AIRBORNE PUBLIC SAFETY ASSOCIATION

ADVANCING PUBLIC SAFETY AVIATION

Airborne Public Safety Accreditation Commission

Standards for Airborne Search and Rescue

Forward

1.0 PURPOSE OF THE STANDARDS

1.1 General

This publication represents a standard for United States and international public safety agencies operating manned aircraft in support of their respective agency's search and rescue mission. For the purpose of these standards and accreditation, Search and Rescue (SAR) is defined as missions utilizing aircraft to locate, rescue and/or evacuate lost, stranded, and/or abandoned individuals who may or may not be injured or in need of medical attention. The Standards for Airborne Search and Rescue were developed and are maintained by the Airborne Public Safety Accreditation Commission (APSAC).

1.2 Applicability

This document contains professional standards for airborne search and rescue operations applicable to federal, state, tribal and local (US and/or international) public safety agencies. APSAC has adopted these standards as the basis for airborne search and rescue accreditation and supports the need for the standards to be used as a guide for all public safety airborne search and rescue operations. Where reference is made to US Federal Aviation Regulations (FARs), international agencies should interpret as the appropriate governmental aviation authority having jurisdiction over such matters within their respective country.

1.3 Intent

These standards are intended to provide a foundation of safe operating practices in the performance of the agency's mission. The standards were formulated based on what has been identified as the two highest priorities of a public safety aviation unit:

1. "Safety First" in all aspects of the operation
2. Providing excellence in aviation services to support the agency's search and rescue mission.

1.4 Scope

The scope of this document is intended to encompass all aspects of airborne search and rescue and has been divided into five major sections: Administration, Operations, Safety, Training and Maintenance. The subsections are intended to encompass the primary aspects of airborne search and rescue operations for both fixed- and rotary-wing aircraft. The standards have been separated into two categories: Mandatory (M) and Recommended (R), which are classifications to identify the importance of each Standard.

1.5 Accreditation

APSAC has also developed a voluntary assessment and accreditation program to work with agencies and to assist in compliance with these standards. The process of accreditation provides a method of ensuring compliance with the standards, providing a vital structure that becomes the measuring device of excellence, safety and quality of service. The process provides order, guidance, and stability to agencies going through the program

and recognition of professional achievement and excellence through verification of compliance with the standards.

2.0 MAJOR BENEFITS OF ADOPTING THESE STANDARDS

Public safety agencies are strongly encouraged to adopt and implement the standards contained in this publication. They have been designed as industry standards intended to foster a universal application of best practices throughout the public safety aviation community. Although adoption and implementation of these standards are strictly voluntary, agencies that choose to adhere to these standards set themselves apart from others, providing an example of aviation safety and operational excellence.

2.1 Safe, Effective and Cost-Efficient Public Safety Aviation Operations

Compliance with the Standards provides agencies with a foundation upon which a culture of safe operating practices may be formulated, and a mark of excellence established to further develop and enhance the public safety aviation unit's professionalism, efficiency and overall effectiveness.

2.2 Greater Accountability within the Agency

The Standards provide the agency administrator/department head with a proven management system of written policies and directives, safe operating practices, sound training principles, personnel qualification requirements, clearly defined lines of authority and examples of accepted industry standards that support decision-making and resource allocation.

2.3 Controlled Liability Insurance Costs

Compliance may allow for agencies to more easily purchase public safety aviation and liability insurance, increase the limit of their insurance coverage; and in many cases, lower their insurance premiums and/or gain other financial incentives.

2.4 Stronger Support from Government Officials and the Community

Agencies establish credibility as a professional operation, which provides safe, cost-effective and essential aviation support to public safety operations in a variety of missions.

LIMITATION OF LIABILITY

The Airborne Public Safety Accreditation Commission, a Commission of the Airborne Public Safety Association (APSA), a California Public Benefit Corporation, makes no warranty, expressed or implied, for the benefit of any person or entity with regard to any aspect of the standards contained herein. These standards were adopted for the sole use of the Commission for the exclusive purpose of their application to the agencies seeking to obtain or maintain accreditation, there being no intended third-party beneficiaries hereof, expressed or implied. Nothing herein shall be construed so as to create any right, cause, property interest, or entitlement on the part of any applicant agency or third party. These standards shall in no way be construed to be an individual act of any commissioner, director, employee, agency, member, individual, or a legal entity associated with the Commission, or APSA or otherwise be construed so as to create any liability in an individual or official capacity on the part of any commissioner, director, employee, agency, member, individual, or a legal entity associated with the Commission or APSA.

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Section 1 Administrative Standards

01.01.00	GENERAL	Compliance
01.01.01	**Mission Statement:** There shall be a written mission statement for the unit. **Commentary** ***A mission statement sets broad parameters and identifies the key functions, or services to be performed by the aviation unit. Care must be taken to ensure that the mission statement does not exceed the current capabilities of the unit. Given that aviation is a support function for the agency, development of the mission statement must be a departmental process.*** ***Amended 5/23***	***(M)***
01.01.02	**Missions:** The following shall apply to all missions performed by the aviation unit: 1. Missions shall be defined, documented and approved by the public safety agency. 2. Crewmembers shall be trained and equipped in accordance with the standards as set forth in this document, for any and all missions they are authorized to perform. **Commentary** ***Aviation units need to identify all the missions they are tasked to perform. Likewise, the agency's chain-of-command must approve the aviation unit's mission profiles. Once missions are identified, aviation unit personnel must be properly trained and equipped, and have demonstrated their proficiency to perform those missions.***	***(M)***
01.01.03	**Chain-of-Command:** There shall be a well-defined chain-of-command: 1. There shall be an organizational chart that defines where the aviation unit fits within the agency. 2. There should also be a chart that defines the structure of the unit. 3. For agencies that contract for aviation services, there shall be a policy that specifies lines of authority between the agency and the contractor, and the agency is responsible for assuring that the contractor meets the APSAC standards related to the service they provide. **Commentary** ***The chain-of-command in the aviation unit must be well defined and understood by each member. Unit members must know to whom they report and how they fit into the function of the agency. All public safety agencies utilize organizational charts to depict this, and the agency's aviation function must be included into any organizational charts. For contract aviation services, there must be a written policy or contract that stipulates the lines of authority and responsibilities between both agreeing parties.*** ***Amended 5/23***	***(M)***

01.01.04	**Aviation Unit Budget:** There shall be evidence of an approved budget or funding source sufficient to sustain operations in accordance with these standards for all stated missions. **Commentary** **Operational safety, effectiveness and efficiency are enhanced by the *support of a comprehensive budget or funding source.***	***(M)***
01.01.05	**Base of Operations:** There shall be a clean, safe and secure work environment for all personnel, with adequate lighting, ventilation and space for storage of equipment. **Commentary** ***Personnel must have a clean, safe and secure facility in which to work. The workplace must be free of hazards that could injure personnel or visitors.***	***(M)***
01.01.06	**Communications:** Management policies should encourage ongoing communications between management and all aviation unit personnel. There should be periodic unit staff meetings for which minutes are kept on file, and there should be defined methods for disseminating information between meetings. **Commentary** ***Due to the technical nature of aviation, it is recommended that management and unit personnel communicate on a regular basis. Good communication will aid all aviation unit personnel in making safe and effective decisions concerning the operation of the unit.***	***(R)***
01.01.07	**Aviation Unit Liaison:** The unit should have a written plan to maintain liaison with other aviation units operating within the same airspace. **Commentary** ***Coordination between aircraft (other law enforcement, fire, EMS, SAR, news media, military and civilian operators) that operate within the same airspace is important to ensure safe flight operations.***	***(R)***
01.01.08	**Media Relations:** The agency or aviation unit shall have a media-relations policy. **Commentary** ***Aviation units are a high-profile public safety operation. As such, they are frequent subjects of media inquiry. A good working relationship with the media can be beneficial to the unit and the agency.*** ***Amended 5/23***	***(R)***

01.02.00	OPERATIONS MANUAL	Compliance
01.02.01	**Unit Operations Manual**: The unit shall have an operations manual, or policy documents, which at a minimum contains the following sections: 1. Aviation unit commander's/manager's Operational Philosophy 2. Mission Statement 3. Administrative 4. Personnel 5. Training 6. Operations 7. Safety Management System 8. Maintenance 9. Special Operations (if applicable) 10. Appendix The unit shall ensure that all unit members have been trained and demonstrate proficiency on the contents of the Unit Operations Manual. This training shall be documented and all unit members shall receive a copy of the Operations Manual. **Commentary** ***A comprehensive manual supports safe, cost-efficient operations, and agency policies and procedures. The manual clearly defines operational practices and sets parameters for decision-making.*** ***Amended 5/23***	***(R)***
01.02.02	**Document Control Policy:** The Operations Manual or policy documents shall be controlled documents that show revisions that have been made in the manual/documents. They shall contain a revision control page and list of effective pages unless the entire manual /documents are reissued with each revision and the manual has an effective date on it. **Commentary** ***It is imperative that the unit tracks all changes in all policy documents to ensure that unit members are able to determine what policies are up-to-date and the most current revision of this document.*** ***Amended 5/23***	***(M)***
01.02.03	**Accountable Executive Operational Philosophy:** 1. The accountable executive shall adopt and publish an overall operational philosophy that identifies the unit mission and places the highest emphasis on safety in all aspects of the unit's operation. 2. The philosophy shall also specifically reference risk management as a means of identifying, assessing and mitigating risks. 3. The philosophy shall also clearly articulate that no mission is so critical that would necessitate acceptance of a high risk wherein hazards associated with or causing the higher risk cannot be mitigated or require deviation from safety policies, procedures, training standards or the prudent judgment of the aircrew.	***(M)***

	Commentary ***In keeping with Safety Management System (SMS) protocols, it is imperative that the accountable executive establish and publish his/her overall operational philosophy emphasizing that safety, through a systematic program of risk management, standardization, training and leadership is the unit's priority as a means to mission accomplishment.*** ***Amended 5/23***	
01.02.04	**Unit Operations Manual:** The unit shall have an operations manual, or policy documents, which at a minimum, address the following: 1. Statement that establishes the manual as a formal agency document. 2. Accountable Executive as the Issuing Authority – signature page 3. Scope of Authority 4. Resolution of agency conflicts 5. Procedures to amend the manual 6. Mandatory annual review 7. Distribution 8. Unit organization 9. Record keeping and retention (personnel, training and maintenance) **Commentary** ***The manual must be an official agency document, to which aviation unit members can be held accountable. The document must be reviewed and amended to reflect the changing circumstances of unit operations and equipment and signed by the Aviation Program Manager.*** ***Amended 5/23***	***(M)***
01.02.05	**Appendix**: The Appendix to the manual should include at a minimum, the following: 1. Letters of Agreement 2. Glossary of terms 3. Training syllabuses 4. Report forms 5. Miscellaneous items and/or references including electronic links **Commentary** ***The Appendix contains any material necessary to support the information contained in the manual. Providing this material in a manner that is easily accessible provides quick reference for those who will rely on the manual for guidance on a routine basis.***	***(R)***

