2020
BLM Montana/Dakotas
State Aviation Plan
&
National Aviation Plan

Department of the Interior
Bureau of Land Management

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1.0 Aviation Plan

1.1 Purpose

The purpose of the Bureau of Land Management (BLM) National Aviation Plan (*NAP*) is to describe National Aviation Office (NAO) leader's intent, authority, role and responsibilities, program objectives, and to provide strategic and operational guidance to each organizational level. The NAO identified the need for a cohesive national aviation management plan that will allow all state, district/field offices, and aviation users to easily acquire the necessary information and policy to manage the BLM aviation program. Each organizational level plan provides the detailed operational procedures pertinent to their organization. This plan is supplemental and does not replace the policy as described in the Departmental Manual or the
BLM *Manual 9400 – Aviation Management*.

1.1 BLM Montana/Dakotas Supplement: Purpose

The purpose of the State Aviation Plan (SAP) is to provide BLM Montana/Dakotas with a uniform set of policies, procedures, guidance, and business practices that promote safe, efficient, and economic use of aircraft in support of land management objectives.

This plan is inserted into the BLM National Aviation Plan as a supplement to reduce redundant language. The State Aviation Plan incorporates the principles of *Safety Management Systems (SMS)* which serves as the foundation for the Bureau aviation program. Unit Aviation Managers (UAMs) are encouraged to insert their Unit or Zone Aviation Plan as a third tier into this combined national and state-level aviation plan format. A unit aviation plan should describe how national and state aviation policy is implemented at the field level.

1.2 Mission Statement

The NAO is responsible for supporting BLM through an active and professional aviation organization that:

- Develops and coordinates effective aviation policy and management processes.
- Provides guidance for aviation programmatic and operational risk management.
- Leads aviation safety assurance and promotion programs.
- Provides aircraft acquisition support as specified by BLM management objectives.
- Develops and promotes a skilled aviation management workforce.

1.2 BLM Montana/Dakotas Supplement: Mission Statement

The BLM Montana/Dakotas State Office (MT-911) is aligned with the mission of the National Aviation Office stated above. The State Office provides aviation program leadership to BLM Offices in Montana/Dakotas with the intent to enhance safety, assist the field to develop efficient processes, and encourage cooperation with federal and state partner agencies.

1.3 Aviation Program Objectives

The BLM aviation program provides the aviation tools to meet public expectation for efficient and safe management of the National System of Public Lands. Aviation management balances mission goals, environmental considerations, available funding and safety of involved personnel.

Safety: The priority in all BLM aviation missions is the safety of employees, contractors, cooperators and the public.

- Risk management as part of Safety Management Systems (SMS) will be integral in all aviation missions and programs.
- Aviation personnel are empowered and expected to manage the risks of aviation operations and make reasonable and prudent decisions to accomplish the mission.
- Aviation personnel must take every opportunity to plan missions thoroughly, in respect to the aircraft and environment in which they operate.
- Individuals will be held accountable for their decisions, which should be based on policy, principles, risk management, training, experience and the given situation.
- The Bureau is committed to ensuring our workplaces are free of recognized hazards. Prior to conducting any mission, all risks will be mitigated to the lowest acceptable level possible.

Professionalism: BLM personnel performing aviation functions must be service oriented and meet all qualification requirements of the Departmental and Bureau manuals, handbooks, and guides.

Diversity: Individual development, employee wellness and workforce diversity will be emphasized at all levels of the BLM aviation program.

Innovation: Management at all levels is responsible for enhancing the aviation program with a commitment to aviation safety and operational efficiency.

1.3 BLM Montana/Dakotas Supplement: Aviation Program Objectives

In addition to the roles and responsibilities identified in National Aviation Plan, BLM State and Unit aviation program managers should strive to achieve the following objectives: provide leadership, direction, service, and support to promote cost-effective interagency coordination and cooperation.

