



U.S. Geological Survey Manual

SM 445-2-H Occupational Safety and Health Program Requirements

CHAPTER 27 Aviation Safety

Instruction: Changes to this chapter were made to reflect Department of the Interior (DOI) and U.S. Geological Survey (USGS) organizational changes and policy. This update eliminates all prior appendices.

1. **Purpose.** This chapter specifies the minimum aviation safety program requirements that protect personnel from accidental injury and/or illness and minimizes property damage.
2. **Scope.** This chapter applies to the following:
 - A. USGS employees, contractors, volunteers and cooperators, who are involved in aviation activities and flight services other than airline travel (those acquired on a seat-fare basis from air carriers) per [350 Departmental Manual \(DM\) 1.1](#).
 - B. All aircraft operated by, or under the operational control, of the USGS. Included are those aircraft contracted, leased, or operated under the provisions of an Aircraft Rental Agreement, as well as aircraft owned by DOI or USGS personnel when operated on official business.
 - C. Persons employed by or whose work is directed solely by cooperators or contractors (End Product Contracts) are exempt from provisions of these documents except when their duties include use of flight services which are under operational control of the USGS or present a serious safety hazard to USGS personnel or property.

Note: DM Parts 350-354 do not apply to international DOI operations (except for Fleet operations). USGS employees are expected to follow DOI and USGS aviation policies to the extent practical when working overseas per [350 DM 1.2 C.](#), and the National Aviation Management Plan (NAMP, internal). The definitions used in this chapter are in the NAMP and [350 DM 1 Appendix 2](#). These definitions are in addition to those found in [14 CFR 1.1](#). Abbreviations are listed in the NAMP, [350 DM 1 Appendix 1](#) and in [14 CFR 1.2](#).

This chapter also provides minimal guidance for use of Unmanned Aircraft Systems (UAS, e.g. drones or unmanned aircraft) operated by the USGS, as well as minimal notification and marking requirements for obstructions to air navigation (e.g., cableways and/or antennas) with Federal Aviation Administration (FAA) regulations ([14 CFR part 77](#) and [101](#)).

3. References.

- A. [14 CFR Parts 1-199](#), Federal Aviation Regulations.

B. [Federal Property Management Regulation Part 101, Subchapter G, Aviation Transportation, and Motor Vehicles](#).

C. [DM Part 485](#), Safety and Occupational Health Program.

D. [DM Parts 350-354](#) establish management responsibilities, policies, and procedures for the utilization and operation of aircraft within the DOI. The provisions set forth in the individual chapters of each part are applicable to USGS organizations that use or operate aircraft.

E. [112 DM 12](#), [485 DM 1](#) and [DM Parts 350-354](#) govern USGS air crewmembers and passengers on-board aircraft under its operational control.

F. [DOI Office of Aviation Services \(OAS\) Operational Procedures Memorandums \(OPM\), Handbooks, and Information Bulletins](#).

G. DOI Operational Procedures Memorandum No. 11 DOI Use of Unmanned Aircraft Systems (UAS), <https://www.doi.gov/sites/doi.gov/files/uploads/opm-11.pdf>

H. [USGS Volunteer for Science Handbook, 500-23-H](#).

I. [Survey Manual \(SM\) 308.66](#), Specialized Safety Program Committees.

J. USGS NAMPS (internal) provides comprehensive guidance for aviation management and operations.

K. USGS Aviation Information Sheet (internal) provides pertinent guidance for most aviation users in a condensed form.

L. USGS Aviation Safety website (internal) provides comprehensive information for aviation users.

4. **Requirements.**

A. FAA and DOI Requirements. The USGS must ensure that its aviation policy is consistent with FAA requirements specified in [14 CFR 1-199](#), and policy directives are consistent with the provisions of [DM Parts 350-354](#), the DOI Aviation Handbooks, and OAS Memoranda.