Section 2 SAR Operations Standards

02.01.00	GENERAL	Compliance
02.01.01	**General Operations:** Aviation Units shall comply with applicable regulations issued by the aviation authority having jurisdiction and public laws for the type of operation being conducted by the unit. This includes the following classifications of operations: 1. Commercial Aircraft Operations. 2. Civil Aircraft Operations. 3. Public Aircraft Operations. 4. Canadian or other international civil/government aircraft operations. **Commentary** ***The aviation unit shall identify the category each mission falls under and assure compliance with the appropriate regulations.*** ***Amended 5/23***	***(M)***
02.02.02	**Special Operations:** Special Operations are missions requiring special policies, equipment, training and qualifications. Special Operations may include, but not be limited to the following: 1. Response to active shooter incidents. 2. Hoist Rescue. 3. Long Line/Short Haul. 4. Formation Flying. 5. K-9 Transport of Search Dogs. 6. Advanced Life Support – Aeromedical Flights. 7. Support to Federal and State Agencies. 8. Support to US Coast Guard. 9. Maritime Rescue. **Commentary** ***Special operations, defined as missions not conducted on a routine basis, must be identified and thoroughly evaluated to ensure that the operation does not exceed the capabilities of the aviation unit. Each special operations mission should be evaluated to determine if specific procedures, training and/or equipment and qualifications are in place to accomplish the mission. Special operations missions shall not be authorized until all of these requirements have been met.*** ***Amended 5/23***	***(M)***
02.01.02	**Helipad, Heliport, Airport and Off-heliport/Off-Airport Operations:** There shall be a written policy covering all helipad, heliport, airport, and off-heliport/airport operations in accordance with the applicable authority having jurisdiction. The policy shall cover fixed and rotor wing operations.	***(M)***

	Commentary ***If the unit operates from an airport, the policy shall include a requirement for compliance with established airport operations. Airport crash/rescue response should be integrated within the unit's policy. If the base of operation is at an off-airport location, the unit shall have a policy that clearly identifies all aspects of the heliport operations.*** ***Amended 5/23***	
02.01.03	**Hearing and Eye Protection for Support Personnel:** Hearing and eye protection shall be provided for all aviation unit support personnel, including aircraft maintenance technicians who assist with the loading and unloading of passengers, who work near operating aircraft, or who are operating machinery or special tools. **Commentary** ***Hearing and eye protection are standard safety equipment in hazardous and noisy environments.***	***(M)***
02.01.04	**Personal Protective Equipment:** The agency shall have a policy that addresses the personal protective equipment to be worn during helicopter flight operations. 1. All agency aircrew members shall be provided and wear personal protective equipment (PPE) designed to protect against injuries associated with fire and/or major head trauma. Except where mission-specific PPE is required, the following safety equipment shall be worn by aircrew members during helicopter flight operations: a. Flame-resistant Nomex brand fiber flight suit or similar material b. Flame-resistant flight jacket when conditions require c. Flame-resistant gloves in accordance with agency policy. d. A US military or similar international authority approved flight helmet specific for use by helicopter crews. 2. All leather laced boots or non-leather boots which are flame resistant. Proper wearing of flame-resistant flight clothing includes collars up, sleeves rolled down and the use of flame-resistant flight gloves. 3. Clothing made of nylon or other synthetic material shall never be worn as an undergarment. 4. If a non-flotation survival vest is worn, it must be made of flame-resistant material, such as "Nomex" or similar material. 5. Qualified non-crewmembers shall wear PPE in accordance with their respective agency policy (or in accordance with applicable ASTM standards) **Commentary** ***Safety of the aircrew is paramount in all flight operations. The equipment listed above is considered to be the industry standard for rotorcraft aircrew protection. Additionally, it is recommended that the agency have a policy that addresses personal safety equipment to be worn during fixed-wing operations. Appropriate survival gear should be carried for the environment in which the unit is operating.***	***(M)***

	Amended 5/23	
02.01.05	**<u>Fatigue Risk Management Policy:</u>** The aviation unit shall have a fatigue risk management policy applicable to crewmembers relative to their respective flight duties and to maintenance technicians. The policy shall define duty periods and rest periods and ensure that crewmembers and maintenance technicians receive protected rest periods that are sufficient to minimize the likelihood of fatigue during aviation operations. At a minimum, the policy shall address the following: 1. A Fatigue Risk Management System (FRMS) shall be established and managed in conjunction with the implemented Safety Management System. 2. Maximum number of duty hours that may be worked within 24 hours in any capacity. 3. Maximum number of flight hours during a typical duty day and within 24 hours, based on mission, one or two pilot crew, flight conditions, and day/night operations. 4. The policy shall define the maximum duration and frequency if extensions to maximum flight hours or duty periods are authorized under the policy. 5. Except as provided in paragraph 6 of this section, there shall be a minimum period of eight consecutive hours of rest uninterrupted by the agency during the 24-hour period that precedes the scheduled completion time of the duty assignment. 6. For agencies regularly scheduling 24-hour duty periods, the eight-hour rest period may not be consecutive, provided: a. Suitable accommodations, free from excessive noise, with controllable lighting, temperature, and ventilation, are readily available to all crewmembers. b. Crewmembers are not required to routinely perform any duties beyond those associated with their flight responsibilities. c. The flight crew conducts a Fatigue Risk Assessment before each flight under the FRMS, and appropriate approvals and mitigations are implemented to reduce risk to an acceptable level. d. Data from the Fatigue Risk Management System (FRMS) shall be monitored by management in conjunction with the implemented Safety Management System to ensure that crewmembers and maintenance technicians receive protected rest periods that are sufficient to minimize the likelihood of fatigue during aviation operations. 7. Any aircrew member or supervisor may terminate or decline a mission if, in that person's determination, it would be unsafe to perform the flight due to the fatigue of any crewmember. **Commentary** ***Fatigue affects judgment, vision, and physical coordination. Scheduling practices, particularly during extended operations or duty periods over 48 hours, must reflect careful consideration to minimize total duty time, prevent fatigue, monitor the type of mission, flight environment, length of the duty period, number of duty periods in a week, amount of flight time***	***(M)***

	within 24 hours and day to night rotations. It is also expected that units employing their maintenance staff include them in their crew rest policy. (NTSB Recommendation A-11-56). ***Amended 5/23***	
02.01.06	**Firefighting Equipment:** Appropriate, adequate and up-to-date fire extinguishers and firefighting equipment shall be readily available, consistent with local laws and regulations. All unit personnel shall be properly trained (including recurrent training) on the proper use of the equipment. **Commentary** ***Basic firefighting skills and equipment shall be considered mandatory in aircraft operating environments.***	***(M)***
02.01.07	**Search and Rescue Equipment:** Appropriate and adequate search and rescue mission specific equipment shall be readily available, consistent with industry accepted practices based upon the terrain and environment. The unit shall have a policy on the inspection, maintenance and replacement criteria in accordance with the manufacturers specifications or guidelines and/or industry standards, to include, hoists, harnesses (personnel carrying devices), litters, strops, baskets, locking carabiners, cargo hooks appropriate for human loads and redundant short haul systems, etc. **Commentary** ***Units should remain knowledgeable on the most up-to-date techniques and equipment to perform airborne SAR missions. Although governmental public safety agencies conducting operations as Public Aircraft are exempt from Part 133 External Load Regulations, the information contained in this regulation provides excellent guidance for external load operations.***	***(M)***
02.01.08	**Occupant Restraint Devices:** The aviation unit shall have an Occupant Restraint Device policy that includes the following: 1. All rotorcraft occupants shall use seatbelts and shoulder harnesses, if installed, during all phases of flight, except as necessary to perform mission tasks. There shall be a written policy requiring all occupants to have an appropriate form of restraint at all times. During rappel, rescue or similar operations, there shall be some form of travel restraint (i.e. safety strap) attached, until the person is attached to the lowering system or is in place for hover-step deployment. 2. All fixed-wing occupants shall use occupant restraint devices consistent with regulations issued by the aviation authority having jurisdiction. **Commentary** ***The use of occupant restraint devices has been proven to increase the level of safety for aircrews and passengers in the event of a mishap. A four-point restraint system is recommended if available. Units should consider the use of redundant points of attachment and/or anchorage points.*** ***Amended 5/23***	***(M)***
02.01.09	**Over Water Flights:** If missions are flown over water beyond auto-rotational or glide distance of a suitable landing site in a single-engine aircraft, the unit shall have a policy that at a minimum, includes the following:	***(M)***

	1. Appropriate personal flotation device (PFD) shall be provided and worn by all occupants during sustained over-water operations. Additionally, aircrew members shall also be provided and wear PFD including a personal breathing device. Environmental thermal protection shall be worn when appropriate. 2. Flight following procedures while operating over water. 3. All aircrew members successfully complete a formal and documented training program (to include refresher training in accordance with local policy) for emergency water egress and survival. 4. A briefing on aircraft ditching, egress and the use of all over water equipment to occupants. **Commentary** ***Egress training increases the aircrew's survivability in the event of a water emergency. Flight following is an effective method of facilitating search and rescue operations. It is recommended that the PFD's have a United States Coast Guard Type V approval or equivalent.*** ***Amended 5/23***	
02.01.10	**Night Vision Goggles (NVG):** Units operating with Night Vision Goggles (NVG) shall have a written policy governing their use. At a minimum, the policy shall include: 1. Initial training and qualification in the use of night vision goggles for all crewmembers. 2. NVG missions, applications and limitations. 3. Weather and environmental conditions. 4. Emergency procedures training, including inadvertent IMC recovery procedures. 5. Annual recurrent training. 6. Mission specific currency requirements for all crewmembers on at least a quarterly basis. 7. Care, maintenance, inspection and security requirements of NVGs. 8. Pilot currency tracking records, to ensure compliance with regulations issued by the aviation authority having jurisdiction. 9. Approved aircraft lighting and aircraft equipment in accordance with the regulations issued by the aviation authority having jurisdiction. **Commentary** ***The use of night vision goggles requires specific policies concerning all facets of their use and aircrew qualifications. NVG use in standard category certificated aircraft must be in compliance with the aviation authority having jurisdiction.*** ***Amended 5/23***	***(M)***
	Commentary ***The use of night vision goggles requires specific policies concerning all facets of their use and aircrew qualifications. NVG use in standard***	

	category certificated aircraft must be in compliance with FAR Part 91.205(h) or applicable CARs or applicable national aviation authority.	
02.01.11	**Fuel Storage and Delivery Systems Procedures:** There shall be a written policy regarding fuel storage and delivery systems. At a minimum, the policy shall include, but not be limited to: 1. The on-site handling and disposal procedures of waste fuel, oil and any other hazardous material. 2. Fuel-spill procedures. 3. Identify responsible party for quality control checks on unit operated fuel storage systems. 4. Mandates compliance with the regulations issued by the authorities having jurisdiction. 5. Smoking Prohibitions 6. Establishing and tracking fuel filter change intervals (dates) on dispensing units/vehicles. **Commentary** ***Proper fuel storage and filtration is essential to prevent fuel contamination.*** ***Amended 5/23***	***(M)***
02.01.12	**Aircraft Refueling Procedures:** There shall be a written policy regarding aircraft refueling. At a minimum, the policy shall include, but not be limited to: 1. Aircraft refueling shall be conducted in compliance with federal, state and local laws and specific procedures as outlined by the aircraft manufacturer. 2. A documented, verifiable training program shall be in place to ensure that all personnel who are authorized to refuel an aircraft have been trained to operate the fuel supply and firefighting systems. 3. Smoking prohibitions. 4. Rapid refueling operations, (if permitted) including prohibiting rapid refueling of aircraft with reciprocating engines. **Commentary** ***Aircraft refueling requires specific training and equipment. Policies should address refueling procedures for all unit members authorized to refuel aircraft. The National Fire Protection Association (NFPA) has an excellent guide to fire safety during aircraft refueling. NFPA Pamphlet 407 could be a useful guide to units who refuel their own aircraft. If "rapid refueling" of rotorcraft is permitted, the unit should consult FAA Advisory Circular AC-91-32B, Transport Canada and local regulations or the applicable government authority with jurisdiction for guidance.***	***(M)***
02.01.13	**Helicopter Air Ambulance (HAA) Operations:** If the fire aviation unit's mission statement includes HAA operations, the unit shall comply with the local or state authority having certification jurisdiction over HAA. In the absence of state or local regulations, aviation units should comply, where practical, with Commission on Accreditation of Medical Transport Systems	***(M)*** ***(R)***

