

## CHAPTER 2. AVIATION SAFETY PROGRAM

- A. Policy. The Coast Guard's overall safety policies, principles, goals, authorities, responsibilities and organization are defined in Chapter 1.
- B. Goal. The goal of the Aviation Safety Program is to improve and support the operational readiness of aviation units by conserving human resources, equipment and other resources through a reduction in aviation mishaps. To accomplish this objective, this chapter sets forth the organization, responsibilities, requirements and procedures for promoting Coast Guard aviation safety.
- C. Scope.
1. This chapter covers the basic tenants and philosophies of aviation safety along with the organization and responsibilities of the Aviation Safety Program.
  2. To aid the Flight Safety Officers (FSO) in completing their duties, certain topics have been placed in separate chapters and enclosures. Chapter 3 provides guidance on mishap response, investigating and reporting. Enclosure (2) provides guidance on the Mishap Analysis Report (MAR) format and review process. The Medical Officer's Duties are covered in enclosure (3). Enclosure (4) outlines the procedures governing the Mishap Analysis Board (MAB). Enclosure (5) contains the Aviation Message Format used for reporting Class C, D and E mishaps. Enclosure (10) discusses the concept of safety privilege and confidentiality. Enclosure (13) covers how to determine the cost of mishap damage.
  3. The Aviation Safety Program is responsive to all aspects of Coast Guard aviation operations, including the Air Auxiliary Safety Program. The program provides for specific responsibilities, program organization and management, as well as procedures for reporting, investigating and reviewing aviation mishaps. This Chapter is a working reference for aviation commands and only aviation safety is discussed.
- D. Commitment to Safety. Safety must be an integral part of all Coast Guard aviation activities. Each individual connected with aviation operations, whether in an operational or supporting role (e.g., aircrew, scheduling, maintenance), contributes directly to the effectiveness of the aviation safety program. All members must commit to a personal responsibility of safeguarding themselves; their fellow crewmembers and the property entrusted to their care. For aviation safety to be truly effective, safety must be a pervasive notion supported by leadership throughout Coast Guard aviation. The leadership and responsibility for the safety program must originate from top level managers at headquarters and follow the chain-of-command down to each individual in the field. Each level of command shall amplify the message of safety and enforce the rules and standards.
- E. Risk Management. Operational Commanders, Commanding Officers of air stations and cutters with embarked aircraft, and aircraft commanders are continuously making operational mission decisions. As a mission progresses, each individual must

continually reassess the mission's urgency and benefits so as to balance the risks involved. The safety of the aircrew and aircraft must always be one of the primary considerations integrated into the fabric of aviation mission planning and execution. Operational Risk Management, COMDTINST 3500.3 (series) and Chapter 1 of this manual cover Risk Management.

F. Organization and Responsibilities. The Aviation Safety Program is organized to function through the chain-of-command. The Commandant promulgates policy and sets program requirements. Units implement the program at the operating level, supplementing policy and guidance with unit plans, instructions and supervision. The following safety staffs are established to oversee and support the administration of the program.

1. Headquarters.

- a. The functions of Commandant (G-WK) and (G-WKS) are described in Chapter 1 of this Manual.
- b. Commandant (G-WKS-1), the Aviation Safety Division, operates under the cognizance of Commandant (G-WKS).
  - (1) (G-WKS-1) is responsible for developing, coordinating, reviewing and implementing the policies, procedures and standards for the Aviation Safety Program. The Division shall also monitor and evaluate unit program implementation.
  - (2) Specific duties of Commandant (G-WKS-1) in managing the Coast Guard-wide Aviation Safety Program include:
    - (a) Develop, recommend and monitor safety program policies and procedures for implementation by Aviation Platform and System Managers, Facility Managers and Operational Commanders (Area, District and unit commanding officers).
    - (b) Ensure Directorate Chiefs, Program Managers and Operational Commanders (Area, District and unit commanding officers) are kept fully informed of aviation safety policies and programs.
    - (c) Review standards and guidelines of federal, state and civil aviation organizations relating to aviation safety. Evaluate the applicability, suitability and feasibility of Coast Guard adoption, including the related impact on field units.
    - (d) Interface with other program managers to ensure aviation safety is given primary consideration in all aviation decision making processes. Ensure that system safety, risk assessment and risk management are incorporated as an integral part of decision making

processes.

- (e) Serve as Program Manager for Crew Resource Management (CRM) and Maintenance Resource Management (MRM). Regularly review and analyze aviation risks for policy adjustments to facilitate risk management and loss control. Develop and promote integration of risk management and loss control information into operational safety programs such as CRM, Operational Risk Management (ORM) and MRM.
- (f) As force manager for Flight Safety Officers (FSO) billets. Oversee and coordinate selection, assignment and training of FSO's in coordination with the Aviation Assignment Officers (CGPC-opm) and the units. Mentor FSO's throughout all career stages.
- (g) Oversee, coordinate and track safety training for commanding officers, FSO's and other aviation personnel. Develop safety courses as required. Track FSO and Accident Investigation Specialist (AIS) course completions and Mishap Analysis Boards (MAB) assignments.
- (h) Maintain liaison with other military safety centers and civilian aviation safety organizations. Authorize dissemination of Coast Guard mishap information to other services (U. S. and Foreign) to enhance mishap prevention efforts. Exchange mishap information with other agencies and organizations having similar aircraft, equipment and missions to share information and research new avenues of risk management and loss control.
- (i) Conduct unit recurring Aviation Safety Standardization visits of air stations to garner and share best practices, evaluate unit safety posture and gain feedback on Commandant (G-WKS-1) performance.
- (j) Advise and assist responsible program managers to correct deficiencies.
- (k) Develop, direct and implement special emphasis programs to address specific problem or issues to reduce mishaps and enhance loss control efforts.
- (l) Participate as a member of the Aircraft Configuration Control Board (ACCB).