1.4 National Fire Aircraft Management Strategy

Aviation resources are one of a number of tools available to accomplish land management objectives. The proper utilization of aircraft in support of resource management programs serve as a force multiplier when dealing with issues of time, remoteness, terrain, large areas and distances. Fire suppression aviation resources will be mobilized at the earliest opportunity when new starts are detected to maximize the effectiveness of initial attack resources

This national strategy will:

- Optimize overall aviation capability.
- Apply effective management controls to suppression costs.
- Ensure aviation assets are assigned to areas of greatest risk and/or highest probability of success.
- Maximize operational flexibility and mobility.
- Contribute to interagency suppression efforts.

The BLM national fire aircraft fleet composition is based in part on the National Interagency Aviation Council (NIAC) Aviation Strategy document, Current and out-year appropriations ultimately influence overall year to year fleet configuration. Any changes in aircraft type or capability must be either supported and approved by the Assistant Director of the BLM Fire and Aviation Directorate (FA-100) or reflected in this document. Baseline numbers of aircraft, by category, are derived in part from the Interagency Aviation Strategy approved by the Fire Executive Council (FEC) and NWCG in 2008. Changes to the BLM fire aircraft fleet shall be determined by fire planning tools approved by the BLM FLT/ELT, by other strategic interagency plans approved by the FEC/NWCG or by the Division Chief in coordination with the Assistant Director of Fire and Aviation. If budget constraints dictate a reduction in core aviation assets, these reductions will be absorbed primarily in categories that have the most elastic On Call component and/or that do not impact aerial delivered firefighter capabilities such as SEAT's, Scooper's, ATGS's, and Utility aircraft. When planning tools or strategic plans indicate an increase in aircraft numbers, aircraft will be attained through CWN/On-Call procurement and hosted in locations that are best suited to logistically support both the aircraft and personnel associated.

In order to maximize effectiveness and efficiency, aviation resources should be centrally controlled, and operations must be locally executed. National strategy considers all BLM fire aircraft and assigned personnel to be national resources available for immediate assignment to areas of greatest national need regardless of their status in the National Dispatching System.

The BLM national aircraft management strategy is predicated on the NAO providing oversight to all BLM fire aircraft acquisition, coordination and allocation of aircraft between states. To the extent possible, BLM will acquire aircraft that provide the best performance, capacity, speed, technology and safety features that are available and affordable. Government ownership, long-term contracts, multiple-aircraft contracts, sharing of contracts and innovative procurement methods will be explored to achieve economies whenever possible. The NAO tracks tactical aircraft utilization along with monitoring fire activity, fire danger levels and forecasted weather. The NAO will modify contract terms (designated base, MAP, etc.) as required to ensure maximum utilization and effectiveness of firefighting aircraft.

The NAO coordinates with the State Fire Management Officers (SFMO) and their staff on aircraft needs, availability and re-positioning. SFMO will remain informed on the national situation and will consult with Fire and Aviation's NAO and/or the Division of Fire Operations on assignment of BLM exclusive use aircraft to ongoing large fires.

The NAO facilitates aircraft pre-positioning with funding charge codes. During fire season, BLM exclusive use aircraft will be activated and mobilized to meet BLMs fire needs to the extent possible. Once authorized and acquired, all BLM fire exclusive use aircraft, other nationally funded aircraft (i.e. On-call/CWN contract task orders) and severity funded aviation resources will be considered national resources subject to pre-positioning by SFMOs within their states, and by the national office on a national basis. This includes aviation personnel such as single engine airtanker (SEAT) managers and Air Tactical Group Supervisors (ATGS). The NAO will coordinate with SFMOs and State Aviation Managers (SAM) prior to any aircraft movements. Supplemental fire aircraft acquisition will be in accordance with BLM *NAP* 3.10.

1.4 BLM Montana/Dakotas Supplement: State/Regional Aircraft Management Strategy

BLM Montana/Dakotas recognizes national aviation plans and policies regarding aviation assets utilized as national resources. The Montana/Dakotas State Office highly recommends District fire and aviation managers pre-position aviation resources where needed and share them with neighboring units and

agencies as appropriate via established mobilization procedures. Assignment of exclusive use aircraft outside of Montana requires notification to the BLM State Fire Management Officer (FMO), or the designated Duty Officer. The Northern Rockies Coordination Center (NRCC) will in-turn assess current draw-down levels, anticipated resource requirements, and coordinate the movement of aircraft between agency units accordingly.