	(CAMTS) standards regarding medical personnel qualifications, patient medical treatment and transport protocols. **Commentary** ***The transport of medical patients is a very technical mission. Appropriate regulations and standards already exist and should be adopted.*** ***Amended 5/23***	
02.01.14	**Emergency Safety Equipment:** All agency search and rescue aircraft shall have an approved emergency locator transmitter (ELT) installed on all operational aircraft. **Commentary** ***It is recommended that GPS position information be linked to the ELT. (NTSB Recommendations A-11-58 and A-09-133). Additionally, per NTSB recommendations, units should consider the installation of HTAWS, TCAS, flight data recorder, GPS moving map system and automatic flight following equipment on all helicopters.***	***(M)***
02.01.15	**Aircrew Currency Requirements for Search and Rescue Missions:** The unit shall have a policy that establishes currency requirements for day and night search and rescue tasks for pilots, crew chiefs and rescue technicians, in the most demanding flight mode. At a minimum, the intervals between the performance of the following high-risk search and rescue tasks, by aircrew position, shall not exceed 90 days for both day and night operations: 1. Hoist 2. Short Haul 3. Rappel 4. Confined area 5. Unconventional landings such as hover steps, toe-in, and one skid/wheel **Commentary** ***Some search and rescue missions are inherently high-risk in nature. To ensure aircrew proficiency and to mitigate risks, units must establish policies that ensure aircrew currency, proficiency and qualifications based on the missions performed by the unit. The policy should include the number of iterations per task and how often the tasks are to be performed in order to maintain currency and proficiency. As an example for guidance in developing this policy, the European Aviation Safety Authority (EASA) requires 3-day hoist operations and/or 3-night hoist operations within a 90-day period for each hoist operator. For units conducting SAR missions at night using NVGs, training iterations and missions flown under NVGs meet the night currency requirement.***	***(M)***
02.01.16	**Aircrew Currency Requirements for Fire Suppression Missions:** The unit shall have a policy that establishes currency requirements for day and night fire suppression tasks for pilots and crewmembers, in the most demanding flight mode.	***(M)***

	At a minimum, the intervals between the performance of the following high-risk fire suppression tasks, by aircrew position, shall not exceed 90 days for both day and night operations: 1. Internal tank or external "belly" tank fire suppression 2. Helicopter external load "bucket" fire suppression 3. Confined area 4. Unconventional landings or personnel deployment such as hover steps, toe-in, and one skid/wheel **Commentary** ***Some fire suppression missions are inherently high-risk in nature. To ensure aircrew proficiency and to mitigate risks, units must establish policies that ensure aircrew currency, proficiency and qualifications based on the missions performed by the unit. The policy should include the number of iterations per task and how often the tasks are to be performed to maintain currency and proficiency.***	

02.02.00	GENERAL	Compliance
02.02.01	**Helicopter Search and Rescue Pilot-in-Command (PIC) Requirements:** A SAR pilot-in-command shall hold at least a commercial pilot certificate, with rotorcraft category and helicopter class rating issued by the aviation authority having jurisdiction, appropriately trained, qualified and current in the aircraft being flown, and maintain at a minimum a FAA Class II medical certificate, or equivalent commercial category medical certificate from the aviation authority having jurisdiction. (See pilot training requirements) **Commentary** ***Missions flown in support of public safety activities are often times challenging. These challenges require a higher level of pilot qualification related to the skills necessary to safely and effectively respond to mission requests under the most trying conditions. Therefore, public safety pilots must be trained and certified to a high standard. A Commercial Pilot certificate is one method of ensuring that public safety pilots are appropriately rated for the missions they perform. Additionally, a Commercial Pilot certificate demonstrates to the public and the aviation industry that public safety holds itself to appropriately high standards. Likewise, a Class II Medical Certificate commensurate with the commercial rating is required. A helicopter instrument rating is strongly encouraged.*** ***Amended 5/23***	***(M)***
02.02.02	**Helicopter Weather Minimums:** Weather minimums shall be established to ensure safe operations. These minimums shall be specified as a minimum ceiling and visibility in a written policy for day, night, and mission specific operations. Aircrews shall comply with their agency's or the aviation authority having jurisdiction weather minima, whichever is more restrictive. **Commentary** ***It is strongly recommended that for operations in uncontrolled airspace, units establish minimums greater than one-mile visibility and clear of clouds. These minimums should also be used as VFR or Special VFR launch minimums. It is also strongly recommended that organizations establish a***	***(M)***

	policy regarding wind and turbulence limitations. Pilot and aircrew experience, equipment capabilities and local terrain are additional criteria that should be considered when establishing weather minimums. ***Amended 5/23***	
02.02.03	**Inadvertent Instrument Meteorological Conditions (IIMC):** There shall be a written policy that includes the following: 1. The definition of Inadvertent IMC. 2. Inadvertent IMC recovery procedures. 3. Flight crew training to the recovery procedures required to maintain proficiency. 4. Aircraft to be equipped with altimeter, attitude indicator, directional gyro, turn and slip, IVSI or equivalent. 5. Use of Flight Management System and auto-pilot systems, to include training and qualifications. **Commentary** ***Inadvertent flight into instrument meteorological conditions is an emergency. It is an unplanned and unexpected condition that must be addressed immediately. Every attempt shall be made to avoid meteorological conditions which may result in inadvertent cloud penetration or loss of ground reference due to low ceiling, fog or "on-top" conditions. (NTSB Recommendation A-11-57)*** ***Amended 5/23***	***(M)***
02.02.04	**Flight Following:** The aviation unit shall have a policy establishing flight following procedures. In all such cases, there shall be established procedures for notifying appropriate search and rescue agencies in the event of a missing aircraft. **Commentary** ***The concept of flight following is the same for public safety pilots as it is for all aviation. When aircraft are overdue, flight-following procedures are a simple and effective method of initiating search and rescue procedures. It is strongly recommended that the agency install flight-tracking equipment on all aircraft that would allow for near- continuous flight tracking during missions (NTSB Recommendation A-11-59).*** ***Amended 5/23***	***(M)***
02.02.05	**Aircrew Composition:** At a minimum, the aircrew shall consist of a helicopter search and rescue pilot and a second crewmember, trained and qualified to perform the duties associated with the mission. The agency's Flight Risk Assessment Tool (FRAT) shall identify minimum aircrew staffing requirements for each mission. The policy shall ensure that all crewmembers assigned to the mission are properly trained, qualified and current to perform the mission. **Commentary** ***The pilot should not perform both the duties of PIC and a specialized crewmember simultaneously. The second aircrew member may be a pilot, a qualified aircrew member or a fully trained, qualified non-crewmember.***	***(M)***

02.02.06	**Minimum Helicopter Altitudes:** When conducting flights outside of specialized mission profile, a policy establishing minimum altitudes for helicopters shall be adopted and published to ensure safe operations and minimize noise over densely populated areas. Aircrews shall at all times maintain an altitude that ensures avoidance of all ground obstacles and hazards and allows for a safe landing in the event of an in-flight emergency without injury to the aircrew or persons and/or property on the ground. **Commentary** ***Flight crews are responsible for safe operations at all altitudes. Every attempt shall be made to maximize safe operational altitudes in accordance with appropriate aviation authority and minimize noise over populated areas. This includes maintaining higher altitudes when not actively engaged in a mission profile. This is especially critical during exigent circumstances when a well-coordinated flight risk management process is essential to safe operations.***	***(M)***

02.03.00	**FIXED-WING OPERATIONS**	**Compliance**
02.03.01	**Fixed Wing Pilot-in-Command (PIC) Requirements:** A unit pilot-in-command shall hold at least a commercial pilot certificate with an airplane category and single-engine or multi-engine class rating (as required) with current instrument rating and appropriately certified by the aviation authority having jurisdiction, qualified and current in the aircraft being flown. Additionally, the PIC shall at a minimum a FAA Class II medical certificate, or equivalent commercial category medical certificate from the aviation authority having jurisdiction. **Commentary** **A Commercial Pilot Certificate is one method of ensuring that public safety pilots are appropriately rated for the missions they perform. Missions performed with fixed-wing aircraft often involve flights of greater distances than rotor-wing aircraft. The possibility of encountering inclement weather conditions, coupled with the lack of suitable landing sites, mandates that the pilot-in-command have a current instrument rating.** **Updated 5/23**	***(M)***
02.03.02	**Weather Minimums:** Take-off weather minimums for fixed-wing operations shall be specified in a written policy for both day and night operations. For all other operations in VFR conditions, units shall, at a minimum, establish policy and require compliance with existing regulations issued by the aviation authority having jurisdiction. Operations under Instrument Flight Rules shall be conducted in accordance with all applicable Federal Aviation Regulations as they may apply to the unit's category of operation, i.e., Part 91 or Part 135 operations or applicable regulations issued by having jurisdiction. **Commentary** ***Public safety pilots fly demanding missions and are frequently exposed to marginal weather conditions. Establishing takeoff weather minimums for fixed-wing operations is an effective method of managing risks associated with operations in marginal weather or less than VFR conditions. Pilot and aircrew experience, equipment capabilities, terrain, mission type and category of operations are some of the criteria that must be considered in the decision process.***	***(M)***

	Amended 5/23	
02.03.03	**Inadvertent Instrument Meteorological Conditions (IIMC):** There shall be a written policy that includes the following: 1. The definition of Inadvertent IMC. 2. Inadvertent IMC recovery procedures. 3. Flight Crew training to the recovery procedures required to maintain proficiency. 4. Fixed-wing aircraft shall be equipped with instrumentation necessary to successfully recover from IIMC conditions. 5. Use of Flight Management System and auto-pilot systems, to include training and qualifications. **Commentary** ***Inadvertent flight into instrument meteorological conditions is an emergency. It is an unintended condition that must be addressed immediately. Every attempt shall be made to avoid meteorological conditions which may result in inadvertent cloud penetration or loss of ground reference due to low ceiling, fog or "on-top" conditions. (NTSB Recommendation A-11-57)*** ***Amended 5/23***	***(M)***
02.03.04	**Flight Following:** The aviation unit shall have flight following procedures. In all such cases, there shall be established procedures for notifying appropriate search and rescue agencies in the event of a missing aircraft. **Commentary** ***The concept of flight following is the same for public safety pilots as it is for all aviation. When aircraft are overdue, flight-following procedures are a simple and effective method of initiating search and rescue procedures. It is strongly recommended that the agency install flight-tracking equipment on all aircraft that would allow for near- continuous flight tracking during missions (NTSB Recommendation A-11-59).*** ***Amended 5/23***	***(M)***
02.03.05	**Fixed-Wing Aircrew Composition:** For public safety missions' day or night, in aircraft certificated for more than one occupant that require observation activities or operation of any mission equipment, the minimum aircrew shall consist of a Pilot-in-Command and at least one co-pilot or additional air crewmember(s), as defined in Appendix A. **Commentary** ***The pilot should not perform both the duties of PIC and a specialized crew member simultaneously. The second aircrew member may be a pilot or a qualified aircrew member.*** ***Amended 5/23***	***(M)***

