number instead of a NSN. Provide the contractor stock number or NSN to the Base Supply Representative for retrieval of the unit price from D043A. If D043A does not contain unit pricing data on the item, contact the Single Manager for the system.

3.5.2.1.2. (Added) For destroyed aircraft, see AFI 65-503, *US Air Force Cost and Planning Factors,* Table A10-1 for acquisition (fly-a-way) costs for entire aircraft. This information can be retrieved from the SAF/FMC web site (**http://www.saffm.hq.af.mil** FMC Tab, Cost Factors button) or can be obtained from the Air Force Cost Analysis Agency, DSN 664-0453 or commercial (703) 604-0453. Contact the AFMC Single Manager for the damaged system for modification costs.

3.5.2.2. Replacement Costs. When property is damaged and will be replaced, figure damage as the Unit Price of the replacement property as listed in the Air Force Master Item Identification Database (D043A). Obtain the National Stock Number(s) of the specific items through the unit maintenance or job control office. For Contractor Logistic Support (CLS) maintained items, use the contractor stock number instead of a NSN. Provide the contractor stock number or NSN to the Base Supply Representative for retrieval of the unit price from D043A. If D043A does not contain unit pricing data on the item, contact the Single Manager for the system. Do not include the surcharge as supplied from supply channels in figuring mishap costs.

3.5.2.3. Repair Costs. When property is damaged and will be repaired, include the cost of materials and replacement parts plus the actual cost of the direct shop-hours spent by all individuals removing, repairing and installing equipment, components and parts, as required to complete repairs. Also include time spent removing and replacing undamaged panels, components, or units to gain access to damaged items, and the cost for testing or evaluation to determine serviceability of involved components. Do not include the cost of "on opportunity" upgrades or outstanding tech order compliance items performed in conjunction with the repairs. The operational commander will decide how or where to repair hardware. If an item is sent for repair and determined to be not repairable or beyond economical repair, use acquisition or replacement cost. Calculate repair costs as follows:

3.5.2.3.1. (Added) Labor costs. To determine labor costs, multiply direct shop-hours by the actual "shop rate" (also called Source of Repair Sales Rate or Induction Rate per Standard Hour) for the facility where

the hours are expended. If work is performed at multiple facilities, use the direct shop-hours and shop rate for each facility. “Shop rates” typically include net labor rates plus facility overhead. Net labor rates include direct labor (mechanics performing work), production overhead (planners, schedulers, parts handlers), general & administrative labor (budget analysts, data systems, facility management), and indirect labor (vacation, sick leave, training, clean-up). Facility overhead includes indirect (consumable) materials, utilities, depreciation and other miscellaneous expenses. (Note: For mishaps occurring prior to 01 October 2001, an artificial figure of $16 per hour was used for all labor rates. After that date, DoD requires the use of actual labor costs.)

3.5.2.3.2. (Added) DoD Depot-Level Repairs. For depot repair work, if all work is accomplished in a single Resource Cost Center (RCC), use that RCC shop rate for the direct shop-hours of labor. If work is performed in more than one RCC, either calculate using appropriate hours and rates for each RCC; or add all hours together and use the shop rate for an organizational level encompassing all involved RCC or for the entire depot. Contact the Single Manager for the damaged system or the Financial Management office for the depot to obtain rates.

3.5.2.3.3. (Added) Base-Level Repairs. For mishap damage repair accomplished at base level, use the shop rate for the Resource Cost Center (RCC) accomplishing the repair work. Rate Tables are maintained by the Financial management office for the base. Include materials and replacement parts costs.

3.5.2.3.4. (Added) Contractor Repairs. Use the actual cost charged to the government for repairs performed by contractors. Contractor repair estimates must include costs to repair the specific mishap damage, but are not required to disclose labor hours or shop rates if such information is competition sensitive. For items repaired by a contractor under warranty, obtain and use the cost of repair as if the item was not under warranty. (See paragraph **3.5.1.2.**) When a contractor repair facility uses established standard repair costs for repairing items and the facility does not have the capability to determine actual repair costs, use the established figures. For example, if a facility charges a set fee to repair an actuator regardless of the extent of damage, and cannot determine an actual repair cost for a mishap actuator, use that set fee. Include a detailed explanation from the repair facility for how the established figures are derived and why it is not possible to estimate actual costs.

3.5.2.4. (Deleted)

3.5.2.4.1. (Deleted)

3.5.2.4.2. (Deleted)

3.5.2.4.3. (Deleted)

3.5.2.4.4. (Deleted)

3.5.2.4.5. (Deleted)

3.5.3. Munitions Drop Criteria.

When munitions or all-up-round components are dropped a distance greater than the technical order limit, the depot may have to do serviceability tests. Estimate the cost at 15 percent of the replacement cost in the current stock catalog. If the item fails the serviceability test, correct the dollar cost to full value in a subsequent status report. If the item passes the serviceability test, do not change the report.

3.6. Non-DoD Property Damage or Injury.

3.6.1. When Air Force operations result in damage to non-DoD property, include those damage costs with DoD property damage costs to determine mishap classification.

3.6.1.1. (Deleted)

3.6.2. When Air Force operations result in injury to non-DoD personnel; use severity of injury to determine the mishap classification and reportability (fatal, permanent partial, etc.). **Note:** Do not include injury costs for non-DoD personnel in the mishap report.