(1) USGS Aviation Safety Policy. USGS aviation safety policy must be consistent with applicable Handbooks and [DM Part 352, Aviation Safety](#):

Chapter 1 Aviation Safety Program

Chapter 2 Aviation Program Evaluations

Chapter 3 Aircraft Mishap Notification, Investigation, and Reporting

Chapter 4 Aviation Safety Awards Program

(2) USGS Flight Operations. USGS flight operations must be conducted in accordance with applicable Handbooks, OPMs, and [DM Part 351, Aviation Operations](#):

Chapter 1 Flight Operations Standards and Procedures

Chapter 2 Aircraft Equipment and Maintenance

Chapter 3 Flight Crewmember Policy

Chapter 4 Cooperator Operations

(3) Procurement. With the exceptions listed in [353 DM 1.2\(A\)](#), all official flight services must be procured through OAS Acquisitions Services Directorate. [DM Part 353, Aviation Services](#):

Chapter 1 Aircraft Contracting

Chapter 2 Aircraft Acquisition and Disposition

B. USGS Aviation Safety Programs. Each cost center involved in aviation operations must establish an aviation safety program, consistent with the provisions of [DM Part 350-354](#), DOI aviation Handbooks, and OAS Memoranda, the USGS NAMP, and this chapter.

(1) Safety. The safety of USGS employees, contractors, volunteers, and cooperators takes precedence over mission accomplishment. Pilots shall not be coerced to operate in weather, location, low altitude, confined space, wire environment, or other circumstance that may be beyond the known capabilities of the pilot or the aircraft.

(2) Employee Prerogative. USGS employees, contractors, volunteers and cooperators may elect without fear of reprisal not to fly under any condition they consider to be unsafe.

(3) Private Life Insurance Exclusionary Clauses. Many private life insurance policies contain exclusionary clauses for high hazard activities (e.g., diving, skydiving, and participation as pilots, aircrew members, or passengers on non-commercial flights). Identification of any exclusionary clauses is the responsibility of the employee.

(4) Research Work Orders/Cooperative Agreements/Support Services Contracts/Grants, etc. Subject agreements that involve the use of flight services must contain language that all persons on board aircraft under the operational control of USGS are subject to the directives in this Handbook.

(5) National Aviation Program. The USGS shall establish and maintain an active national aviation program for the management of aviation resources and the implementation of an effective aircraft mishap prevention program in accordance with [352 DM 1.3](#).

(a) Aviation Advisory Committee. The program shall include provisions for the establishment of Aviation Advisory Committee (AAC). The AAC meets or exceeds the requirements in [14 CFR 1-199](#), [DM Parts 350-354](#), and OAS Memoranda and Handbooks.

(b) Aviation Safety Program Staffing and Training. The USGS shall provide staffing and training of employees, contractors, volunteers and cooperators necessary to ensure effective aircraft mishap prevention program in accordance with [352 DM 1.5](#).

C. Training. Minimum training requirements are outlined in the USGS NAMP section 5, and in the DOI Interagency Aviation Training (IAT) Guide, and OAS Memoranda. Resources shall be made available for education and training. Attendance at aviation training sessions, as well as aviation safety seminars and formal educational institutions, shall be encouraged.

(1) Aircrew members. USGS employees, contractors, volunteers and cooperators with any inflight duties are classified as “aircrew members” and require Basic Aviation Safety training at initial assignment and every 3 years supplemented by mission appropriate specialized training mandated by DOI (approximately 8 hours total training).

(2) Project/Task Chiefs. A Project or Task Chief is a person who supervises the activities of aircrew members, plans and supervises flight activities and prepares Project Aviation Safety Plans (PASPs). Project/Task Chiefs must complete aviation training appropriate to the project operations including: Aviation radio use, flight following, mission planning, policy and regulations, responsibility and liability, crew resource management, aircraft operations, aircraft capabilities and limitations, human factors, and risk management courses (approximately 20 hours training). Also, Basic Aviation Safety Training and Aviation Training for Supervisors are required every 3 years supplemented by mission appropriate specialized training mandated by DOI (approximately 12 hours training).

(3) Supervisors. Supervisors must take Aviation Management Training for Supervisors every 3 years and training mandated by DOI (approximately 4 hours total training). A supervisor is the official first line supervisor of an Aircrew member. Second line supervisors and/or Cost Center Managers must take Aviation Management Training for Supervisors every 3 years.