Section 3 Safety Standards

03.01.00	GENERAL STANDARDS	Compliance
03.01.01	**Safety Management System:** The aviation unit safety program shall be a Safety Management System (SMS) based program. The SMS Program shall be incorporated into the unit's Policy Documents and built on a foundation of operational safety management system standards. All personnel shall be required to comply with approved safety standards. These include unit policy and procedures; aircraft manufacturer's operating procedures and limitations; and, government regulations. At a minimum, the SMS manual shall comply with Section 3 of the APSAC Standards. The SMS shall consist of four components; (1) Safety Policy and Objectives; (2) Safety Risk Management; (3) Safety Assurance; and (4) Safety Promotion and Training. **Commentary** ***The SMS must be integrated into every facet of aviation unit operations. It defines the safety culture to include every member of the aviation unit and their responsibility to operate in the safest manner possible in day-to-day operations. The APSA approved SMS Tool Kit should be used as the primary source document for development of the unit's SMS Program*** ***Amended 5/23***	***(M)***

03.02.00	SAFETY POLICY & OBJECTIVES	Compliance
03.02.01	**Unit Commander's/Aviation Unit Manager's Operational Policy:** 1. The unit commander's/aviation unit manager's operational policy shall mandate safety as the aviation unit's highest priority. It shall articulate that management is committed to providing safe, healthy, secure working conditions and attitudes with the objective of having an accident-free workplace. 2. The policy shall also clearly articulate that no mission is so critical that would necessitate acceptance of a high risk wherein hazards associated with or causing the higher risk cannot be mitigated or require deviation from safety policies, procedures, training standards or the prudent judgment of the aircrew. 3. It shall promote a "Just Culture" of open reporting of all hazards in which management will not initiate disciplinary action against any personnel who, in good faith, discloses a hazard or safety occurrence due to unintentional conduct. 4. A "Turn Down Policy" shall be incorporated that allows any aircrew member (including qualified non-crewmembers) the opportunity to turn down or terminate a mission task, when an aircrew member determines that the mission is unsafe, and they are unable to negotiate an alternative solution to mitigate risks. Turning down a mission is one possible outcome of managing risks. Management shall specify the following safety principles:	***(M)***

	1. Always operate in the safest manner possible. 2. Never take unnecessary risks. 3. Recognize that safe does not mean risk free. 4. Hold everyone accountable and responsible for the identification and management of risk. 5. Recognize that familiarity and prolonged exposure without a mishap leads to a loss of appreciation of risk. **Commentary** ***The unit commander/aviation unit manager is the individual who defines the unit's safety policy and conveys its expectations and objectives to all unit personnel. Safety must be integrated into all facets of the unit's operation. The Safety Policy and the Operational Policy are the unit commander's/aviation unit manager's way of establishing the importance of safety as it relates to the overall scope of operations. Leadership sets the tone for the aviation unit. The unit commander's/ aviation unit manager's policy statements must be clear, concise, and with positive emphasis to show that it has top- level support.*** ***Amended 5/23***	
03.02.02	**Management Commitment & Responsibilities:** The unit commander/aviation unit manager is responsible for: 1. **Clearly defining the safety unit and structure**. The structure should explain the responsibility and reporting relationship for safety functions. **Publishing the unit's goals and objectives for the Safety Management System**. Safety objectives shall be reviewed and be updated at least quarterly or as they are accomplished. The goal of the unit's SMS program is to eliminate accidents and incidents. **Commentary** ***The unit will define, document and communicate the safety roles, responsibilities and authorities throughout its unit.*** ***All aviation unit personnel must understand and be held accountable in achieving the unit's safety goals and objectives. The documentation of objectives and their accomplishment is a critical piece in measuring the effectiveness of a SMS.*** ***Amended 5/23***	***(M)***
03.02.03	**Appointment of Key Safety Personnel:** The Aviation Program Manager shall: 1. **Appoint an Aviation Safety Officer** (ASO) to manage, monitor and coordinate the SMS program throughout the unit. The Aviation Safety Officer shall: a. Successfully complete a formal SMS training course, within one-year of being assigned. b. Report directly to the aviation unit commander/manager. c. Manage the SMS for the aviation unit commander/manager d. Facilitate the Safety Committee meetings.	***(M)***

e. Manage the unit's Hazard Reporting Program (HRP).

f. Coordinate safety training for unit members.

g. Identify and evaluate safety problem areas.

h. Provide technical guidance when safety is a factor in unit operations and training.

i. Periodic review of the hazards listed on the hazard board

j. Conduct periodic safety inspections.

k. Conduct periodic unit safety meetings and briefings.

l. Review unit incident and accident reports for the purpose of preventing accidents and incidents.

m. Assist management in formulating safe operating practices and policies.

n. Develop risk control measures (interventions) based on the SMS process.

o. Work with unit training officer to develop training consistent with risk control measures.

2. **Appoint a Safety Committee**: The Safety Committee shall:

a. Have responsibility for:

- Developing programs to identify and correct hazards.
- Reviewing incident and accident reports and provide recommendations to the Aviation Program Manager/manager.
- Other duties as directed by the Aviation Program Manager.

b. Have representatives from:

- Unit management.
- Aviation Safety Officer.
- Pilots.
- Aircrews and/or Qualified Non-Crewmembers.
- Training.
- Maintenance.
- Other unit members as needed.

c. Meet at least quarterly.

d. Have a written agenda.

e. Keep and disseminate minutes of the meeting.

Commentary

The Aviation Safety Officer must have credibility, skills, knowledge, training and experience to effectively manage the aviation unit's SMS.

The purpose of the Safety Committee is to provide recommendations to the Aviation Program Manager/manager on operational and safety issues. In its efforts, the committee is working towards the unit's goal of reducing risks to as low as reasonably practical.

	Amended 5/23	
03.02.04	**<u>Emergency Preparedness and Response:</u>** The aviation unit shall have a written plan detailing the procedures and notifications to be followed in the event of a precautionary landing, overdue aircraft, serious incident or accident. The plan shall be incorporated into the unit's policy mandating compliance in the event of an accident or serious incident involving substantial damage to aircraft, injury or death of crewmembers, passengers or persons on the ground. The plan shall also address aviation ground accidents and incidents not involving flight operations. The plan shall include, but not limited to: 1. Individual actions that shall be taken in the event of an accident. Initiate log of events and actions. 2. Incident scene management in accordance with the agency's major incident response policy and evidence collection policy. 3. Current contact information for all unit personnel. 4. Incident response checklist and notification procedures, including telephone numbers for: a. Command notification (including unit commander/manager) b. Air Traffic Control facilities c. NTSB or the aviation authority responsible for investigating aviation accidents d. Aircraft manufacturer e. Other equipment manufacturers, if applicable 5. Media/Public Information Officer Procedures to request of the NTSB or investigating agency having jurisdiction to be a party to the investigation and assign an agency representative to serve in that capacity. 6. Accident/incident investigation kit. 7. Damaged aircraft recovery procedures. 8. All unit personnel shall be trained in the implementation of the unit accident/emergency response plan. There shall be a record of the training in the unit member's training records. 9. The plan shall be reviewed and updated at least annually. **Commentary** ***An emergency preparedness and response plan acknowledges the potential for a precautionary landing, over-due aircraft, incident or accident and defines the roles and responsibilities of members of the unit when responding to and investigating the occurrence. The plan identifies the process for preparing reports, determining the cause(s) of the accident and develops recommendations to prevent similar occurrences. The Emergency Preparedness and Response Plan should be distributed outside the unit, as necessary (communications center, command staff, other agencies, etc.) and exercised as required by SMS. In addition, the plan should be numbered and tracked for accountability and distribution purposes.*** ***Amended 5/23***	***(M)***

03.02.05	**SMS Documentation & Records:** The purpose of SMS documentation and data information management is to ensure that procedures are in place to ensure compliance with SMS policies, procedures, and goals. To accomplish this the unit shall: 1. Publicize the unit's safety policies, objectives, and SMS procedures. 2. Document and publicize the unit's mission, goals, and objectives. 3. Ensure every employee has access to the SMS Manual. 4. Identify the safety regulations that govern the unit. A copy of these regulations shall be maintained by the unit and made available to all unit personnel. 5. Maintain safety related data, including the minutes of safety meetings, information on hazard and risk analysis, risk management, remedial action, incident and accident investigations, and audit reports. 6. Change control procedures are in accordance with unit procedures for manual and document revisions. **Commentary** ***The importance of documenting and maintaining accurate records of all SMS data collection and mitigation efforts cannot be over emphasized. Only through proper documentation and information management can a unit effectively manage, publish, communicate and evaluate its SMS program in its entirety. Information on precautionary landings, incidents and accidents should be included in the SMS Library.*** ***Amended 5/23***	***(M)***

03.03.00	**SAFETY RISK MANAGEMENT**	**Compliance**
03.03.01	**Hazard Identification & Analysis:** The unit shall establish procedures to collect data and investigate hazards, incidents, accidents, and instances of potential regulatory non-compliance to identify root cause and recommend risk control measures. Reporting and analysis shall consist of the following: 1. **Occurrence & Hazard Reporting:** Procedures shall include: a. Occurrence Reporting: A scheme to report mandatory occurrences. b. Hazard Identification: A collection system that is available to all personnel to report hazards in any area of the unit. This shall include a Hazard Reporting Form (HRF) and tracking system. c. Clearly defined responsibilities for personnel, the Aviation Safety Officer and the Safety Committee to follow in reporting and mitigating hazards. 2. **Incident Investigation & Analysis:** An investigation shall be conducted for all serious hazards and mandatory occurrence reports. The purpose of the investigation will be to determine root cause and corrective actions. **Commentary** ***Every member of the aviation unit must understand their role in identifying, reporting and mitigating hazards. The reporting system must process***	***(M)***

	hazard reports in a timely manner in order to communicate hazard information to all concerned members of the unit.	
03.03.02	**Safety Risk Assessment & Mitigation:** The unit shall determine and analyze the risk factors related to the severity and likelihood of potential events associated with known hazards and identifies appropriate risk mitigation strategies. At a minimum the unit shall: 1. Use a risk management strategy that considers the severity and probability of a hazard. 2. Identify, assess and calculate an overall level of risk associated with the hazard. 3. Determine when to elevate the decision for risk acceptance to a higher level. 4. Analyze the risk and develop mitigation measures (Flight Risk Management Tool, or FRAT) to reduce the risk to as low as reasonably practical (ALARP). 5. Develop a means to track corrective actions and their effectiveness. **Commentary** ***Public safety aviation operations inherently involve risk. In keeping with the Aviation Unit Manager's operational and safety policy, the unit's Safety Risk Assessment and Mitigation Program is an essential element of the unit's primary safety goal which is the elimination of all accidents.*** ***Amended 5/23***	***(M)***