- (m) Recommend policies and procedures to protect the public from possible hazards of Coast Guard aviation activities.
- (n) Ensure all mishaps are investigated to determine the causes and corrective actions needed to correct hazards and prevent future mishaps. Convene and appoint Commandant MAB investigations of major aviation mishaps and other incidents as deemed necessary.
- (o) Provide a WKS-1 Advisor for on-site guidance and support during the initial setting up of the mishap investigation.
- (p) Support and monitor MAB activities until the final report, causes and recommendations are complete.
- (q) Monitor and assist the chain of command in the Mishap Analysis Report (MAR) review and endorsement process.
- (r) Coordinate the activities of the Commandant's Aviation Safety Board (CASB). Review MAB reports and coordinate CASB review. Prepare and submit CASB findings and recommended final action for aviation mishaps to the Chief of Staff for approval. Prepare approved G-CCS final action findings for dissemination.
- (s) Maintain the Aviation Incident and Accident Tracking System (AVIATRS) and the Recommended Action Tracking System (RATS) databases. AVIATRS is a master file of Coast Guard aviation mishap reports. RATS tracks all aviation-safety related recommendations and corrective actions.
- (t) Produce and publish the annual aviation safety report and other mishap statistical presentations. Provide mishap statistics to support unit aviation safety programs.
- (u) Maintain the master files of all Coast Guard aviation MAR's.
- (v) Review and process all Freedom of Information Act (FOIA) requests for Coast Guard aviation mishap information.
- (w) Analyze aviation mishap data to determine aviation mishap patterns, and trends. Recommend changes to policies, practices, training, procedures or equipment

based on results. Widely disseminate aviation safety mishap data, information and other safety information to improve operational performance and promote loss control.

- (x) Monitor all mishap recommendations and corrective action until completed. Advise and assist responsible organizations or offices to correct actual or potential conditions that could adversely affect aviation safety.
- (y) Initiate and sponsor research and development projects, acquisition of equipment and enhancements to training and procedures that promote loss control and improve operational safety in the future. Review and coordinate initiatives of other agencies for use by the Coast Guard.
- (z) Provide advice and technical assistance to the Auxiliary National Safety Director and District Auxiliary Aviation Safety Officers as needed on Coast Guard specific safety and aviation issue.
- (aa) Coordinate with Coast Guard Auxiliary staff and appropriate Program Managers to assist with the management of the Auxiliary Aviation Safety Program. Maintain Auxiliary aviation mishap statistics. Participate in the review and recommendation process regarding changes to the program.

2. The Commandant's Aviation Safety Board (CASB) is composed of officers on the Commandant's staff having special knowledge of aviation operations, aeromedicine, engineering and safety. Commandant (G-WKS-1) is responsible for convening Mishap Analysis Boards (MAB) for investigating mishaps. Commandant (G-WKS-1) and the CASB (the offices of Commandant (G-OCA), (G-SEA) and (G-WKH) will determine if an MAB should be appointed and the composition of the MAB. The CASB is responsible for the review of all significant (generally Class A and B) aircraft mishaps, as well as selected aviation mishaps and other aviation safety issues. The CASB is charged with the following duties:

- a. Convening mishap investigations and analysis of other incidents when appropriate. These may be Class C, D or E mishaps or other situations deserving further evaluation to prevent future mishaps. The CASB will determine the review and endorsement process for these investigations.
- b. Reviewing all aviation significant Mishap Analysis Reports of formally convened MAB's and forwarding recommended final actions to the Chief of Staff.
- c. Submitting recommendations for Commandant action on safety,

operational and engineering policies, procedures and materiel to enhance loss control and prevent recurrence of mishaps. The CASB shall also make specific recommendations for additional local action when recommended action appears inadequate.

- d. Act as an advisory board on matters pertaining to flight safety and other issues at the request of any CASB member.
  - e. Monitoring Coast Guard aviation operations and support functions to ensure effective risk management and safety policies are incorporated and integrated as essential components of successful mission accomplishment.
3. Area and District Commanders. Area and district commanders shall ensure that the provisions of this program are implemented. These commands shall also review and endorse aviation mishaps investigations of their subordinate commands as directed by Commandant.
4. Aviation Units and Afloat Commands with Aviation Resources.
- a. The Commanding Officer (CO) of aviation units and afloat commands with aviation resources embarked are responsible for establishing and implementing a vigorous Aviation Safety Program. The effectiveness of the program is determined largely by the CO's interest and efforts. Effective aviation safety requires continuous command emphasis and leadership example. Experience has shown that a strong command mishap prevention policy will reduce aircraft mishap potential and thereby enhance overall mission effectiveness. Each aviation unit should have a Flight Safety Officer and when possible a Flight Surgeon to assist the commanding officer in implementing the Aviation Safety Program.
  - b. The Executive Officer (XO) organizationally is the unit's most senior safety representative. The XO shall act as the chair of the unit Health and Safety Board and supervisor of the Safety Department Head.
  - c. Each aviation command shall have an assigned Flight Safety Officer to advise and assist the commanding officer in planning, implementing and coordinating the unit's Aviation Safety Program. The Flight Safety Officer's unique position in relation to the unit commanding officer must not preclude close liaison with other officers, especially with the executive officer. At units with 20 or more pilots assigned, an Aviation Safety Department shall be established and the Department Head shall not be assigned other major collateral duties. Units with less than 20 pilots are encouraged to establish an Aviation Safety Department and may assign the Department Head other collateral duties. Other collateral duties shall be kept to a minimum and should avoid any possible conflicts of interest, such as operational scheduling or maintenance release authority of aviation resources. Duties of the

Flight Safety Officer include:

- (1) Act as the CO's representative and advisor on all aviation safety matters.
- (2) Report to the CO at least monthly regarding the unit's safety posture.
- (3) Act as a member of the unit's safety and health committee. If applicable, represent unit at host facility safety and health committee.
- (4) Liaison with support facility (e.g., other agency host facility) on aviation safety matters and to consolidate mishap prevention programs.
- (5) Distribute aviation safety literature to ensure it receives widest readership possible and that all hands have access to it. Consideration should be given to publishing a unit newsletter.
- (6) Manage a unit safety incentive/suggestion program stressing individual achievement.
- (7) Coordinate and present aviation safety training.
  - a. Periodic aviation equipment/clothing inspections.
  - b. Survival training for unit personnel.
  - c. Egress training.
  - d. Safety training for line personnel.
  - e. Physiological training.
  - f. Operational Hazard Training. (See section H.4)
- (8) Submit to the command, at least annually, a written Unit Aviation Safety Survey covering all phases of the unit's aviation operations. (See paragraph G.3 for survey details).
- (9) Ensure completion of aviation mishap reports according to Enclosure (5). Monitor and report to the CO, progress of corrective actions.
- (10) Maintain files of unit and other mishap reports. It is recommended that an aviation safety trend analysis be conducted, and presented to the commanding officer on a regular basis. An annual compilation and review of mishaps and trends can be included in the aviation safety survey. (Contact Commandant (G-WKS-1) for mishap statistics and other data from AVIATRS.)
- (11) Update and **annually exercise** the unit's Pre-Mishap Plan. Consider conducting alternating tabletop and field exercises of

pre-mishap plan.

- (12) Maintain and periodically inventory the unit aircraft crash investigation kit.
- (13) Recommend the composition of the unit Permanent Aviation Mishap Analysis Board to the command.
- (14) Maintain an aircraft mishap analysis study kit for members of the Unit Permanent Mishap Analysis Board.
- (15) Conduct annual training for the Unit Permanent Mishap Analysis Board members. Placing particular emphasis on protection of the crash site and wreckage, photographic documentation crash site hazards and collection of all pertinent logs and records.
- (16) Administer a unit-level anonymous reporting program for identifying unsafe conditions.
- (17) Act as a member of the unit's Flight Standards Board at the discretion of the command.
- (18) Review, distribute and publicize appropriate and timely information contained in safety supplements to aviation manuals.
- (19) Perform other functions, as the situation and environment demand to further the aviation safety program at the unit level.

d. A Unit Permanent Mishap Board shall be assigned at each air station. Members of the board, as appointed in the unit pre-mishap plan, must be thoroughly familiar with procedures and requirements before a mishap occurs. Each member should have a working knowledge of the Safety and Environmental Health Manual, COMDTINST M5100.47 (series), relevant directives and aircraft mishap analysis procedures. Investigative action by the unit permanent mishap board should be limited to securing and protecting the mishap site and gathering records and files.

- (1) The unit's Pre-Mishap Plan shall provide guidance to ensure the effective completion of the numerous time-critical tasks required as a result of a major mishap. Permanent Mishap Board members and their alternates must be clearly identified in the Pre-Mishap Plan. Their respective duties must be delineated **prior** to the mishap.
- (2) If the CASB delegates a significant mishap investigation to the unit, employment of the Unit Permanent Mishap Board should be considered. Commandant (G-WKS-1) can arrange for supplemental members (i.e. Standardization Team member, Flight Surgeon, etc.) and technical assistance, if requested.

- e. The Deployed Flight Safety Officer (DFS0) shall be an aviation officer designated by the parent command and assigned to the deployment. Designation should be based upon professionalism, judgment and maturity. If more than two pilots are deployed together, the senior aviator shall not normally be assigned as the DFS0. If the DFS0 is not a formally designated Flight Safety Officer, the unit FSO shall train the DFS0 to effectively handle routine safety matters. The DFS0 duties shall include the following:
- (1) Advise the deployment senior aviator, and as appropriate, vessel commanding officer or the operational commander on all matters concerning aviation safety.
  - (2) Prepare aviation mishap reports for review by the senior aviator. The vessel commanding officer or the operational commander may release reports.
  - (3) Ensure the deployed unit has adequate Pre-Mishap and Salvage Plans.
  - (4) Conduct aviation related safety training for the deployed unit's personnel with emphasis on shipboard or deployed unit emergency procedures.
- f. The Flight Surgeon shall assist the command in aeromedical aspects of aviation safety. When a flight surgeon is not assigned, the unit commanding officer shall arrange to procure locally the services of such personnel. Specific training requirements for the Flight Surgeon are covered in the Coast Guard Air Operations Manual, COMDTINST M3710.1 (series). All Flight Surgeons, should:
- (1) Be thoroughly trained in human factors evaluation, medical pre-mishap planning, medical investigation of aviation mishaps, and their role as a member of the Unit Permanent Mishap Board and an MAB.
  - (2) Be appointed in writing as a member of the Unit Permanent Mishap Board.
  - (3) Participate in unit pre-mishap planning.
  - (4) Participate fully in the investigation and reporting of physiologic hazards, human factor hazards or any other hazard with aeromedical implications.
  - (5) When requested, immediately perform physical examinations and laboratory studies on individuals involved in an aviation mishap from any military service.
  - (6) Participate in all salvage efforts whenever recovery may include human remains.