3.6.2.1. (Deleted)

3.6.2.2. (Deleted)

3.6.2.3. (Deleted)

3.6.2.4. (Deleted)

3.6.3. (Added) Determine these costs using the following priority:

3.6.3.1. (Added) Claims officer's damage statement.

3.6.3.2. (Added) Official estimates, such as security police reports, civil police reports, and transportation estimates.

3.6.3.3. (Added) Safety investigator's estimate.

3.7. Standard Injury, Illness, and Fatality Costs.

The DoD standardized cost data in **Table 3.1.** will be used to compute the cost of injuries and occupational illness of DoD personnel (civilian and military) involved in a mishap. Do not use this Table for non-DoD personnel. Amounts depicted are required for DoD reporting purposes and seldom have any relationship to actual costs in a specific case. In those cases when the actual lost time is not known at the time a report is submitted, the best official estimate of lost time made by a competent medical authority will be used. Report the extent of injuries, amount of lost time or days hospitalized, and/or fatality or degree of disability for each individual involved in the mishap, and calculate the Standard Injury Costs for the mishap. Report Standard Injury Cost separately from damage costs.

3.7.1. (Deleted)

3.7.1.1. (Deleted)
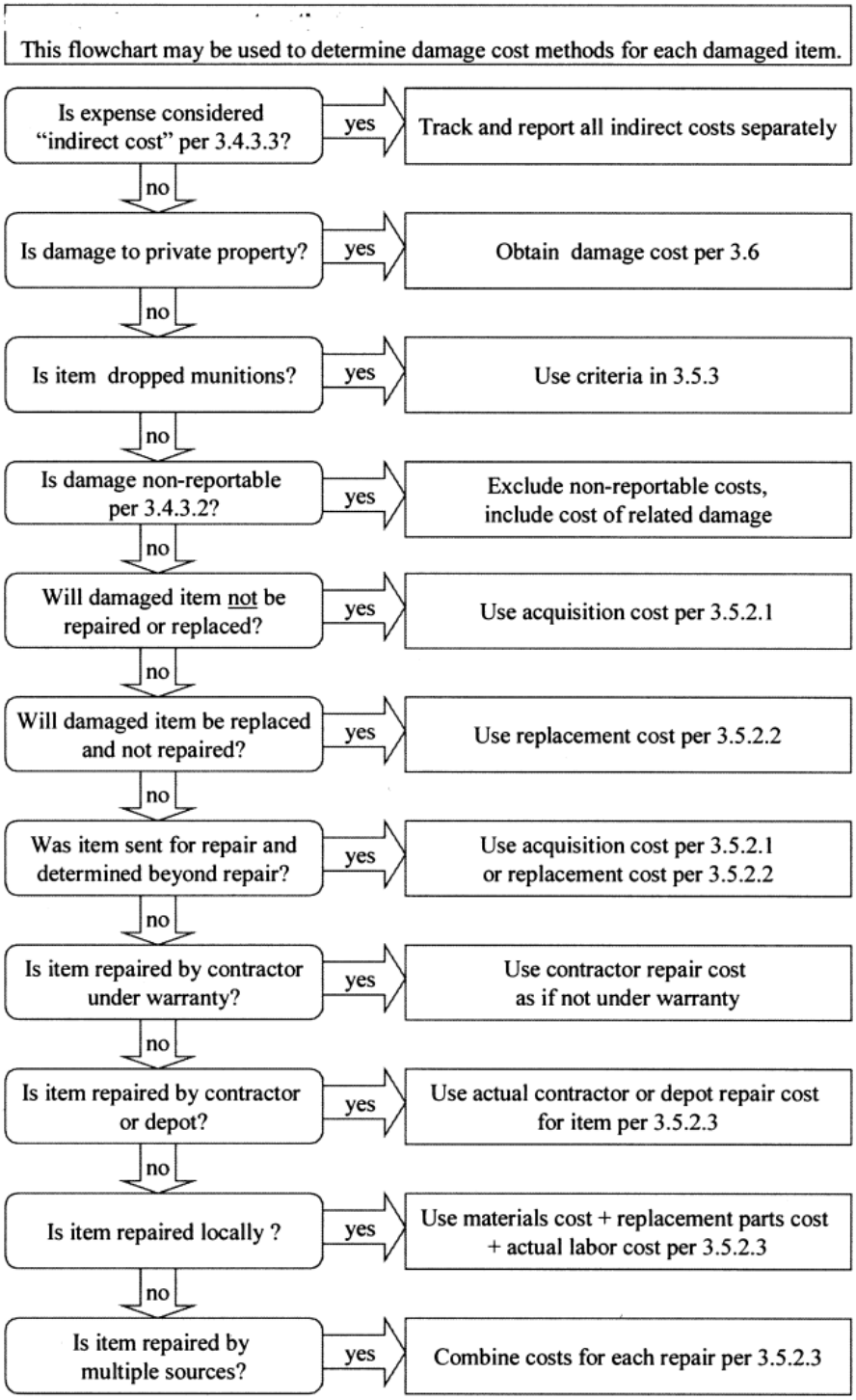
Figure 3.1. Damage Cost Methods.