03.04.00	**SAFETY ASSURANCE**	**Compliance**
03.04.01	**Safety Performance Monitoring & Measurement:** The unit shall monitor operational data from the SMS to ensure the effectiveness of safety risk controls and assess system performance. At a minimum the aviation unit shall: 1. Track and measure the accomplishment of each section's Safety Objectives at least quarterly (Reference 03.02.02, item 2) and ensure they are current. 2. Track and measure the accomplishment of each mitigation method (Reference 03.03.02, item 5). 3. Conduct a periodic external safety audit and an annual Internal Evaluation Process (IEP) consistent with SMS of the entire aviation unit. This audit should be a systems analysis to determine if all areas of the unit are functioning properly and the SMS is effective. a. The ASO shall form a team with representatives from each section to conduct the IEP. b. Findings and corrective actions from the IEP will be documented and results given to the Aviation Program Manager, Safety Committee, and available for all personnel to review. 4. Conduct quarterly safety inspections. a. Safety inspections shall be conducted by unit supervisors or his/her designee responsible for applicable areas within the unit.	***(M)***

	b. The results of these inspections should be forwarded to the Aviation Safety Officer with corrective actions taken. 5. Contractor Assessments: Contract activities in the unit should be monitored on a regular basis and inspected annually to ensure compliance with the expected standard. **Commentary** **The most common and effective way of determining the effectiveness of a SMS is to conduct periodic and structured safety audits and inspections. The Aviation Safety Officer is normally responsible for conducting an annual evaluation of unit safety related issues including training, operations, maintenance, equipment, communications and facilities. This evaluation may be performed internally or by outside sources. The results of these evaluations, including recommendations, shall be provided to the Aviation Program Manager/ manager for his/her disposition.** **Amended 5/23**	
03.04.02	**Management of Change:** The unit shall have a Change Management Process in order to assess risk associated with changes in operational procedures, processes, training, documentation, equipment, or any other significant change. At a minimum the unit shall: 1. Use a change management form. 2. Include all individuals affected by the change and ensure they have an opportunity to review the change and provide their comments. 3. Conduct appropriate risk assessments of the recommended changes. 4. Determine who is responsible for approving the change and put the change into effect. 5. Maintain a change log that is available in the SMS library. **Commentary** ***The evolutionary process of change in public safety aviation is inevitable. Therefore, it is incumbent upon the unit to establish a process by which changes that take place within the unit, whether related to command, operations, personnel or equipment, are managed in a way that risks are identified and mitigated, and the overall effectiveness and safety of the unit are not compromised.*** ***Amended 5/23***	***(M)***
03.04.03	**Continuous Improvement of the SMS:** The unit will promote continual improvement of its SMS through recurring application of Safety Risk Management and Safety Assurance, and by using safety lessons learned and communicating them to all personnel. To accomplish this, the unit shall conduct an annual review of the SMS program. The SMS program review shall include, but not be limited to: 1. Safety Audits. 2. Safety Surveys. 3. Safety Inspections. 4. The Aviation Safety Officer shall provide the Aviation Program Manager with an annual update on the accomplishments of the SMS.	***(M)***

	5. This shall include: a. Accomplishment of performance objectives. b. Results of actions taken following the annual safety audit. c. Results of actions taken following routine safety inspections. 6. Review of the SMS manual. **Commentary** ***The Aviation Safety Officer shall be responsible for conducting an annual evaluation of unit safety related issues including training, operations, maintenance, equipment, communications and facilities. This evaluation may be performed internally or by outside sources. The results of these evaluations, including recommendations, shall be provided to the Aviation Program Manager/manager for his/her disposition.*** ***Amended 5/23***	

03.05.00	SAFETY PROMOTION & TRAINING	Compliance
03.05.01	**Training & Education:** At a minimum the following safety associated training shall be conducted annually and shall be provided to all members of the aviation unit. The training shall address the purpose of the SMS, individual responsibilities, and general hazards associated with unit operations. The training shall: 1. Be completed within 30 days following the implementation of the unit's SMS. 2. Be completed prior to assuming their duties within the unit. 3. Be documented. **Commentary** ***Safety training and education is a team effort between the unit ASO and the person responsible for training within the unit. SMS Indoctrination Training and Safety Orientation Training for new personnel are intended to familiarize new personnel with the purpose and process of SMS as well as hazards associated with unit operations.*** ***Amended 5/23***	***(M)***
03.05.02	**Risk Control Measures:** The Aviation Safety Officer shall develop a training component to every risk control measure (intervention) that is developed during the Risk Management Process. As an example, this training can include, but is not limited to required readings, one-on-one or group classroom training, flight training, contractor training or similar training. **Commentary** ***Risk controls will only be effective if they are implemented properly. For this to occur, employees must understand what the original problem was, how the proposed risk control measure was developed, what the goal is, and what is expected of each person for the implementation. The type of training will vary based on the risk control being addressed.*** ***Amended 5/23***	***(M)***

03.05.03	**Safety Communications:** The unit shall have a Safety Communications System. The Safety Communications System shall be accessible to all unit personnel and include but not be limited to the following internal and external aviation mission, and special mission related documents: 1. Safety bulletins. 2. Safety reading file including precautionary landing advisories, incident and accident histories, and change notices. 3. Safety Committee Meeting minutes. 4. SMS library. 5. Safety/Hazards bulletin board. 6. Hazardous material list. **Commentary** ***There shall be a system in place to ensure that members of the aviation unit receive timely information on safety issues. The Aviation Safety Officer shall be responsible for the creation and maintenance of all safety communications. Management shall also communicate the output of the SMS program to all personnel.*** ***Amended 5/23***	***(M)***
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Section 4 SAR Training Standards

04.01.00	AVIATION UNIT MANAGERS AND SUPERVISORS	Compliance
04.01.01	**Aviation Unit Manager and Supervisor(s) Initial Training:** Aviation Unit Managers and supervisors shall successfully complete a training program, to include: 1. Fundamentals of Aviation Unit Management, or its equivalent. 2. Applicable Federal Aviation Regulations (FAR's), Canadian Air Regulations (CARs) or applicable regulations issued by an aviation authority with jurisdiction. 3. Public Aircraft Operations (Public laws affecting public safety aviation). 4. Aviation Safety, specifically the role of the Safety Management System (SMS). 5. Liability and Legal Issues. 6. Incident Command System (ICS) 100, 200, 700 & 800. **Commentary** ***Aviation Unit Managers directly assigned to the air unit and all unit managers and supervisors must have specific training on aviation related topics. The training is necessary to acquaint unit managers with management issues that affect the safe and efficient operation of the aviation unit. (Incident Command System [ICS] Courses and Inter-Agency Training (IAT) specific to aviation operations fulfills this requirement). Additionally, training related to search and rescue operations is available through the US National Association for SAR.*** ***Amended 5/23***	***(M)***
04.01.02	**Completion of Training:** The Aviation Unit Manager and supervisor's training program shall be completed within one year after being assigned to the unit. **Commentary** ***Supervisory/management personnel assigned to an aviation unit must be familiar with the fundamental operation of the unit. This familiarization should be accomplished as soon as possible after being assigned to the unit. Formal aviation management training should immediately follow as a building-block method of training***	***(M)***
04.01.03	**Unit Management and Supervisor Continuing Education:** Continuing professional development in aviation subjects should be provided and documented for all unit managers and supervisors. At a minimum, there should be annual specific training appropriate to the unit's mission statement and scope of service. **Commentary** ***Continuing education is an important part of any profession. Aviation Program Managers/managers oversee personnel, mission, training, maintenance and safety issues, which require specific training to be***	***(M)***

	effective. Several outside sources are available to provide this type of training, and the use of these resources is recommended.	

04.02.00	PILOT-IN-COMMAND	Compliance
04.02.01	**Pilot-in-Command (PIC) Initial Training:** In addition to the requirements of the Federal Aviation Regulations and/or aviation authority with jurisdiction, before a pilot may act as PIC of any aircraft performing public safety missions, they shall receive training that consists of at least the following verifiable and documented training subjects: 1. Terrain, known hazards and weather considerations specific to the unit's geographical area. 2. Orientation to airports, heliport, heli-spots or any approved landing zones in the local operating area. 3. Orientation to the controlled airspace in the local operating area. 4. Judgment and decision making. 5. Risk management. 6. Aeronautical decision-making. 7. Crew resource management. 8. Recovery from Inadvertent Instrument Meteorological Conditions (IIMC) **(NTSB Recommendation A-11-57)**. 9. Aviation human factors. 10. Stress management for all phases of flight. 11. Interpersonal communications between crewmembers, to include: a. Delegation of responsibilities. b. Prioritization and crew coordination. c. Workload management. d. Situational awareness. 12. Pilots shall successfully complete a training program on safe and effective flight profiles while performing missions that are relevant to the unit's mission statement and scope of service (i.e., fire suppression, search and rescue, hoist operations, swift water operations, external loads, overwater rescues, mountain flying [if applicable], etc). The following shall apply: a. The safe operation of the aircraft throughout all phases of flight shall be the primary concern of the pilot in command during all missions. b. All other mission requirements shall be secondary in priority. 13. Maintenance Distractions **Commentary** ***In the course of their duties, public safety pilots will be exposed to missions that require specific training to be as safe and effective as possible. Many of the training anchors listed in this section are essentially part of a Crew Resource Management program unique to airborne public safety. Additionally, specialized equipment requires specialized training. Public***	***(M)***

	safety pilots should receive internal and external training for the missions they perform. ***It is highly recommended that units refer to the APSA approved Training Tool Kit developed by the International Helicopter Safety Team as a primary source document for development of the unit's pilot training program.*** ***Amended 5/23***	
04.02.02	**Pilot-in-Command (PIC) Recurrent Training:** In addition to the Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction mandated check rides and flight reviews, units shall have an annual formal evaluation program to evaluate the practical performance of PIC's for unit missions. The program shall include documented and objective performance standards relevant to the duties of the PIC, the unit's mission statement and scope of service. The following shall apply: 1. The safe operation of the aircraft throughout all phases of flight shall be the primary concern of the PIC during all missions. All other mission requirements shall be secondary in priority. 2. Pilots shall demonstrate proficiency by successfully completing a recurrent flight evaluation at least once each year administered by an appropriately rated Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction Certified Flight Instructor (CFI) in each aircraft for which the pilot is qualified to fly and perform unit missions. 3. The recurrent flight evaluation will include, but not limited to, the following: a. The proper and effective use of aircraft checklists b. Effective cockpit communications c. Effective crew coordination d. Demonstrated proficiency of tasks associated with the missions performed by the unit for which they are qualified. e. The safest and most effective flight profile when mission equipment is being used. f. Unit policies and procedures 4. Hazard identification & risk management which includes: a. Judgment and decision making b. Fatigue Management c. Human factors d. Stress management in all phases of flight e. Interpersonal communications between crewmembers, to include prioritization and crew coordination. f. Workload management g. Cockpit distractions 5. Situational awareness 6. Inadvertent Instrument Meteorological Conditions (IIMC) and recovery procedures **(NTSB Recommendation A-11-57)**	***(M)***

	7. Emergency Procedures/Recurrent Training: a. Shall be conducted annually. ***However, it is strongly recommended that emergency procedures training be conducted at least twice annually.*** b. Includes an oral exam on the aircraft limitations and emergency sections of the aircraft's pilot operational manual. **Commentary** ***Recurrent check rides are pilot proficiency and mission-oriented check rides. Recurrent check rides are an effective method of ensuring that unit pilots are flying and performing missions in accordance with unit standard operating procedures and the applicable Pilot Operating Handbook. It is recommended that units maximize the use of flight simulators and flight training devices whenever possible.*** ***Amended 5/23***	
04.02.03	**Unit Flight Instructor Requirements:** Aviation unit flight instructor(s) shall be a qualified and current Certificated Flight Instructor (CFI), check airman, authorized instructor, or designated examiner for the appropriate flight discipline, licensed or authorized by the Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction. The flight instructor shall be designated by the unit manager as a training pilot and qualified in the appropriate category, class and type (if applicable) of aircraft in which instruction will be conducted. **Commentary** ***Management should thoroughly assess a unit flight instructor's abilities prior to assigning him/her the responsibility to conduct flight instructor duties. Special emphasis should be given to the unit flight instructor's demonstrated ability to teach, in addition to his/her knowledge, skills, judgment, experience and ability to conduct training, including emergency procedures.*** ***The Vertical Aviation Safety Team Training Tool Kit provides excellent guidance relative to selection and training of qualified CFI's. It is highly recommended that units refer to this APSA approved Training Tool Kit as a primary source document for development of the unit's CFI Training Program*** ***Amended 5/23***	***(M)***