1.5 Authority

This plan fulfills the Departmental Manual (DM) requirements outlined in *350 DM 1, Appendix 3*, and *BLM Manual 9400.3* Directives. This plan has been developed to provide policy standardization for all BLM aviation programs.

1.5 BLM Montana/Dakotas Supplement: Authority

The BLM Montana/Dakotas State Aviation Plan is required and authorized by BLM 9400 policy and the BLM National Aviation Plan (NAP). The State Aviation Plan will be reviewed by the State FMO and signed/approved by the State Director annually.

1.6 Policy

BLM aviation management and operations will be conducted within policies contained in the Federal Aviation Regulations, DOI 350-354 Departmental Manuals, Operational Procedures Memorandums (OPM) and Handbooks (HB), and BLM Manual *9400*. In addition, the current version of the following Handbooks, Plans and Guides constitute BLM Aviation policy as specified in the BLM Manual *9400*.

Exemptions/Waivers: Exemptions/waivers to Federal Aviation Regulations and DOI regulations must be requested in writing to the BLM Aviation Division Chief. Final approval will reside at the OAS Director level (reference *350 DM 1.10*). The following are standing waivers that have been granted and remain in place as overarching policy will not be changed:

- Waiver for Exemption from *351 DM 1, Aviation Life Support Equipment Handbook*, granted by BLM Director, Office of Fire and Aviation to BLM State Director, Alaska on 05/23/97. This waiver is approved only for Alaska and allows special use mission operations personnel to wear rubber boots as necessary.
- Waiver for Exemption from *351 DM 1, Aviation Life Support Equipment Handbook*, granted by BLM Director, Office of Fire and Aviation on 05/06/98 waiving the requirement for flight helmets in all multi-engine airplanes for special use, leadplane and smokejumper operations.
- Waiver to 351 DM 1.9B(1) granted by OAS Director to BLM/BIA on 02/14/14. This waiver authorizes the applicable SEAT and Fire Boss contracts to specify that flight time will begin when the aircraft begins to taxi to the runway with the intent to take off.

1.6 BLM Montana/Dakotas Supplement: Interagency Policy and Northern Rockies Guides

The following supplemental guides apply to aviation management and operations in Montana/Dakotas:

- Northern Rockies Interagency Mobilization Guide.
- Aircrew Orientation Guide (Ref. Section 3.4).
- Northern Rockies Aviation Frequency Guide.

1.6.1 Handbooks

- *Aerial Capture, Eradication and Tagging of Animals Handbook (ACETA)*

- *Aviation Life Support Equipment Handbook (ALSE)*
- *BLM Wild Horse & Burro Aviation Management Handbook (WH&B)*
- *Law Enforcement Short-Haul Policy*
- *Military Use Handbook*

1.6.2 Plans

- BLM National Aviation Plan
- BLM State Aviation Plans
- BLM District/Unit Aviation Plans

1.6.3 Guides

- *NWCG Standards for Aerial Ignition (PMS 501)*
- NWCG Standards for Aerial Supervision (PMS 505)
- *NWCG Standards for Airspace Coordination (PMS 520)*
- *NWCG Standards for Airtanker Base Operations (PMS 508)*
- *NWCG Standards for Helicopter Operations Guide (NSHO PMS 510)*
- *NWCG Standards for Single Engine Airtanker Operations (PMS 506)*
- *Interagency Smokejumper Pilots Operations Guide (ISPOG)*
- *Interagency Standards for Fire and Fire Aviation Operations (Redbook)*
- *Interagency Aviation Training Guide (IAT)*
- *Interagency Standards for Fire Unmanned Aircraft Systems Operations (PMS 515)*
- *NWCG Standards for Aviation Transport of Hazardous Materials (PMS 513)*

2.0 Aviation Management Organizations

2.1 Department of the Interior (DOI)

Office of Aviation Services (OAS): The OAS is responsible for Departmental functions related to aircraft services. The OAS provides service offerings that include; aviation safety services, aviation technical services, fleet management, fleet property accountability, aviation user training services, and flight scheduling and coordination services (reference *350 DM 1* for a complete list of functions and responsibilities). https://www.doi.gov/aviation/