- (7) Participate fully in assigned mishap investigations and all deliberations of the MAB.
- g. The Senior Aviator (Deployed) shall advise the commanding officer of the host vessel or the operational commander of the deployment, on matters concerning aviation safety. This is in addition to the responsibilities defined in the Shipboard-Helicopter Operational Procedures Manual, COMDTINST M3710.2 (series).
- h. The Ground Safety Officer (GSO) shall be the command's advisor and representative on all OSHA and ground safety matters. The GSO shall complete the Unit Safety Coordinator Course (G-KSE-060). The Ground Safety Officer role can provide grooming towards progression to the unit FSO. While not under the purview of the Aviation Safety Program or this Chapter, duties of the GSO include:
- (1) Liaison with District, MLC and Commandant (G-WKS-2) for guidance in administering and managing the ground safety program.
  - (2) Developing a written unit safety program which paralleling the MLC Shore Safety Program.
  - (3) Administering the safe driver and traffic safety programs.
  - (4) Administering office, home off-duty and recreational safety programs.
  - (5) Administering and managing the hazardous materials program (if not assigned to another collateral duty officer).
  - (6) Investigating, reporting and tracking non-aviation mishap reports and submitting the required Mishap Reports (MISREPs).
  - (7) Administering and managing programs to implement OSHA and Commandant regulations and directives related to safety and environmental health.
  - (8) Coordinating with the FSO on the areas where flight and ground safety overlap.
  - (9) Coordinating and providing unit safety and occupational health training and awareness.
  - (10) Conducting annual unit safety inspections as described in Chapter 1 of this Manual.
  - (11) Identifying reporting and correcting unsafe and unhealthy work practices and conditions.
  - (12) Coordinating the Occupational Medical Surveillance and Evaluation Program with the MLC.

- (13) Reviewing and assisting in the development of emergency plans and procedures.
  - (14) Coordinating with the host command on ground safety issues where appropriate.
  - (15) Other areas (where applicable) that the GSO should have cognizance and oversight are
    - (a) Ground support equipment.
    - (b) Maintenance and repair shop activities.
    - (c) Fire suppression and protection.
    - (d) Hazardous condition identification and reporting.
    - (e) Explosive proof equipment and facility wiring.
    - (f) Respiratory protection program.
    - (g) Confined space testing program.
    - (h) Hearing and sight conservation program.
- i. The Salvage Officer, normally assigned from the Aviation Engineering Department, shall maintain the unit Salvage Plan and regularly inspect the salvage gear.
- (1) The Salvage Officer should work closely with the Mishap Investigation Board to document damages that may occur during salvage. The recovery and salvage of a mishap aircraft are the responsibility of the reporting custodian (normally the Commanding Officer of a Coast Guard aviation unit or Coast Guard cutter with a deployed helicopter).
  - (2) The Aeronautical Engineering Maintenance Management Manual, COMDTINST M13020.1 (series) further defines specific command, district, area and headquarters responsibilities for the various elements of the salvage/recovery effort. It also contains a list of reference material pertaining to helicopter salvage and recovery.
  - (3) Headquarters support is available for coordinating assistance from other services or agencies, technical information, exceptional funding requirements, etc., which are beyond the capability of the individual unit or district.
- j. Safety Petty Officers (SPO). Commands are encouraged to assign appropriate Petty Officers as SPOs for individual shop spaces. SPOs will provide safety leadership and monitor safety practices among all levels of maintenance and non aviation activities. SPOs should present a sound safety role model and does not necessarily have to be the senior shop petty officer. Selection of the proper individuals for safety

positions is critical to the success of the Aviation Safety Program. Individuals must be open to new ideas and easily approachable by both junior and senior personnel. Additional safety training courses for SPOs is highly recommended and can be coordinated through the MLC's.

G. Audits and Inspections.

1. Commandant (G-WKS-1) Unit Recurring Aviation Safety Standardization Visits. A member of the Aviation Safety Division staff will visit each aviation unit every three years to examine the Aviation Safety program at the operating level. At units where the CO is on a two-year assignment cycle, the visits should be biennial. Larger units or special situations may dictate more frequent visits. Assistance will be provided to the unit FSO in developing and/or maintaining the unit's Aviation Safety Program.
  - a. These visits provide the units with direct feedback on the relative health of the unit's safety program, serve as a forum to garner and share best aviation safety practices and indicate the effectiveness of the support and guidance of Commandant (G-WKS-1).
  - b. The Aviation Safety Division representative shall out brief the unit CO and provide safety training if coordinated in advance.
  - c. To facilitate frank discussion of the unit safety posture, a written report of the visit results shall be returned directly to the unit.
2. MLC Inspections. MLC personnel shall make periodic unit inspections. These inspections will concentrate on environmental, occupational safety and health, facility safety and in general, ground safety concerns. The Program Manger for shore safety and environmental Health is Commandant (G-WKS-2).
3. Unit Aviation Safety Surveys. A detailed Unit Aviation Safety Survey shall be conducted whenever the commanding officer directs and at least annually. This all-encompassing report from the FSO to the CO should act as a "State of the Unit Safety" report. This survey is an in-depth audit of all phases of the unit's operations involving aviation safety. The survey should include; areas of mishap and hazard potential; causes and corrective actions relating to recent mishaps; operational hazards; status of training, proficiency and standardization; effectiveness of quality control; adequacy of supervision, personnel, safety equipment or ground facilities; dissemination of safety literature; physiological and psychological aspects pertaining to aviation safety. It should also include a unit personnel opinion poll of the unit's safety posture and a comparison to prior years. Instances of noncompliance, intentional or not, with prescribed practices or instructions should be included. The results of the survey shall be recorded and submitted to the Commanding Officer, who shall prescribe required corrective action. The FSO shall monitor corrective action and report uncorrected items in subsequent surveys.