04.03.00	**SEARCH AND RESCUE CREW CHIEF TRAINING**	**Compliance**
04.03.01	**Training for Search and Rescue Crew Chief:** In addition to requirements established by the aviation authority having jurisdiction, helicopter SAR crew chief performing airborne search and rescue in a full time or part time capacity shall, prior to performing any unsupervised mission or task, successfully complete a formal and documented training program. The training can be conducted in- house or by an outside entity. There must be documented and objective performance standards for the training. The training shall include, but not be limited to: 1. Initial Crew Chief Training: Normal operating procedures relevant to the aircrew duties, including:	***(M)***

a. Aircraft pre-flight procedures
b. Aircraft re-fueling procedures
c. Aircraft fire guard/safety watch starting procedures
d. Proper use of aircraft checklists
e. Sterile cockpit procedures
f. Passenger briefing, including, but not limited to:
    i. Loading and unloading of passengers while the aircraft is operating and not operating. (With specific attention on the hazards associated with rising terrain.)
    ii. Seatbelt and shoulder harness operation.
    iii. Hazards associated with loose objects in the cabin.
    iv. Passenger door operation.
    v. Passenger inter-communications systems.
g. Unit Standard Operating Procedures.
h. Terrain and weather.
i. Tactical and aircraft navigation systems.
j. Orientation to airports.
k. Flight Risk Assessment.
l. Environmentally appropriate survival training.
m. Operational Risk Management.
n. Multi-Aircraft Operations.
o. Ability to assist pilot with navigation and communications.
p. Aeronautical Decision Making (ADM).
q. Crew Resource Management (CRM).
r. Safety Management System (SMS).
s. Proper wearing and use of Personal Protective Equipment (PPE) and Survival Equipment.

2. Mission Training: All crew chiefs shall be trained by a designated trainer on the proper use of all mission, special use techniques and related equipment in the aircraft that he/she is expected to operate. This includes, where applicable, the following:
    a. Search, rescue and recovery operations and equipment.
    b. Human and non-human external loads, such as hoist, short haul and rappel.
    c. Airborne search techniques.
    d. Aircraft ingress and egress.
    e. Medical operations, in continuation of a SAR mission.
    f. Helicopter Coordinator (HLCO) operations.
    g. Special mission equipment and communications equipment. (See Appendix C, Special Operations)

	h. Environmental operations training. (See Appendix C; Special Operations) 3. Training shall be provided on the legal aspects of Public Aircraft operations. 4. Incident Command System (ICS) 100, 200, 700 & 800 5. Emergency Procedures Training: Crew chiefs shall be trained on the following emergency procedures: a. Passenger briefing for in-flight and ground emergencies. b. Emergency egress/aircraft ditching training. c. Water egress procedures for all occupants (if applicable). d. Location and use of aircraft emergency/survival equipment. e. Emergency radio communications procedures. f. In-flight fire considerations. g. Crew resource management (CRM). h. Crew member responsibilities during an in-flight emergency. i. Inadvertent IMC recognition and recovery. j. Special rescue considerations (aircraft/equipment failures, hoist failure, line entanglements, etc.) 4. Interpersonal communications between crewmembers, to include: a. Delegation of responsibilities. b. Prioritization and crew coordination. c. Workload management. d. Situational awareness. 5. Maintenance Distractions **Commentary** ***A comprehensive and objective SAR crew chief training program is essential to the safe and effective operation of unit aircraft. The duties and responsibilities of SAR crew chiefs have become significantly more difficult as more advanced technology has been integrated into the cockpit and aircraft. SAR crew chiefs should not be released to operate unsupervised until they have been fully trained and evaluated in that task.*** ***Amended 5/23***	
04.03.02	**SAR Crew Chief Continuing Education:** In addition to successfully completing initial and special mission training programs, SAR crew chiefs should attend training programs from an organization not directly associated with the unit. This training should occur throughout the individual's tenure within the unit. **Commentary** ***In-house training programs are cost effective and valuable methods of training SAR crew chiefs for duties within an agency. In-house training programs, however, do not necessarily provide the SAR crew chief***	***(R)***

	candidate with new ideas, lessons learned or new industry standards like a formal, external training program.	
04.03.03	**SAR Crew Chief Recurrent Training**: In addition to the appropriate AHJ and/or aviation authority mandated flight evaluation and flight reviews, units shall have an annual formal flight evaluation program to evaluate the practical performance of crew chiefs for unit missions. The evaluation program may be progressive throughout the year and shall include documented and objective performance standards relevant to the duties of the crew chief, the unit's mission statement and scope of service. The following shall apply: 1. The safe operation of the mission equipment throughout all phases of flight shall be the primary concern of the crew chief during all search and rescue missions. All other mission requirements shall be secondary in priority. 2. Crew chiefs shall successfully complete a recurrent evaluation each year administered by a designated evaluator. 3. The recurrent evaluation will include, but not limited to, the following: a. The proper and effective use of aircraft and mission equipment checklists. b. Effective cockpit communications. c. Effective crew coordination. d. Demonstrated proficiency of tasks associated with the missions performed by the unit for which they are qualified. e. Unit policies and procedures. f. Demonstrated proficiency in the operation of the mission equipment. 4. Hazard identification & risk management which includes: a. Judgment and decision making. b. Fatigue management. c. Human factors. d. Stress management in all phases of flight. e. Interpersonal communications between crewmembers, to include prioritization and crew coordination. f. Workload management. g. Cockpit distractions. 5. Situational awareness. 6. Inadvertent Instrument Meteorological Conditions (IIMC) and recovery procedures. **(NTSB Recommendation A-11-57)** 7. Emergency Procedures/Recurrent Training: a. Shall be conducted annually. However, it is strongly recommended that emergency procedures training be conducted at least **twice annually**. b. Includes an evaluation on the mission equipment, limitations and emergency procedures.	***(M)***

	Commentary ***Recurrent flight evaluations are proficiency and mission-oriented evaluations. Recurrent evaluations are an effective method of ensuring that crew chiefs are performing SAR missions in accordance with unit standard operating procedures.***	

04.04.00	**SEARCH AND RESCUE TECHNICIAN**	**Compliance**
04.04.01	**Training for Search and Rescue Technicians:** In addition to requirements established by the aviation authority having jurisdiction (AHJ), helicopter SAR technician performing airborne search and rescue in a full time or part time capacity shall, prior to performing any unsupervised mission or task, successfully complete a formal and documented training program. The training can be conducted in- house or by an outside entity. There must be documented and objective performance standards for the training. The training shall include, but not be limited to: 1. Initial SAR Technician Training: Normal operating procedures relevant to the aircrew duties, including: a. Trained and certified as a medical care provider consistent with the applicable level of medical care (i.e., BLS, ALS, etc.) provided in conjunction with the rescue, if applicable. b. Equipment pre-flight procedures. c. Aircraft fueling procedures. d. Aircraft fire guard/safety watch starting procedures. e. Proper use of equipment and operational checklists. f. Sterile cockpit procedures. g. Passenger briefing, including, but not limited to: i. Loading and unloading of passengers while the aircraft is operating and not operating. *(With specific attention on the hazards associated with rising terrain)* ii. Seatbelt and shoulder harness operation. iii. Hazards associated with loose objects in the cabin. iv. Aircraft door operation. v. Emergency exits. vi. Passenger inter-communications systems. h. Unit Standard Operating Procedures. i. Terrain and weather. j. SAR and flight risk assessment. k. Hazard Mitigation. l. Multi-Aircraft Operations. m. Ability to assist pilot with navigation and communications. n. Crew Resource Management (CRM). o. Safety Management System (SMS).	***(M)***

p. Proper wearing and use of Personal Protective Equipment (PPE) and survival equipment.

q. Environmentally appropriate survival training.

r. Landing spot and heli-spot management.

2. Mission Training: All SAR Technicians shall be trained by a designated trainer on the proper use of all mission, special use techniques and related equipment in the aircraft that he/she is expected to operate.

   This includes, where applicable, the following:

   a. Search, rescue and recovery operations and equipment.

   b. Human and non-human external loads, such as hoist, short haul and rappel.

   c. Airborne search techniques.

   d. Aircraft ingress and egress during SAR missions.

   e. Medical operations, in continuation of a SAR mission.

   f. Helicopter Coordinator (HLCO) operations.

   g. Special mission equipment and communications equipment. *(See Appendix C, Special Operations)*

   h. Environmental operations training. *(See Appendix C; Special Operations)*

3. Incident Command System (ICS) 100, 200, 700 & 800.

4. Emergency Procedures Training: SAR Technicians shall be trained on the following emergency procedures:

   a. Passenger briefing for in-flight and ground emergencies.

   b. Emergency egress/aircraft ditching training.

   c. Water egress procedures for all occupants (if applicable).

   d. Location and use of aircraft emergency/survival equipment.

   e. Emergency radio communications procedures.

   f. In-flight fire considerations.

   g. Crew resource management (CRM).

   h. Crew member responsibilities during an in-flight emergency.

   i. Inadvertent IMC awareness.

   j. Special rescue considerations (aircraft/equipment failures, hoist failure, line entanglements, etc.).

5. Interpersonal communications between crewmembers, to include:

   a. Delegation of responsibilities.

   b. Prioritization and crew coordination.

   c. Workload management.

   d. Situational awareness.

6. Maintenance Distractions

Commentary

	A comprehensive and objective SAR technician training program is essential to the safe and effective operation of unit aircraft. The duties and responsibilities of SAR technician have become significantly more difficult as more advanced technology has been integrated into the cockpit and aircraft. SAR technicians should not be released to operate unsupervised until they have been fully trained and evaluated in that task. ***Amended 5/23***	
04.04.02	**SAR Technician Continuing Education:** In addition to successfully completing initial and special mission training programs, SAR Technicians should attend training programs from an organization not directly associated with the unit. This training should occur throughout the individual's tenure within the unit. **Commentary** ***In-house training programs are cost effective and valuable methods of training SAR technicians for duties within an agency. In-house training programs, however, do not necessarily provide the SAR technicians candidate with new ideas, lessons learned or new industry standards like a formal, external training program.***	***(R)***
04.04.03	**SAR Technician Recurrent Training:** In addition to the appropriate AHJ, units shall have an annual formal flight evaluation program to evaluate the practical performance of SAR Technicians for unit missions. The evaluation program may be progressive throughout the year and shall include documented and objective performance standards relevant to the duties of the SAR Technician, the unit's mission statement and scope of service. The following shall apply: 1. The safe operation of the mission equipment throughout the flight shall be the primary concern of the SAR Technician during all search and rescue missions. All other mission requirements shall be secondary in priority. 2. SAR Technicians shall successfully complete a recurrent evaluation each year administered by a designated evaluator. The recurrent evaluation will include, but not limited to, the following: a. The proper and effective use of mission equipment and operational checklists. b. Effective cockpit communications. c. Effective crew coordination. d. Demonstrated proficiency of tasks associated with the missions performed by the unit for which they are qualified. e. Unit policies and procedures. f. Demonstrated proficiency in the operation of the mission equipment. 3. Hazard identification & risk management, which includes: a. Judgment and decision making. b. Fatigue management. c. Human factors. d. Stress management in all phases of the mission.	***(M)***

	e. Interpersonal communications between crewmembers, to include prioritization and crew coordination. f. Workload management. g. Aircraft/cabin distractions. 4. Situational awareness. 5. Emergency Procedures/Recurrent Training: a. Shall be conducted annually. ***However, it is strongly recommended that emergency procedures training be conducted at least twice annually.*** b. Includes an evaluation on the mission equipment, limitations and emergency procedures. **Commentary** ***Recurrent flight evaluations are proficiency and mission-oriented evaluations. Recurrent evaluations are an effective method of ensuring that SAR technicians are performing missions in accordance with unit standard operating procedures.***	