Interior Business Center (IBC) Acquisition Services Directorate (AQD): The Aviation Acquisition Services Directorate provides department-wide centralized contracting for aviation flight services for DOI and DOI customers. Other acquisition management activities include property accountability and small purchase service in support of OAS and Bureau operations including DOI fleet aircraft. https://www.doi.gov/aviation/aqd

2.2 National Aviation Groups/Committees

Executive Aviation Board (EAB): The EAB is responsible for the DOI aviation program. The Board provides executive oversight and performance accountability and assures that Department-wide strategies and initiatives are developed collaboratively and implemented consistently. Additionally, the Board provides final review and approval of policy, when needed. The EAB is chartered under the direction of the Assistant Secretary for Policy, Management and Budget. The EAB has authority over all aviation related boards/committees/groups within the Department. The BLM permanent member of the EAB is the Bureau Deputy Director.

Executive Aviation Committee (EAC): The EAC is chartered under the direction of the EAB. The Committee follows guidance and directives from the EAB and ensures full collaboration among members to ensure that EAB and Department objectives are met. The EAC also provides Bureau and Department level aviation program performance measurement metrics to the EAB. The EAC is responsible for establishing a Bureau Aviation Managers working group to be the primary surrogate of the Committee to engage in all DOI aviation related issues at the operational Bureau level. The BLM permanent member of the EAC is the Assistant Director, Fire and Aviation.

Executive Aviation Sub-Committee (EAS): The EAS is an advisory group for the EAC. The BLM representative to the EAS is the Division Chief, Aviation.

National Wildfire Coordinating Group (NWCG): The purpose of NWCG is to coordinate programs of the participating wildfire management agencies so as to avoid wasteful duplication and to provide a means of constructively working together. Its goal is to provide more effective execution of each agency's fire management program. The group provides a formalized system to agree upon standards of training, equipment, qualifications, and other operational functions. Agreed upon policies, standards, and procedures are implemented directly through regular agency channels.

- Membership: NWCG is made up of the United States Department of Agriculture (USDA) Forest Service; four DOI agencies: BLM, National Park Service (NPS), Bureau of Indian Affairs (BIA), and the Fish and Wildlife Service (FWS); the National Association of State Foresters and the Intertribal Timber Council. Membership is limited to one individual organization representative, except the Forest Service will be represented by two representatives – one from fire and aviation management and one from fire research.

https://www.nwcg.gov/

National Interagency Aviation Committee (NIAC): The Committee is established to serve as a body of resident aviation experts, assisting NWCG with realizing opportunities for enhanced safety, effectiveness, and efficiency in aviation related operations, procedures, programs and coordination. NIAC is chartered under the Equipment and Technology Branch of NWCG.

- Membership: Committee membership will reflect a mix of people who are knowledgeable in the subject area and who are from NWCG member agencies and organizations, including representation from OAS. https://www.nwcg.gov/committees/national-interagency-aviation-committee

NIAC Sub Committees:

- Interagency Aerial Supervision Subcommittee (IASS)
  - ATGS Cadre
  - Lead plane Cadre
  - ASM Cadre
- Interagency Airspace Subcommittee (IASC)
- Interagency Airtanker Base Operations Subcommittee
- Interagency Airtanker Board (IAB)
- Interagency Fire UAS Subcommittee (IFUAS)
- Interagency Aviation Training Subcommittee (IATS)
- Interagency SEAT Board
- Aviation Risk Management Subcommittee (ARMS)
- Smokejumper Aircraft Screening and Evaluation Subcommittee (SASES)
- Interagency Helicopter Screening and Evaluation Subcommittee (IHSES)
- Interagency Aviation Strategic Plan Subcommittee
- Interagency Helicopter Operations Subcommittee (IHOpS)
  - Aerial Capture Eradication and Tagging Animals Unit (ACETA)
  - Interagency Aerial Ignition Unit
    - Helitorch Subunit
  - Interagency Helicopter Operations Guide Unit (IHOG)
  - Interagency Helicopter Rappel Unit
    - Rappel Equipment Subunit
    - Helicopter Short-Haul Unit

BLM Aviation Management Group (AMG): AMG is chartered under the BLM Fire Leadership Team (FLT) to provide BLM leadership and expertise in all areas of aviation management. The AMG will promote aviation safety, standardization and efficiency in support of fire management and non-fire activities and provide representation in the development of aviation policy, acquisition plans and operational procedures.