## H. Unit Training.

1. Pre-Mishap Training. The unit's Pre-Mishap Plan shall provide guidance ensuring effective completion of the numerous time-critical tasks resulting from a major mishap. Permanent Mishap Board members and their alternates must be clearly identified in the Pre-Mishap Plan. Their respective duties must be delineated **prior** to the mishap. The following training should be accomplished **annually**:
  - a. Permanent Mishap Board members and their alternates should receive annual training on their responsibilities after a mishap. The training should emphasize preservation of evidence, proper mishap documentation, mishap site hazards, post mishap responsibilities/duties and notification priorities. Unit-level Mishap Board member duties should not normally involve extensive mishap investigation.
  - b. The Pre-Mishap Plan should be exercised or practiced annually by simulating a mishap and then accomplishing all the resulting required actions. It is recommended the unit alternate between tabletop and field drills to exercise the plan. Unit response and the Plan's effectiveness should be evaluated. Units are encouraged to periodically activate the pre-mishap plan to investigate Class C, D and E mishaps as a means of accomplishing annual training.
2. Safety Stand Down. At least annually, each aviation unit should discontinue their regular work routine for at least one workday to focus on safety procedures and concerns. This training should include topics applicable to all hands as well as specialized training for specific groups. Using speakers from outside the command will increase the effectiveness of the training. The stand down may coincide with normal post holiday or end of summer; "back-in-the-saddle" safety programs are scheduled as desired by the command. This venue may be appropriate for garnering input and/or reporting on the unit's Aviation Safety Survey.
3. Aircrew Flight Training. Realistic training within the bounds of safety is essential to the successful completion of aviation missions. Coast Guard pilots and aircrew must maintain sound knowledge of operational hazards, emergency procedures and aircraft systems, along with a high level of psychomotor skills to operate complex platforms safely and successfully. Effective and focused use should be made of precious training time (both in the air and in the simulator) to maximize the benefit to both individual and crew performance.
4. Operational Hazard Awareness Training. An operational hazard is any condition that affects or may affect the safety of Coast Guard aircraft, personnel or equipment. Commanding officers shall ensure that local operational hazard awareness training is incorporated into the unit training program to instill personal awareness and reduce mishap potential. This

training shall be provided to all pilots and aircrew members on initial assignment to the unit and annually thereafter, per the Coast Guard Air Operations Manual, COMDTINST 3710.1 (series). Emphasis shall be given to operationally or geographically unique hazards. Operational hazard awareness training should include, but is not limited to the following:

- a. Weather services and facilities.
  - b. Aircraft maintenance or inspection.
  - c. Aircraft ground support services.
  - d. Operation and maintenance of airfield, cutter facilities and services.
  - e. Navigation aids (en route and approach facilities).
  - f. Procedures, techniques and instructions in management of air traffic.
  - g. Regulations, procedures or policies published by FAA, ICAO, DOD and the Coast Guard.
  - h. Aviation publications and/or procedures (including aircraft flight and maintenance manuals).
  - i. Aviation operations areas (e.g., low level wires, remote landing sites, high density traffic areas, etc.) within the local flying and deployed locations.
  - j. Aircraft and aircrew survival equipment for local operating areas and deployed locations.
  - k. Other applicable areas (e.g., risk management, mission tasking and mission planning).
5. Cockpit Resource Management (CRM) Training. Human error mishaps account for approximately 80% of aviation mishap losses in the Coast Guard. CRM training is a valuable tool aimed at reducing human error mishaps by improving individual and crew performance.
- a. CRM training courses concentrate on improving individual performance and teamwork (crew) skills by emphasizing the following objectives:
    - (1) Determining and analyzing ones own personality traits as they relate to aircrew interaction and problem solving.
    - (2) Improving personal and crew communication skills.
    - (3) Developing and improving participation as an individual and crewmember in a positive and assertive manner.
    - (4) Developing and enhancing individual and crew situational awareness skills.
    - (5) Identifying hazardous trends and attitudes through analysis of past human error mishaps.

- (6) Presenting a risk management methodology that can help individuals and crews identify and prevent or mitigate hazardous situations.
- b. CRM Training Schedule.
  - (1) Initial Coast Guard CRM training (two-day course) will be completed within three years of assignment to pilot or aircrew status and recorded in the aircrew member's training record and the AMMIS database. Initial training may be completed by ATC Mobile, the "A" school in ATTC Elizabeth City, North Carolina or at the C-130 Transition Course. The three-year initial training window allows unit flexibility and new aircrew members an opportunity to obtain actual operational experience prior to CRM initial training.
  - (2) Refresher CRM training is required biennially. Refresher training is now part of the annual pilot proficiency course curriculum at ATC Mobile. C-130 pilots (and some aircrew) receive their refresher training in conjunction with their annual proficiency course. Most enlisted aircrew attend CRM refresher training during the unit's ATC Mobile Standardization Visit. Unit FSO's receive re-certification training to teach the CRM Refresher Course.
  - (3) Aviation personnel failing to complete the CRM Initial Course or CRM Refresher Course on schedule shall request a waiver in writing from Commandant (G-OCA) prior to continuing operational flying. Upon Commandant (G-OCA) approval, the individual may continue to fly subject to the conditions of the waiver.
6. Maintenance Resource Management (MRM) Training. Maintenance errors contribute to approximately 20% of DOD and commercial aviation mishaps. The Coast Guard's aviation maintenance error rate is equivalent 20-22%, with associated mishap cost total over \$850,000 annually. Many factors such as decreased experience levels, operational tempo, and cannibalization may impact mishap rates. The losses are unacceptable and place our crews at risk. MRM has proven highly effective in the private sector and applies contemporary human factors knowledge to the aviation maintenance arena. Commercially provided MRM training and a CG MRM test program at several CG air stations yielded positive feedback.
  - a. A Coast Guard tailored MRM program, developed from commercial and DOD material, is being implemented Coast Guard-wide. The goal is to implement this program at all air stations by the end of March 2002.