04.05.00	**SEARCH AND RESCUE QUALIFIED NON-CREWMEMBERS**	**Compliance**
04.05.01	**Qualified Non-Crewmember:** Qualified non-crewmembers shall receive a formalized briefing prior to flight. The briefing shall include: 1. Personal Protective Equipment (PPE). 2. Approach and departure from aircraft. 3. Smoking prohibitions. 4. Tools, items and equipment. 5. Aircraft door usage and locations. 6. Use of aircraft seatbelts. 7. In-Flight discipline. 8. In-Flight emergency procedures. ***A comprehensive and objective SAR qualified non-crewmembers training program is essential to the safe and effective operation of unit aircraft. The duties and responsibilities of SAR qualified non-crewmembers have become significantly more difficult as more advanced technology has been integrated into the cockpit and aircraft. SAR qualified non-crewmembers should not be released to operate unsupervised until they have been fully trained and evaluated in that task.*** ***Amended 5/23***	***(M)***

04.06.00	**NIGHT VISION GOGGLES (NVG)**	**Compliance**
04.06.01	**Night Vision Goggle (NVG) Training:** If NVG's are utilized by unit pilots and aircrew members and/or qualified non-crewmembers, they shall successfully complete an NVG training program prior to performing mission duties in unit aircraft under night vision goggles. At a minimum, the training shall include:	***(M)***

	1. NVG missions, applications and limitations. 2. Weather and environmental conditions (including recognition and recovery from inadvertent IMC). 3. Emergency procedures training. 4. NVG emergencies (goggle failures, exposure to bright lights and/or laser strikes). 5. Physiological factors. 6. Navigation. 7. Annual recurrent training and evaluation. 8. Periodic currency requirements. 9. Care, maintenance, inspection and security requirements of NVGs. 10. Auxiliary equipment and aircraft lighting. **Commentary** ***Pilots and Aircrews and/or Qualified Non-Crewmembers authorized to use night vision goggles require specific initial and recurrent training. It is strongly recommended that the training received certifying NVG qualifications, be in accordance with appropriate FARs, military specifications or equivalent training standards of other regulatory authorities.*** ***Amended 5/23***	

04.07.00	TRAINING RECORDS	Compliance
04.07.01	**Training Records:** The aviation unit shall, for each person required to receive initial and recurrent training, establish and maintain a record of all training received. These training records shall include the following information: 1. Name, pilot certificate number and a listing of all ratings, if applicable. 2. For pilots, a record of the current medical certificate, class and expiration date. 3. The training records indicating successful completion and date of initial qualification training as unit pilot and aircrews and/or qualified non-crewmembers training or certifications. 4. The documentation or checklist used to record at a minimum the last three pilot proficiency check flights or examinations and aircrews and/or qualified non-crewmember evaluations and certifications, where applicable. 5. Documentation related to any training failures or inability to successfully complete any required training, including check flights, and what remedial action was taken to satisfactorily complete the required training. 6. The make, model and type of aircraft or flight training equipment used to conduct the training. 7. The unit shall retain these records and copies of all pilot proficiency check flights, crewmember evaluations and certifications for a minimum of five years after the individual leaves the agency or longer if required by law or policy. .The records shall be kept in written or electronic form.	***(M)***

	8. Records shall be maintained in accordance with any regulations issued by the Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction. **Commentary** ***Retaining training records for all assigned personnel who are required to undergo initial and/or recurrent training is essential to proper unit management and protection against claims of negligence in personnel hiring, retention and training. In accordance with the FAA's Pilot Records Improvement Act (PRIA) of 1996, all pilot records should be maintained for at least five years past transfer or termination of employment.*** ***Amended 5/23***	

Section 5 Maintenance Standards

05.01.00	STANDARDS FOR AIRCRAFT MAINTENANCE	Compliance
05.01.01	**Certificated Aircraft Maintenance Standards:** Aviation units operating certificated aircraft shall maintain them in accordance with applicable Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction and OEM maintenance requirements. **Commentary** **In order to maintain the airworthiness of certificated aircraft, units must maintain them in accordance with FAR Parts 43, 65, 91 and Part 135, CAR Part V or the aviation authority having jurisdiction regulations where applicable. Aircraft shall also be maintained in accordance with the airframe manufacture's maintenance requirements.** **Amended 5/23**	***(M)***
05.01.02	**Non-Certificated or Military Surplus Aircraft:** Aviation units operating non-certificated or military surplus aircraft shall, at a minimum, maintain them in accordance with the OEM maintenance requirements, appropriate military continued airworthiness program for the specific aircraft or the Interagency Committee for Aviation Policy (ICAP) Planning and Inspection Guidelines for the particular aircraft (not applicable to non-US units), and/or other approved maintenance standard from a recognized aviation authority having jurisdiction. **Commentary** ***Maintenance standards are essential in operating a safe aviation unit. There are no Federal Aviation Administration maintenance regulations for non-certificated military surplus aircraft. However, it is imperative that units identify to what standard of maintenance their aircraft are being maintained and follow that standard.*** ***Amended 5/23***	***(M)***
05.01.03	**Continued Airworthiness Program:** For all aircraft, there shall be a written policy that outlines the unit's continued airworthiness program to include manufacturers' maintenance requirements and applicable Supplemental Type Certificates and/or Field Approvals from an equivalent recognized aviation authority. **Commentary** ***The policy identifies the specific acceptable maintenance program being utilized for particular aircraft, and requires that it be strictly followed with documented evidence of compliance. This includes all applicable Type Certificates, Supplemental Type Certificates and Field Approvals.***	***(M)***
05.01.04	**Federal Aviation Administration, Transport Canada or the Aviation Authority Having Jurisdiction Directives and/or Military Safety of Flight Bulletins:** There shall be a system in place to ensure that the unit is in compliance with all applicable Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction Airworthiness Directives and/or Military Safety of Flight Bulletins. Additionally, compliance with Service Bulletins or Military Advisory Bulletins should be accomplished in a timely manner.	***(M)***

	Commentary ***Airworthiness Directives and Military Safety of Flight Bulletins require mandatory compliance on or before their due date. Service Bulletins and Military Advisory Bulletins are issued when a potentially hazardous condition may exist, and compliance is strongly recommended. Since they are not issued on a scheduled basis, it is very important that a tracking mechanism exists to ensure compliance.*** ***Amended 5/23***	
05.01.05	**Pilot Authorized Maintenance:** In accordance with applicable aviation regulations, there shall be a written policy that outlines what maintenance, if any, pilots may perform. Pilots shall receive instruction from a maintenance technician/engineer on authorized maintenance procedures and a record kept of this training. The pilot shall also receive an annual review of this training. **Commentary** ***The Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction regulations are specific as to what maintenance can be performed by pilots.*** ***Amended 5/23***	***(M)***
05.01.06	**Outsourced Maintenance:** If the unit outsources aircraft maintenance, the unit shall have a written policy assuring that the maintenance contractor, at a minimum, complies with all applicable maintenance standards in this section. Additionally, the unit shall appoint a unit member with knowledge of the maintenance contract requirements, to be responsible for oversight of the maintenance contractor. This individual shall conduct periodic audits of the maintenance performed by the contractor and at least annually, submit the findings of the audits to the Aviation Program Manager. For the purpose of accreditation, the unit shall provide documentation verifying that the maintenance contractor is in compliance with the Standards as outlined in this section. **Commentary** ***It is recommended the agency include compliance with the standards in this section (Section 5, Maintenance) as part of the terms and conditions of the maintenance contract. Assigning a unit member to have oversight of this maintenance provider is one way of assuring compliance. An annual review and audit of their outsourced maintenance provider will also verify compliance with this standard. The findings shall be kept on file.***	***(M)***
05.01.07	**Operational Check Flights:** An operational check flight or return to service flight shall be performed by a pilot appropriately trained to validate the maintenance that was performed and ensure that all results of the operational check flights are documented in the appropriate maintenance records. **Commentary** ***Operational check flights, when required, are intended to ensure that maintenance performed has been properly completed and the aircraft is ready to be returned to service. Appropriately trained may include factory training or training conducted under the supervision of a qualified maintenance technician.*** ***Amended 5/2023***	***(M)***

05.02.00	AIRCRAFT MAINTENANCE TECHNICIANS/ENGINEERS	Compliance
05.02.01	**Aircraft Maintenance Technician/Engineer Requirements:** Maintenance technicians shall meet the following minimum requirements: 1. Maintenance technicians/engineers, not operating under an FAA/TC/NAA Repair Station Certificate, must possess at least a current Airframe and Powerplant (A&P) certificate (or equivalent in countries outside the United States). An Inspection Authorization (IA) certificate is strongly encouraged. 2. Maintenance technicians/engineers shall be trained to install, maintain, remove and replace any specialized equipment in accordance with the manufacturer's maintenance standards. 3. Maintenance technicians/engineers shall receive annual maintenance recurrency training and formal training on human factors and maintenance error reduction. 4. Maintenance technicians/engineers should be factory trained (or equivalent) in an approved program on each type of aircraft they are required to maintain. **Commentary** ***Operational safety begins with a highly proficient and properly trained maintenance staff. These qualifications will instill confidence in the aircrews and enhance professionalism throughout the aviation unit. The need for specialized equipment is dictated by the specific mission, which often changes from flight to flight.***	***(M)***

05.03.00	MAINTENANCE FACILITY	Compliance
05.03.01	**Maintenance Facility:** The following shall apply to aircraft maintenance facilities: 1. Appropriate ventilation shall be installed to clear the maintenance facility of hazardous fumes, such as solvents, oils, adhesives and cleaners, which are common to the aviation environment. 2. The hangar shall be maintained in a clean and orderly manner. 3. Hand cleaners, disinfectants, latex or latex free gloves, eye wash bottles/station and a well-equipped first aid kit shall be readily available. All unit members shall know their locations. 4. A fire suppression system or an adequate supply of certified and current fire extinguishers, suitable for the types of fire hazards the unit is likely to encounter shall be readily available. **Commentary** ***The intent of this standard is to ensure that maintenance technicians are not exposed to hazardous chemical vapors during maintenance. Foreign Object Debris/Damage hazards are much less likely to occur if the maintenance area is maintained in a clean and orderly manner. Additionally, adequate lighting for all maintenance procedures should be considered.***	***(M)***
05.03.02	**Maintenance Distractions:** There shall be a written policy to reduce the likelihood of interruptions and distractions to the maintenance technician, including cellphone usage	***(M)***

	Commentary ***When a technician is performing maintenance on an aircraft, any interruptions and/or distractions could very easily lead to human error. There are many examples in which accidents were caused by maintenance technicians being distracted. This includes leaving tools in critical areas or not completing assigned tasks. Units should also consider restricting the use of cellphones in the maintenance facility while performing maintenance on aircraft.*** ***Amened 5/23***	
05.03.03	**Organizational Equipment, Parts, Tools and Specialized Tool Storage:** Storage of equipment, parts, tools and specialized tools shall be secure, orderly and clear of fire hazards and in compliance with Occupational Safety and Health Administration (OSHA), Environmental Protection Agency (EPA), appropriate international and local regulations. There shall be a written policy that covers inventory control procedures of equipment, parts and tools. All flammable materials shall be stored in a flameproof cabinet. **Commentary** ***Federal, state, international and local regulations are intended to ensure, to the greatest possible extent, that workers are not exposed to hazardous conditions. A formal written policy is one method of ensuring a level of awareness and compliance for all unit personnel.***	***(M)***

05.03.04	**Inventory and Parts Control:** There shall be a system in place to track time limited parts and expiration dates on shelf items.
	