- Membership: BLM; NAO program managers, State Aviation Managers, Liaison from Fire Operations (FA-300) and FLT.

BLM Air Attack Committee: The BLM Air Attack Committee is formed under the authority of the AMG with the concurrence of the BLM FLT to provide national leadership in all areas of BLM air attack operations. Promote and coordinate safe, effective and efficient fire operations in order to accomplish Bureau of Land Management (BLM) fire management objectives. This will be done in collaboration with the AMG in coordination with the BLM National Air Attack Program Manager.

- Membership: The AMG designee (Co-Chair), The BLM National Air Attack Program Manager, one liaison from the Fire Operations Group (FOG), one voting representative each from those states with exclusive use air attack aircraft (ID, MT, NV, OR, UT, AK).

BLM Airbase Committee: The Airbase Committee (ABC) is formed under the authority of the AMG with the concurrence of the BLM Fire Leadership Team (FLT). The Airbase Committees mission is to provide BLM leadership expertise in all areas of air base facilities and operations. Promote aviation safety, standardization, and efficiency in air base operations. Recommend opportunities for improvement in review and standardization of air base facilities. This will be done in collaboration with the AMG.

Membership:

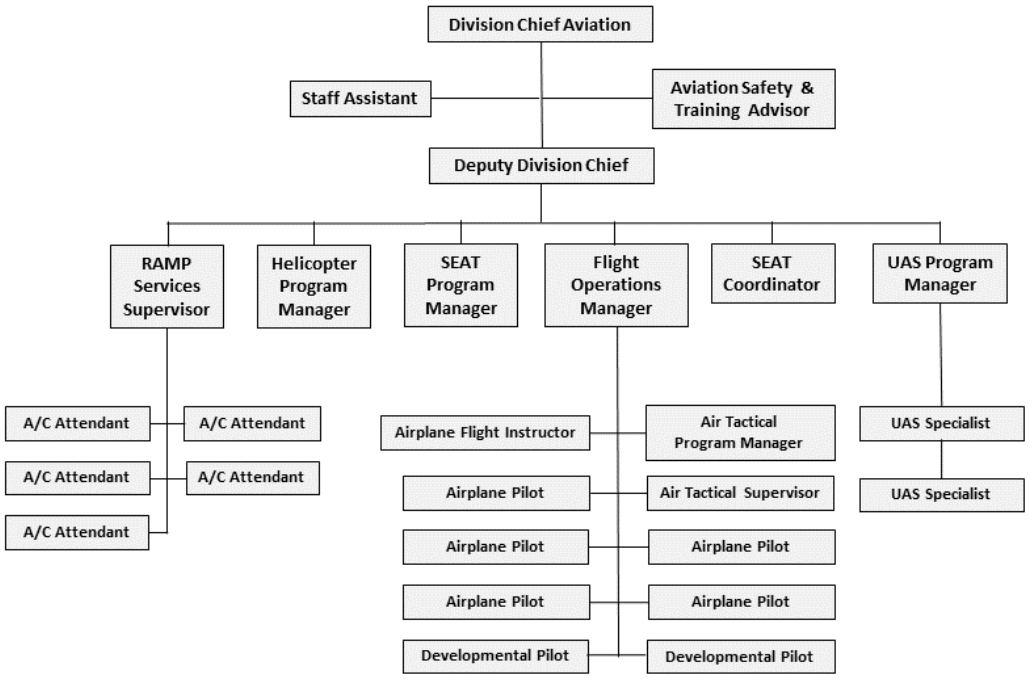
- AMG representative (Co-Chair)
- One voting member from states with permanent BLM fixed wing air bases; AK, AZ, CA, CO, ID, MT, NM, NV, OR/WA, UT, WY.
- NIFC Ramp Representative
- Fire Chemicals Program Lead (FA-500)

BLM Helitack Committee: Chartered under the Fire Operations Group (FOG): The Helitack Committees mission is to provide national leadership in all areas of BLM Helitack operations. Promote and coordinate safe, effective and efficient fire operations in order to accomplish Bureau of Land Management (BLM) fire management objectives. This will be done in collaboration with and under the direction of the BLM Fire Operations Group in coordination with the BLM National Helicopter Program Manager and AMG.