- b. Consistent with unit feedback, it will be taught by “the Coast Guard's own” petty officers/CPO’s and use real Coast Guard mishap case studies.
  - c. The nature of course material delivery (i.e., MRM principles covered each month or in its entirety during a one day stand down) is at the discretion of the Unit.
- I. Flight Safety Officer (FSO) Selection/Assignment. Commandant (G-WKS-1) will select prospective FSO’s and/or trainees based on the recommendation of the unit commanding officer and needs of the service. Normally, a prospective FSO will not be trained until designated as an Aircraft Commander and selected for an FSO position. An aviator with a flight safety designation from another service may apply for designation once qualified as a Coast Guard Aircraft Commander. Multiple tour FSO’s can expect additional specialized training for refresher and/or continuing education purposes.
- 1. Application Procedures. Commandant (G-WKS-1) will screen FSO applicants. Applications should be made early (preferably the fall prior to desired FSO assignment), as there can be a considerable delay for FSO school openings. Application letters should be submitted to Commandant (G-WKS-1) via the CO. Include the following information:
    - a. Present pilot designation, aircraft type. If not yet an Aircraft Commander (AC), expected AC syllabus completion date.
    - b. Year of Commission and source.
    - c. Previous education and degree(s) held.
    - d. Safety background, experience or training. (If assigned as GSO, duties completed and accomplished should be noted.)
    - e. Expected rotation date from unit.
    - f. Aviation experience, flight hours in type.
    - g. Prior service aviation qualifications.
    - h. Personal reasons for requesting a safety career. Take some time composing this section; it serves as a main discriminator between applicants.
  - 2. Commanding Officers Endorsement. Each application for FSO must be endorsed by the applicant’s command. The strength of the command endorsement is often the final determining factor for FSO selection. Commanding Officers endorsements shall be based on:
    - a. Judgment. Superior judgment is more critical than superior aviation skills.
    - b. Proficiency and Experience. The applicant’s experience and ability as an aviator should be sufficient to establish and maintain credibility as a

safety role model to aircrew and pilots.

- c. Interpersonal Skills. Applicant should have good rapport with fellow officers and enlisted personnel. The Officer should be patient, tactful and possess outstanding personal communication skills.
  - d. Remaining Tour Length. In most circumstances, applicants will be expected to act as the unit FSO for a minimum of two years following designation.
3. Assignment Officer Interaction. FSO applicants should note “FSO application” in their E-resume and include rank order of desired FSO billets from the shopping list.
- J. Accident Investigation Specialist (AIS). Fully qualified FSO’s, with at least two years as a unit FSO, are eligible for the AIS designation following completion of additional mishap investigation courses. AIS minimum requirements include Commandant (G-WKS-1) approved courses in the following areas:
1. Human Factors.
  2. One of the following investigative courses:
    - a. Aircraft or Helicopter Accident Investigation or Aircraft Crash Survival (Basic)
    - b. Aircraft Engine Accident Investigation or Aircraft Crash Survival (Advanced)
  3. Aircraft Accident Photography is recommended.
- K. Mishap Cockpit Voice and Data Recorders. The majority of Coast Guard aircraft have mishap recorders. Due to the nature of the data that is captured, aviation engineering has requested that these devices be used, under certain circumstances, to assist in maintenance troubleshooting activities. When a non-Class A or B mishap occurs, where maintenance related data captured on the recorders could be of value, the following procedures shall be followed to ensure the process and system are safeguarded:
1. Contact Commandant (G-WKS-1) and (G-SEA) for authorization to remove the unit from the aircraft. Commandant (G-WKS-1) and (G-SEA) will consult with AR&SC to determine the need to remove the recorder. Figure 2-1 should be used for requesting download of recorders.
  2. Only the CO can authorize aircraft flight without a mishap recorder.
  3. AR&SC will download the data portion only from the recorder to conduct the necessary analysis. If audio downloading is required to check for ambient noises or to conduct frequency analysis, permission must be received from Commandant (G-WKS-1).

**NOTE:** Raw flight data and animations made solely from flight recorder data are not exempt from public release, provided they do not contain privileged safety information (e.g., MAB

opinions, speculation or conclusions). While transcripts of the relevant portions of the cockpit voice recorders are not exempt from public release, the actual cockpit voice recordings and the names of the individuals whose voices are captured may be safeguarded due to privacy concerns and thus not disclosed.

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**Figure 2-1**  
**VOICE AND/OR FLIGHT DATA RECORDER DOWNLOAD**  
**REQUEST MESSAGE**

P #####Z MON 01  
FM COGARD AIRSTA SAMPLE  
TO: COMDT COGARD WASHINGTON DC//G-WKS/G-OCA/G-SEA//  
INFO: COGARD AR SC ELIZABETH CITY NC//APPROPRIATE ACFT PLM/EISD//  
BT  
UNCLAS FOUO //N03750//  
SUBJ: VOICE AND/OR FLIGHT DATA RECORDER DOWNLOAD REQUEST  
1. AIR STATION: \_\_\_\_\_  
2. AIRCRAFT TYPE: \_\_\_\_\_; CGNR \_\_\_\_\_  
3. BRIEF EVENT DESCRIPTION (DO NOT INCLUDE PRIVILEGED INFORMATION):  
\_\_\_\_\_  
4. REASON FOR DOWNLOAD REQUEST: (MISHAP INVESTIGATION;  
MAINTENANCE TROUBLESHOOTING; TRAINING) \_\_\_\_\_  
5. REQUESTED PARAMETERS:  
A. \_\_\_\_\_  
B. \_\_\_\_\_  
C. \_\_\_\_\_  
D. \_\_\_\_\_ (EXPAND AS NEEDED)  
6. COCKPIT VOICE RECORDING IS/IS NOT BEING REQUESTED.  
7. CURRENT LOCATION OF RECORDER: \_\_\_\_\_  
8. AIRSTA REQUESTOR:  
A. RANK/NAME:  
B. TELEPHONE NUMBER:  
C. MAIL ADDRESS:  
BT  
NNNN

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L. Near Midair Collisions and Midair Collisions. Near midair and midair collisions are extremely hazardous situations requiring special reporting procedures. The Coast Guard Air Operations Manual, COMDTINST M3710.1 (series) provides supplemental information to the reporting requirements listed below:

1. A near midair collision is an incident where the possibility of collision occurs when an aircraft passes within 500 feet proximity of another aircraft

(excluding normal formation or air intercept flights). Near midair incidents should be treated and reported as Flight-Related Class D mishaps.