(4) Managers. Managers overseeing mission flight personnel must complete Aviation Management Training for Supervisors (approximately 3 hours total training) or receive an Aviation Management Line Manager’s Briefing (approximately 1 hour total training) every 3 years.

(5) Passengers. Passengers on point-to-point and non-special use flights must receive a safety briefing by the flight crew/pilot. A passenger is any person aboard an aircraft who does not perform any in-flight functions.

D. National Aviation Management Plan (NAMP). The NAMP addresses the minimum elements listed in [352 DM 1.9](#), OAS Memoranda, and applicable Handbooks, and provides comprehensive guidance for aviation management and operations. The Bureau Aviation Manager will review the NAMP annually and make interim revisions as required.

E. Center, Unit, or Office Aviation Management Plan (CAMP). Each cost center involved in aviation operations shall establish a CAMP, consistent with the provisions of [DM Parts 350-354](#),

DOI aviation Handbooks, and OAS Memoranda and this Chapter. A template for a CAMP is provided in the NAMP Appendix 2 (internal).

F. Project Aviation Safety Plan (PASP). Each project shall develop a PASP consistent with [352 DM 1.9 C.](#), applicable OPMs, Handbooks, and the USGS NAMP. Minimum PASP requirements are provided in the template in the NAMP Appendix 1 (internal). PASPs must be prepared by a trained Project or Task Chief, reviewed by either a Regional Aviation Manager (RAM) or the Bureau Aviation Manager (BAM), and approved by a Cost Center Manager.

(1) Toe-in, Single-Skid, and Step-Out Landings. These landings are prohibited except when an exception to DOI policy has been approved by the OAS Director, per [OPM-40 Approval for Single-Skid, Toe-in, and Hover Exit/Entry](#).

(2) Aerial Capture, Eradication, and Tagging of Animals (ACETA). Capturing of animals must be conducted in accordance with [351 DM 2](#), [351 DM 3](#), the USGS NAMP, and the [DOI ACETA Handbook](#).

(3) Flights Over Public Lands. Notifications to land management agencies shall be made for flights over public lands for airspace coordination, aircraft noise and pollution control, and to comply with applicable wildlife and resource statutes.

(4) Personal Protective Equipment (PPE) Waivers. Waivers or exceptions to PPE requirements may be granted, per the Aviation Life Support Equipment Handbook. Requests for exceptions must be addressed to the OAS Director from the Bureau Aviation Manager and must contain detailed justification that the waiver is essential in the accomplishment of specific Bureau projects. Copies of Bureau-granted waivers must be provided to the OAS Director and be included with Bureau requests for procurement services when such operations are to be conducted, per [350 DM 1.9](#). The current waiver can be found at the USGS Aviation Safety website (internal).

(5) PASPs must include a risk analysis and risk management plan considering alternate methods and techniques and address hazard identification, risk evaluation, risk mitigation or elimination controls, and management supervision and promotion.

(6) PASPs must contain a coherent communication plan including flight following and Mishap Response Plan (AMRP) according to the NAMP.

G. Aviation Mishap Response Plan (AMRP). Each Cost Center using flight services must maintain a current and complete AMRP detailing necessary action in the event of a missing or downed aircraft according to [352 DM 3.5](#) and the NAMP. The [Interagency Aviation Mishap Response Guide and Checklist](#) provides an approved AMRP template.

H. End-Product Contracts. End Product contracts to obtain data or samples such as aerial photographs, per head animal capture, LiDAR imagery, survey data or maps, airborne geophysical survey data, or aerial wildlife survey data are encouraged. End Product contracts are not flight service contracts and do not need to be obtained through OAS ([353 DM 1.2\(A\)](#)).

However, End Product contracts must include only specifications for the data or products and shall not specify pilot or aircraft standards, the use of PPE, direct aircraft maintenance, dispatch

or direct flights, manage flight operations, use public (government) aircraft, or allow any DOI personnel on board.

I. Unmanned Aircraft Systems (UAS) (e.g., drones or unmanned aircraft). UAS operations must be conducted in accordance with DOI Operational Procedures Memorandum No. 11, DOI Use of Unmanned Aircraft Systems (UAS) (<https://www.doi.gov/sites/doi.gov/files/uploads/opm-11.pdf>).