2.3 Bureau of Land Management (BLM)

BLM Director: The Director is responsible for the aviation management program. This responsibility is exercised through the Assistant Director for Fire and Aviation (FA-100).

Assistant Director, Fire and Aviation (FA-100): This position is responsible for aviation policy and program oversight. This responsibility is delegated and accomplished through the Division Chief, Aviation (FA-500).



2.4 National Aviation Office - NAO (FA-500) (reference BLM *NAP Appendix 1* for the NAO Staff contact information)

Division Chief, Aviation (FA-500): This position serves as principle aviation advisor to the Assistant Director for the BLM Fire and Aviation Directorate (FA-100), and other staff, BLM state office, and Departmental aviation programs. This position supervises the Deputy Division Chief, Staff Assistant and Aviation Safety & Training Advisor.

- Identifies and develops Bureau aviation policies and procedures, as well as standardized technical specifications for aviation missions for incorporation into the directives system.
- Coordinates aviation-related activities and services between the Washington Office (WO), and states with other wildland firefighting, regulatory, investigative, and military agencies.
- Represents the BLM at interagency meetings, on interagency committees developing government-wide aviation policies, requirements, procedures and reports, at aviation industry meetings and conventions.
- Plans and conducts technical and managerial analyses relating to the identification of aviation organization and resources appropriate for agency use, cost-effectiveness of aviation, other specialized missions, aircraft acquisition requirements, equipment developmental needs, and related areas.
- Provides oversight of aircraft acquisition and fleet management, contract administration, aviation operations, aviation safety, security and risk management, reviews and evaluations of state aviation programs.

Deputy Division Chief, Aviation: This position serves as the Deputy to the Division Chief and has responsibility for direction of all phases of the Aviation Division's program of work. This position supervises and provides program guidance and technical direction to the Flight Operations Manager, Helicopter Program Manager, SEAT Program Manager, SEAT Coordinator, UAS Program Manager, and Ramp Services Supervisor.

- Develops the BLM *National Aviation Plan.*
- Prioritizes and coordinates national allocation/reallocation of BLM fire aircraft.
- Manages the BLM NAO Operations, Labor and fire exclusive use contract budgets.
- Coordinates contracting and cooperator aircraft requests with AQD/OAS.
- Reviews states aircraft severity and preposition funding requests; coordinates with BLM Fire Operations.
- Serves as the standing Co-Chair of the AMG Committee.
- Serves as the aviation liaison to the Fire Operations Group.

Flight Operations Manager: This position provides oversight and supervision for the Aerial Supervision Module (ASM) and Smokejumper programs and standardization of all BLM flight operations.

- Serves on the Interagency Aerial Supervision Subcommittee (IASS) and leadplane cadre.
- May function as a qualified pilot.
- Develops guidance for BLM aircraft and pilot standards.
- Develops and coordinates ASM and Smokejumper operational procedures, training and certification.
- Provides guidance on light and medium fixed-wing aircraft operations and standards.
- Primary point of contact for management of BLM Fleet (WCF) aircraft.
- Assigns BLM representative on the Smokejumper Aircraft Screening Equipment and Evaluation Subcommittee (SASES) and Interagency Smokejumper Pilots Operation Guide Steering Committee.
- Coordinates primary relief for the Fleet Smokejumper aircraft.
- Supervisor for the Air Attack Program Manager, Pilots and Development Pilots located within FA-500.

Aviation Safety & Training Advisor: This position provides leadership and technical expertise for aviation safety management systems, risk management and accident prevention programs. Has oversight of aviation training for BLM, providing training/certification guidance (curriculum, course materials, and instruction) for BLM fire and resource management aviation personnel.