2. A serious near midair collision (as defined in the Coast Guard Air Operations Manual, COMDTINST M3710.1 (series) is an incident where the possibility of collision occurred (aircraft pass within 500 feet proximity) and:
    - a. Either aircraft took violent evasive measures.
    - b. Known or suspected injury, however slight, occurs to occupants of either aircraft.
    - c. Significant attention is expected from the press.
    - d. Pilot or crewmember of either aircraft felt there was a possible collision hazard between two or more aircraft.
    - e. Another organization may take administrative action.
  3. Serious near midair incidents shall be reported as soon as practical to Commandant (G-OCA) or Coast Guard Headquarters Command Center (G-OPF) by telephone. A Class D Flight-Related mishap message shall be sent within 72 hours.
  4. Midair collisions, regardless of the amount of injury or damage, shall be reported immediately to Commandant (G-WKS-1) and (G-OCA) or Coast Guard Headquarters Command Center (G-OPF) via telephone. An aviation mishap message shall be submitted within 12 hours of the incident. Commandant (G-WKS-1) and the CASB will determine if a Mishap Analysis Board is to be convened.
  5. Treat significant incidents involving TCAS (Traffic Collision Avoidance System) as Flight-Related Class D mishaps.
  6. The pilot shall make an immediate voice report to the nearest FAA communication facility of any near midair or midair collision as defined by the Airman's Information Manual. See the Coast Guard Air Operations Manual, COMDTINST M3710.1 (series) for reporting requirements.
- M. Aviation Mishap Class C, D and E Investigation and Reporting. Guidelines and procedures for major (Class A and B) mishap response, investigation and reporting are covered in Chapter 3 and Enclosures (2), (4), (5) and (13). The following is specific guidance on investigating and reporting Aviation mishap Class C, D and E and other unit conducted mishap investigations. When any mishap occurs, it is necessary to investigate and analyze the mishap thoroughly. In this way, all mishap cause factors can be identified and full use made of lessons learned from the event. It cannot be over-emphasized that safety review and communication of mishap events (or potential events) is focused solely upon improving procedures and/or equipment and preventing future mishaps. Such review is not meant to punish, criticize or embarrass the personnel involved. Full, uninhibited exchange of information and communication of safety information is essential if safety efforts are to effectively evolve and proactively meet changing operation needs.

1. Reporting Class C, D and E Aviation Mishaps. Mishap messages are one of the most important avenues available to spread the word and keep safety awareness alive. The aviation mishap message is more than just a means of reporting an event for entry into the AVIATRS database. Each message helps raise service-wide safety awareness and increases mishap prevention.
  - a. Aviation Class C, D and E mishaps are reported using the aviation mishap format in Enclosure (5). Enclosure (5) contains a line-by-line explanation of the message format and the list of choices used in the message format. Aviation mishap messages are maintained in the **AViation Incident and Accident TRacking System (AVIATRS)**.
  - b. The Aviation Class D mishaps can be used to report hazards. Hazards vary according to the severity of damage and/or injury they are **expected** to cause and the **probability** of that severity occurring. Hazard reports often have no or little property damage associated with them. Hazard reports are intended to eliminate hazards and have three purposes:
    - (1) To report a hazard and the remedial action taken or recommended, so others may take similar action.
    - (2) To report a hazard so another organization may determine appropriate corrective action.
    - (3) To document a reoccurring hazard.
  - c. The reporting custodian shall normally be the appointing and convening authority for Class C, D and E mishaps. A written convening order is not required. Verbal instructions to conduct an analysis followed by submission of the required mishap report are satisfactory.
    - (1) Depending on the circumstances, unit mishap boards usually consist of one to three unit personnel. Member(s) need not be senior to the individuals involved. A Flight Surgeon or Medical Officer should be assigned to mishap investigations for incidents involving personnel injuries or human factor events.
    - (2) Units are encouraged to periodically activate the Unit Pre-mishap plan and have the Unit Permanent Mishap Board investigate Class C, D and E mishaps as a training exercise.
  - d. Commanding Officer's Endorsement/Comments. The CO shall review the mishap message to evaluate the circumstances surrounding the mishap and indicate recommends or corrective actions needed to correct the deficiencies and prevent similar mishaps. The CO should comment on cause factors and other aspects of the mishap. Comments should address human factor issues involved in the mishap.

- e. Supplemental mishap messages for Class C, D and E mishaps are always acceptable. Supplemental messages should be sent when not all the required information is available at the time of initial reporting. This is strongly encouraged in those cases where the Aviation Safety Program is better served by getting the initial word out to the field in a timely manner. A supplemental message can be sent when the rest of the information is available. The overriding concern is to alert the field of a possible hazard in a timely manner (use Enclosure (5)).

**NOTE:** Do not list names or social security numbers of personnel involved in the mishap in any aviation mishap message.

- 2. Mishap Response and Reporting Deadlines. Timely mishap reporting is important so operational commanders, program managers and support managers can effectively investigate and analyze causal factors and take corrective action to prevent further mishaps.
  - a. Class C aviation mishaps shall be reported by mishap message to Commandant (G-WKS-1) within 14 working days of the mishap (information to AIG 8907).
  - b. Class D and Class E aviation mishaps shall be reported by mishap message to Commandant (G-WKS-1) within 21 working days of the mishap (information to AIG 8907).
  - c. Meeting the above deadlines ensures that mishap prevention information reaches the field in a timely manner. Careful thought should be given when requesting a delay beyond the above deadlines. Supplemental messages are preferred, rather than **delaying the message until all information is available.**
  - d. If deadlines cannot be met. The unit should request an extension from Commandant (G-WKS-1) either by telephone or email.
- 3. Delays. Do not delay reporting a mishap or sending a preliminary message for lack of information. If complete information is not available provide as much information as possible and send a progress/supplemental message when the other data becomes available.