J. Aviation Program Evaluation. Aviation Program Evaluations must be conducted in accordance with [352 DM 2](#). Evaluation findings must also be entered into the DOI Inspection and Abatement System (IAS).

K. Aircraft Mishap Notification, Investigation, and Reporting. Aircraft mishap notification, investigations, and reporting shall be accomplished in accordance with [352 DM 6](#), Aircraft Mishap Notification, Investigation, and Reporting.

(1) Safety Management Information System (SMIS) reporting. Additional aircraft mishap reporting requirements are prescribed in [451 DM 1](#) and [485 DM 7](#).

(2) DOI Mishap Investigation Responsibilities. The OAS Director has the responsibility and authority to conduct DOI aircraft mishap investigations. The OAS Aviation Safety Manager will coordinate all DOI investigations with the National Transportation Safety Board (NTSB) and will serve as the DOI point of contact for NTSB aircraft mishap investigations.

(3) Bureau Mishap Investigation Responsibilities. The USGS shall designate an on-site liaison to coordinate with the DOI Serious Accident Investigation Team. Additional USGS (Bureau-level) requirements are listed in 445-2-H, Chapter 7.

L. Aviation Safety Awards Program. Aviation Safety Awards requirements are detailed within [352 DM 4](#).

M. Cooperator Aircraft. USGS personnel flying on Military, other Public Agency or Private Entity Aircraft or other non-DOI procured aircraft must obtain Cooperator Aircraft approval from OAS. Requests for use of cooperator aircraft must be coordinated with the Bureau Aviation Manager prior to the planned flight and provide the information in [351 DM 4](#).

N. Passenger Travel on Government Aircraft. Travel (point-to-point, no duties while onboard) on Government aircraft (contracted or fleet) is restricted to official travel or travel on a space-basis subject to the policies and definitions prescribed in [41 CFR Part 101-37](#), Office of Management and Budget (OMB), [Circular A-126](#); and DOI Operational Procedures Memorandum: Improving the Management and Use of Government Aircraft. A link to the DOI Temporary Duty Travel Policy is located in the USGS Financial Operating Procedures, Chapter 26.2. This policy includes the Use of Government Aircraft under DOI TDY Policy Chapter 4.11.

(1) Senior Executive Travel on Government Aircraft. Prior approval on a trip-by-trip basis from the DOI Solicitor or designee is required for Senior Executives, their family members, and non-

Federal travelers for travel that is non-mission or non-required. OMB Circular A-126 and OAS Memoranda.

(2) *Privately Owned Aircraft.* A USGS employee may use privately owned aircraft for official travel and receive reimbursement, upon supervisor approval, provided the employee holds FAA issued Pilot and Medical Certificates and is properly authorized to exercise the privileges of those certificates. Transportation of passengers on a privately owned aircraft is prohibited unless the aircraft and pilot are properly carded (OAS approved) for DOI operations.

O. *Aircraft Usage Reporting Requirements.* USGS employees, contractors, volunteers and cooperators must report flight hours according to [350 DM 1.9](#), per [41 CFR 101-37.407](#).

5. Responsibilities.

A. *Director.* Directs Aviation Safety activities through the Designated Agency Safety and Health Official (DASHO).

B. *Deputy Director.* Serves as the USGS representative on the DOI Executive Aviation Board.

C. *Associate Directors and Regional Directors.*

(1) Appoint a RAM within the regional area as a representative on the Bureau Aviation Advisory Committee. A RAM may support more than one region.

(2) Ensure that respective region, mission area, or office implements and complies with aviation program requirements.

(3) Provide staff and funding support to ensure that aviation program requirements are implemented and findings are abated.

D. *Designated Agency Safety and Health Official (DASHO).* The DASHO serves as the USGS senior management official on the DOI Executive Aviation Committee, and has delegated this authority to the Chief, Office of Management Services.

(1) Exercises the authority of the Director to develop, direct, and manage an effective aviation program.