- Serves as the BLM investigation team member and/or liaison to National Transportation Safety Board (NTSB) and OAS accident investigation teams.
- Oversees the BLM SAFECOM System and Management Roles.
- Compiles BLM aviation safety statistics and analysis.
- Serves on accident review boards.
- Develops and/or coordinates aviation training in support of BLM aviation programs.
- Serves as a member of the Interagency Aviation Training Subcommittee (IATS) and other interagency training working groups.
- Coordinates the development of web-based training for both vendor and government communities.
- Primary point of contact for OAS Aviation Program Evaluations.

Helicopter Program Manager: This position provides oversight of the BLM Helicopter program.

- Reviews requests for exclusive use contracted helicopters, and coordinates with AQD, OAS and State Aviation Manager.
- Develops and establishes agency helicopter operational standards.
- Develops helicopter position requirements and training.
- Conducts site visits, reviews and inspections.

- Serves as a member of the Interagency Helicopter Operations Subcommittee (IHOpS), Interagency Helicopter Screening and Evaluation Subcommittee (IHSES) and BLM Helitack Committee.
- Coordinates movement of BLM EU helicopters from AK to L-48 and L-48 to AK.
- NAO point of contact for End Product Contracts that potentially have an aviation component.

Single Engine Airtanker (SEAT) Program Manager: This position provides oversight and guidance to the SEAT and Scooper programs.

- Develops and coordinates requirements and training for the SEAT program.
- Performs site visits and inspections of SEAT operating bases.
- Develops contract specifications in coordination with both AQD and industry representatives.
- Chair of the Interagency SEAT Board.
- Serves as BLM representative to the Interagency Airtanker Board.
- Develops the *NWCG Standards for SEAT Operations*.
- Coordinates with the BLM State Office Managers, SEAT contract activation and allocation of aircraft.
- Functions as national liaison with State SEAT programs.
- BLM advisor to the *Interagency Airtanker Base Operations* Subcommittee.
- BLM national lead for fire chemicals development and implementation. Maintains and updates fire chemicals policy, plans and direction. National COR for fire chemical contracts, BPAs, and EERAs. Wildland Fire Chemicals Systems interagency technical contact and DOI liaison. DOI (except BIA) representative on the Fire Chemicals Board. Organizes and conducts national level training in fire chemical application and use.

SEAT Coordinator (SECO): This position is responsible for coordinating the allocation and reallocation of SEATs nationwide, management and oversight of the BLM fire chemical program and is the primary focal point for BLM airbase standardization.

- Advises the NMAC and the NICC of the current status, location and utilization of Federal and State contracted SEATs throughout the nation.
- Makes best value determinations when hiring aircraft to meet field requirements.
- Primary subject matter expert on fire retardants/suppressants and responsible for overseeing the Bureau fire chemicals program.
- Provides leadership for the use of fire chemicals by developing and implementing procedures to assure safe, environmentally appropriate, and effective retardant and suppressant operations.
- Functions as the Bureau representative on the Interagency Fire Chemical Board.
- Works in coordination with the US Forest Service as the BLM's Contract Officer Representative (COR) on the long term retardant contract.
- Provides technical expertise and assistance to BLM fire and aviation management for development of policy, guidance and direction regarding the establishment, management and utilization of airbases.
- Coordinates with subject matter experts in the fields of environmental compliance, airfield design and aviation experts to assess current conditions of Bureau airbases to establish a baseline understanding of the scope and nature of existing issues.
- Establishes standards that ensure Bureau airbase compliance with all Federal and State requirements while creating and implementing best management practices.
- Serves as the National Office representative to the BLM Airbase Subcommittee

UAS Program Manager: This position provides national guidance and standardization for BLM UAS programs.

- Serves as the national point of contact for BLM UAS Operations.
- Provides programmatic oversight to the development of UAS projects/missions.
- Coordinates the BLM national UAS training programs in conjunction with interagency partners.
- Coordinates the acquisition of agency owned/operated UAS in conjunction with SAM's and OAS/AQD.
- Develops and reviews exclusive use and on-call UAS contract specifications; coordinates with AQD, OAS and State Aviation Managers.
- Serves (or designates) as the Contracting Officers Representative (COR) for BLM UAS contract services.
- Provides BLM input to the *NWCG Standards for Fire Unmanned Aircraft Systems Operations (PMS 515).*
- Serves as a member of the Interagency Fire Unmanned Aircraft Systems Subcommittee.
- Maintains a roster of qualified BLM UAS personnel.
- Maintains an inventory of BLM owned UAS.