**NOTE:** Delaying a Class C, D or E mishap message for cost data is not desired. This defeats the purpose of the aviation mishap message reporting system. A good approximation of cost is usually sufficient with a follow-up telephone call to Commandant (G-WKS-1).

- 4. Authorized AIG. AIG 8907 is the authorized AIG for safety of flight and aviation mishap messages. Commanding Officers of operational units should readdress relevant mishap messages to deployed crews. Include follow-on endorsements from the parent command, as appropriate.
- 5. Class C, D and E Formal Mishap Analysis Boards. If deemed appropriate, Commandant (G-WKS-1) or the CASB will be the appointing authority and will determine the MAB's composition and endorsement chain. These boards

may vary in composition according to the seriousness and complexity of the mishap. Such an analysis may be conducted in lieu of, or in addition to, the regular mishap analysis.

**NOTE:** The CASB may or may not appoint a MAB to investigate any incident regardless of the Class or amount of damage.

6. Extent of Investigation Efforts. The extent of investigation efforts should be tailored to the complexity and severity of each mishap. Factors influencing the scope of an investigation include severity of injury, extent of the property loss, probability of adverse public reaction, and future mishap potential. The convening authority determines the depth of investigative effort required for each mishap and the type and the composition of the Mishap Analyses Board to be assigned.
- N. Hosting the MAB and Mishap Site Safeguarding. The Mishap Unit or unit nearest the mishap, if other than the mishap unit, will be designated as the host for the MAB. The unit will provide support, including; emergency medical care, clerical and other personnel as required; office space with secure storage capability; communications; transportation; specialized clothing; and other action necessary to minimize injury and damage, including:
1. Firefighting, rescue, medical support, other disaster control activities including limiting the exposures to hazardous materials.
  2. Assisting rescue activities and investigators from other governmental agencies working on the scene.
  3. Activating the unit permanent mishap board to protect and preserve vital evidence pending the arrival of the Commandant MAB. (See paragraph F.4.d for unit permanent mishap board responsibilities.)
  4. Protecting the wreckage site until the arrival of the Commandant's MAB.
  5. If wreckage falls into populated areas, determination will be made whether prompt removal is the best course of action. In questionable cases, consult with Commandant (G-WKS-1).
  6. Providing a flight surgeon or medical officer to assist in the rescue of survivors and the recovery of human remains.
- O. Other Reports and Requirements Associated with Mishaps. Often, when a mishap occurs, other Coast Guard directives also require reports. This duplicate reporting requirement arises because the results of the mishap analysis and the content of the mishap report may not be used as the basis of adverse personnel action against individuals. This paragraph points out other topics or requirements that are frequently addressed after a mishap occurs. Interested parties should refer to the current edition of Directives, Publications and Reports Index, COMDTNOTE 5600 (series) and current editions of specific directives to ensure that they are meeting all requirements. The Coast Guard Administrative Investigations Manual, COMDTINST M5830.1 (series) contains a comprehensive summary of these investigations and reports.

**NOTE:** In the case of casualty reports and NOK notification, 24-hour time limits are usual. These reports are NOT the responsibility of the President. Knowledge of their existence is helpful but MAB members need not get involved in the preparation of any report other than the Mishap Analysis Report.

1. Legal Investigations. Instructions, requirements, and procedures for legal investigations are contained in the Coast Guard Administrative Investigations Manual, COMDTINST M5830.1 (series) and the Claims and Litigation's Manual, COMDTINST M5890.9 (series).
  2. Procedures for claims against the Government are contained in Claims and Litigation's Manual, COMDTINST M5890.9 (series).
  3. Procedures for claims in favor of the Government are contained in Claims and Litigation's Manual, COMDTINST M5890.9 (series).
  4. Procedures for property loss claims by Coast Guard personnel are contained in Claims and Litigation's Manual, COMDTINST M5890.9 (series). Also, see the Property Management Manual, COMDTINST M4500.5 (series) for loss of government property.
  5. Investigations involving the National Transportation Safety Board and/or Federal Aviation Administration shall be conducted by mutual agreement between the various agencies involved.
  6. Fatalities and Critical Injuries Notifications.
    - a. Procedures for notification of next of kin are contained in the Personnel Manual, COMDTINST M1000.6 (series).
    - b. Procedures for notification of the Commandant are contained in Personnel Manual, COMDTINST M1000.6 (series).
    - c. Procedures for release of names to the public are contained in the Personnel Manual, COMDTINST M1000.6 (series) and the Public Affairs Manual, COMDTINST M5728.2 (series).
    - d. Funerals, survivor benefits, and other information are contained in Personnel Manual, COMDTINST M1000.6 (series) and the Decedent Affairs Guide, COMDTINST 1770.1 (series).
- P. Investigating Potential Criminal Acts (Including Sabotage). If the MAB suspects that the mishap was caused by misconduct, they must immediately suspend the investigation and report the supporting facts and evidence to Commandant (G-WKS). Commandant (G-WKS) under consultation with Commandant (G-LGL) and (G-LMI) will determine whether the safety investigation should be terminated and an appropriate criminal investigation initiated. Even if the safety investigation is terminated, MAB members must NOT disclose any privileged information to the criminal investigators.
1. If the determination is made to terminate the safety investigation, the senior member shall give all nonprivileged material to the criminal investigators and

provide the names of all known witnesses including those already interviewed by the MAB. This list shall indicate whether those already interviewed were promised confidentiality. The MAB president will ensure all privileged information is safeguarded and preserved. The safety investigation of specific issues may continue, but shall be subordinate to the nonsafety investigation.

2. If the criminal investigation concludes that the mishap is the result solely of a criminal act, a safety investigation will not be conducted. If a criminal act did not occur, or it appears that causes apart from the criminal act were involved, Commandant (G-WKS) will determine whether the MAB should continue its investigation.