	1. All parts shall be properly tagged and environmentally protected.
	   a. Parts shall be wrapped or boxed in a manner that prevents damage or contamination.
	   b. Open ends of fabricated or bulk lines and hoses shall be capped or covered.
	   c. Serviceable parts shall be kept in a separate area from unserviceable parts, and tagged appropriately.
	   d. A system shall be in place to segregate SAE and metric parts.
	2. Parts shall be inspected to ensure that an approved vendor provided them and that the required certification documentation is included.
	3. Parts shall be inspected for airworthiness acceptance prior to entering them into inventory.
	
	Commentary
	
	The intent of this standard is to ensure that non-serviceable parts are never installed on aircraft. Additionally, many parts (like braided hoses or sharp- edged components) can cause serious injury if not properly stored. Some units operate aircraft from different manufacturers; therefore, it is extremely important to ensure that components/parts of similar size and shape are never installed on the wrong aircraft.
		(M)

05.03.05	**Tool Control Policy:** There shall be a written tool control and inventory policy that ensures proper accountability of all special tools and individual technician tools. **Commentary**	***(M)***

	The tool control policy is intended to ensure that all tools and loose hardware have been removed from the aircraft before it is returned to service. Each individual technician should be consciously aware of the tools used on each job and be sure to make an inventory upon completion.	
05.03.06	**Tool Calibration:** There shall be a method to maintain and track tool calibration status consistent with the tool manufacturer's requirements and Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction regulations. The policy shall include, but not be limited to: 1. Tools which require calibration, shall have documentation or tags on the tools that list the last calibration date and the next calibration date. 2. A system to ensure that employee-owned tools are currently calibrated. 3. Tools not in calibration shall be segregated from all other tools to ensure that they are not utilized for aircraft maintenance. **Commentary** ***Tool calibration ensures that tools requiring calibration meet manufacturer's specifications.*** ***Amended 5/23***	***(M)***

05.04.00	**AIRCRAFT MAINTENANCE RECORDS**	**Compliance**
05.04.01	**Aircraft Maintenance Records:** There shall be a written policy that assigns responsibility for maintaining aircraft maintenance records. Logbook entries shall be made in accordance with the Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction regulations. **Commentary** ***Accurate aircraft record keeping is essential to safe operating practices and ensures compliance with Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction and/or military standards. Without such a policy, the airworthiness of the unit's aircraft cannot be verified.*** ***Amended 5/23***	***(M)***
05.04.02	**Maintenance Discrepancy Reporting:** There shall be a written policy that outlines procedures for reporting aircraft discrepancies or "squawks", taking aircraft out of service, tracking repairs, operational limitations and providing feedback to reporting persons. The policy must also mandate that discrepancy reporting comply with Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction regulations and/or applicable military maintenance standards. **Commentary** **Often a pilot verbally reports a discrepancy to a maintenance technician and it gets overlooked. The discrepancy and how it was addressed, along with any corrective action taken must be recorded in the aircraft's maintenance records. A status board available to all pilots is an additional method of providing aircraft status information.** **Amended 5/23**	***(M)***
05.04.03	**Deferred Maintenance:** There shall be a procedure to track and complete all deferred maintenance.	***(M)***

	Commentary ***When any maintenance has been deferred, it is critical to have a procedure in place to track and ensure completion of the deferred maintenance at the next 100-hour inspection or before it becomes a safety of flight issue.***	

05.05.00	**MAINTENANCE REQUIREMENTS FOR SPECIALIZED MISSION EQUIPMENT**	**Compliance**
05.05.01	**Specialized Mission Equipment Maintenance:** Units shall have a policy that ensures that all special mission equipment is inspected and maintained in accordance with the prescribed guidance issued by the manufacturer, Federal Aviation Administration, Transport Canada or the aviation authority having jurisdiction. The following are examples of special mission equipment: 1. Hoists, including all components (cable, hook, etc.). 2. Cargo Hooks and redundant/secondary systems. 3. Firefighting Bucket or Fixed Tanks, if applicable. 4. Multi-Sensor Camera Systems. 5. Night Vision Goggles. 6. Night Vision Imaging Systems, including aircraft lighting. 7. Life Safety Equipment (short haul, ropes and rappel equipment; restraint straps, flotation devices, etc.). **Commentary** ***Inspection and maintenance of specialized equipment are critical to safe operations and require a record keeping process that ensures compliance with OEM and regulatory requirements. Failure of these systems is known to have been the cause of fatal accidents.*** ***Amended 5/23***	***(M)***
		(M)
		(M)
		(M)

APPENDIX A

Glossary

1. ***Accident*** – Any occurrence associated with the operation of an aircraft, which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which any person suffers fatal or serious injuries as a result of being in or upon the aircraft or anything attached thereto or the aircraft receives substantial damage.
2. ***Accountable Executive –*** The agency department head (e.g., Fire/Police Chief, Sheriff, or his/her designee)
3. ***AC*** – Advisory Circular
4. ***AD*** – Airworthiness Directive
5. ***ADM*** – Aeronautical Decision Making
6. ***AHJ*** – Agency Having Jurisdiction
7. ***Aided Flight*** – The use of Night Vision Goggles while flying in dark environments
8. ***Aircrew –*** Persons assigned to perform duties in an aircraft during flight. (e.g., Search and Rescue Pilot/Co-Pilot, Search and Rescue Crew Chief, or Search and Rescue Technician – aircrew and crewmember are interchangeable)
9. ***A & P*** – Airframe and Powerplant Mechanic
10. ***ANSI*** – American National Standards Institute
11. ***ASO*** – Aviation Safety Officer
12. ***ASTM*** - American Society for Testing and Materials
13. ***ATC*** – Air Traffic Control
14. ***Aviation Program Manager*** – Individual who has command responsibility of the unit on a day-to-day basis.
15. ***CAMTS*** – Commission on Accreditation of Medical Transport Services
16. ***CFI*** – Certified Flight Instructor
17. ***CRM*** – Crew Resource Management
18. ***ELT*** – Emergency Locator Transmitter
19. ***EMS*** – Emergency Medical Services
20. ***EPA*** – Environmental Protection Agency
21. ***FAA*** – Federal Aviation Administration
22. ***FAR*** – Federal Aviation Regulations
23. ***FLIR*** – Forward Looking Infrared
24. ***FOD*** – Foreign Object Debris, or Foreign Object Damage

25. ***FRAT*** – Flight Risk Assessment Tool
26. ***FRMS*** – Fatigue Risk Management System
27. ***HAZMAT*** - Hazardous Material
28. ***HRP*** – Hazard Reporting Program
29. ***HEMS*** – Helicopter Emergency Medical Services
30. ***HLCO*** – Helicopter Coordinator
31. ***IA*** – Inspection Authorization
32. ***IAT*** – Interagency Aviation Training
33. ***IAW*** – In accordance with
34. ***ICS*** – Incident Command System
35. ***IEP*** – Internal Evaluation Program (see FAA AC 120-59 for further definition of IEP).
36. ***IFR*** - Instrument Flight Rules
37. ***IIMC –*** Inadvertent Instrument Meteorological Conditions
38. ***IMC*** – Instrument Meteorological Conditions
39. ***Incident*** – An aircraft occurrence, not classified as an accident, in which a hazard or potential hazard to safety is involved
40. ***(M)*** – Compliance is mandatory.
41. ***Mishap*** – A general term used to include both accidents and incidents
42. ***MOU*** – Memorandum of Understanding
43. ***NAA*** – National Aviation Authority. The governmental entity regulating aviation operations in the respective country.
44. ***NFPA*** – National Fire Protection Association
45. ***NTSB*** – National Transportation Safety Board
46. ***NVG*** – Night Vision Goggles
47. ***OSHA*** – Occupational Safety and Health Administration
48. ***PFD*** – Personal Flotation Device
49. ***PIC*** – Pilot-in-Command
50. ***POH*** – Pilot Operational Handbook
51. ***PPE*** – Personal Protective Equipment
52. ***PRIA*** – Pilot Records Improvement Act
53. ***(R)*** – Compliance is recommended
54. ***SAE*** – Society of Automotive Engineers
55. ***SAR Crew Chief*** – an individual responsible for all operations and equipment starting from behind the flight deck with the helicopter and under the supervision of the PIC*.
56. ***SAR Qualified Non-Crewmember –*** An individual, other than a member of the crew, aboard an aircraft operated by a governmental agency whose presence is required to perform, or is associated with the performance of a governmental function. This includes volunteer search

and rescue and auxiliary members.

57. ***SAR Technician*** – a member of the flight crew that conducts tasks as planned and assigned by the helicopter SAR Crew Chief*. This includes all flight medical personnel.

58. ***Sensor Operator*** – An appropriately trained crew member whose primary duties are associated with the operation of the on-board sensors (e.g. Thermal imager, camera or other sensor equipment).

59. ***Shall*** – Requires mandatory compliance with the standard

60. ***Should*** – Compliance is recommended

61. ***SMS*** – Safety Management System

62. ***STDS*** – Standards

63. ***Unaided Flight*** – Flights during the hours of darkness without night vision goggles

64. ***Unit Commander*** – The individual having overall responsibility for command of the aviation unit and may or may not be directly assigned to the aviation unit.

65. ***Unit Manager*** – Individual directly assigned to the unit who has managerial responsibility for the aviation unit, but may answer to an aviation unit commander who is remotely assigned.

66. ***Unit Supervisor*** – Individual(s) directly assigned to the unit who oversee the day-to-day operation of the aviation unit.

67. ***VFR*** – Visual Flight Rules

* As defined by ASTM F2958 – 14.

APPENDIX B

Flight Operations Section of the Unit Manual

Examples of Operational Standards for the Flight Operations Section of the Unit Manual of Policy and Procedures may include, but not be limited to:

1. Aircraft Deployment Policy
2. Flight following procedures
3. Aircraft log book completion procedures
4. Weather minimums
5. Safety Equipment
6. Inadvertent IMC procedures
7. Use of Checklists
8. Flight authorization policy
9. Qualified pilot at the controls or unattended running aircraft policy. *(This does not prevent a trained and qualified person to be at the controls)*
10. Foreign object damage or debris
11. Head, eye and ear protection
12. Crew rest policy
13. Static display and public relations
14. Search and/or rescue team transportation
15. External load operations
16. Night operations
17. Special events site inspection and landing procedures
18. Passenger briefing
19. Safety rules for approaching and departing aircraft
20. Out of area flights
21. Helicopter missions
22. Fixed-wing missions
23. Off-Airport landings
24. Aircraft re-fueling procedures
25. Prohibitive/Restrictive maneuvers

26. Practice emergency procedures shall be restricted to approved training flights, wherein, a designated unit flight instructor is on-board and dual controls are installed.
27. Policies and procedures for EMS, special operations and tactical missions.
28. Formation flights
29. Smoking policy