(2) Assigns authority to the Chief, Office of Management Services, for aviation program management and administration.

(3) Designates a Bureau Aviation Manager.

(4) Assigns a representative to serve as liaison with OAS for all NTSB reportable mishaps.

(5) Ensures USGS participation on Interior Aircraft Mishap Review Boards.

E. *Chief, Office of Management Services.*

- (1) Serves as the USGS senior management official on the DOI Executive Aviation Committee.
- (2) Assigns aviation program responsibilities to the Bureau Aviation Manager for program management and administration.

F. *Chief, Occupational Safety and Health Management Branch (OSHMB).*

- (1) Ensures the establishment, oversight, and assessment of the aviation program.
- (2) Ensures the development of the aviation policy.
- (3) Provides guidance and assistance in implementing aviation program requirements to mission area, office, or regional managers and supervisors.

G. *Bureau Aviation Manager (BAM).*

- (1) Manages the overall aviation safety program and serves as principal advisor on all technical and administrative aviation safety matters, inclusive of the following: Aviation Safety Program Responsibilities, Aircraft Mishap Prevention Program, Aviation Review Program, Aviation Safety Awards Program, Aircraft Mishap Investigation, and Aviation Safety Education and Training.
- (2) Coordinates with OAS on aviation program support inclusive of aviation program evaluations.
- (3) Performs as the principal representative for accident investigations and review boards.
- (4) Analyzes accident and incident trends and monitors Aviation Management Information System (AMIS) Safety Communiqué (SAFECOM) reports and incidental serious safety concerns.
- (5) Serves as USGS representative to the EAS who reports to the EAC.
- (6) Disseminates aviation related policy and technical information.
- (7) Coordinates fleet aircraft acquisition, replacement, and disposal to support agency programs.
- (8) Tracks and reviews budget submissions and aviation expenditures.
- (9) Assists OAS with the coordination of DOI Aviation Program Evaluations.
- (10) Publishes the NAMP.
- (11) Monitors airspace needs and coordinates with the FAA as appropriate.

- (12) Identifies and provides appropriate resources for the education and training of RAMs.
- (13) Promotes aviation safety management education and training courses, workshops, and seminars.
- (14) Provides oversight for the USGS aviation safety awards program.
- (15) Maintains liaison with the OAS Aviation Safety Manager for aircraft mishap prevention purposes.
- (16) Conducts Aviation Safety Evaluations and Inspections of Bureau, Region, and field units.
- (17) Oversees and manages the RAM or “Area” Aviation Safety Program Managers.

H. Bureau and Regional Safety Managers, RAMs, and Aviation Advisory Committee Representatives.

- (1) Assist field level Collateral Duty Safety Program Coordinators and Regional Aviation Safety Managers in establishing and meeting aviation program compliance, as applicable.
- (2) Validate through inspections and external audits that required elements of the aviation program are implemented in accordance with policy and regulations. Track and ensure abatement of aviation findings in the Inspection and Abatement System (IAS).
- (3) Coordinate the conduct and documentation of aviation training, as applicable.

I. Science Center Directors, Cost Center Managers, Field Office Chiefs, Scientists-in-Charge, and Cooperative Unit Leaders.

- (1) Establish a unit-level aviation program through the development of a Center/Unit Aviation Management Plan in compliance with the NAMP.
- (2) Ensure that Project Aviation Safety Plans are developed by trained aviation Project or Task Chiefs for each project and are reviewed by the RAM or BAM before approval.
- (3) Approve PASPs and aviation activities when risks are adequately managed.
- (4) Ensure the conduct of local aviation safety self-evaluations and documentation within the IAS.
- (5) Identify and provide resources for the education and training of personnel as required in the Aviation User Training Program and [DM Part 485](#).
- (6) Ensure active reporting in both the AMIS and SMIS.

(7) Ensure subordinate staff are educated and trained as required in the Aviation User Training Program and [DM Part 485](#).

J. *Employees, contractors, volunteers, and cooperators.* Know and follow DOI and USGS aviation policies, attend and actively participate in appropriate aviation training, report potential and actual problems, and ensure their own and the safety of others.

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Designated Agency Safety and Health Official

Date