UAS Specialist: This position supports the UAS Program Manager in the implementation of the BLM UAS program.

- Supports Bureau programs in the planning and execution of incident and resource UAS projects; reviews and approves project plans which require UAS.
- Observes and monitors field applications of UAS to ensure compliance with Bureau policy. This will require field assignments to wildland fire suppression or resource management activities.
- Conducts fire UAS operations as a UAS Pilot (UASP), UAS Module Leader (UASL) or UAS Manager (UASM).
- Conducts non-fire UAS projects as required.
- Completes missions/projects safely, effectively, and efficiently in accordance with mission/project goals and objectives.
- Develops Project Aviation Safety plans (PASP) to support national, state, and local UAS projects/missions. These plans are developed and implemented in accordance with DOI and BLM policy.
- Develops and evaluates sensor and data collection/processing equipment/techniques.
- Develops UAS training curriculum to support Bureau aviation programs.
- Coordinates and leads the presentation of UAS training programs in accordance with FAA, DOI, and BLM policy.

Air Attack Program Manager: This position provides national guidance and standardization for the BLM Air Attack program.

- Develops and reviews exclusive use and on-call Air Attack contracts specifications, coordinates with AQD, OAS and State Aviation Managers.
- Coordinates the BLM national ATGS training program (S-378, CRM, and associated flight training) in conjunction with interagency partners.
- Develops, coordinates, and implements strategic and tactical utilization of air attack aircraft, and associated personnel in conjunction with State Aviation Managers, Geographic Area Coordination groups, and interagency partners.
- Provides BLM direction for the NWCG Standards for Aerial Supervision and relevant policy/operations documents.
- Coordinates with Geographic Area Coordinating groups regarding the activities of the ATGS Cadre and the BLM Air Attack Committee.

- Serves as a qualified ASM/ATGS Instructor/Check Airman and coordinates staffing for the BLM national ATGS training platform.
- Serves as a member of the Interagency Aerial Supervision Subcommittee (IASS).
- Maintains a list of qualified BLM ATGS Instructors, and ATGS Check Airman personnel.

Air Tactical Supervisors (AITS): These positions serve as Air Tactical Supervisors on Aerial Supervision Modules.

- Develop and review ASM procedures, make recommendations to the Aerial Supervision Program Manager.
- Instruct NWCG S-378 ATGS and AITS courses and mentor trainee ATGS and AITS personnel.
- Serve as subject matter experts (SME) for aerial supervision, airspace coordination, SEAT and airtanker operations.

Air Tactical Pilots (ATP): These positions serve as ASM and/or Leadplane (LPIL) pilots.

- Serve as a contract project inspector for the BLM contracted ASM planes.
- Serve as an SME for aerial supervision, airspace coordination, SEAT and airtanker operations.
- Develop and review ASM/Leadplane procedures, make recommendations.
- Provides aircraft and mission training for tactical resources as assigned.

Smokejumper Pilots: These positions serve as smokejumper pilots.

- Serve as an SME for smokejumper pilot operations, smokejumper operations and back country airstrip operations.
- Develop and review smokejumper pilot procedures and make recommendations.
- Provides aircraft and mission training for tactical resources as assigned.

Aviation Staff Assistant: This position provides a full range of administrative support to the national aviation staff.

- Prepares and approves travel authorizations and vouchers, processes payroll, monitors budget reports and credit card statements to ensure expenditures are correctly made.
- Works with the Financial and Business Management System (FBMS) to create purchase requisitions for interagency agreements, contracts and requisitions.
- Prepares all formal office correspondence, including memorandums, Instruction Memorandums and Information Bulletins.
- Coordinates meetings and conferences for local and national-level events.

Ramp Services Supervisor (FA-510): This position oversees and directs aircraft ramp operations providing ground aviation management and ground support services to based and transient aircraft, air crews, transient personnel and cargo on the NIFC Aircraft Ramp.

- Ensures compliance with FAA, OSHA, EPA, BLM, OAS and airport aviation and security regulations.
- Develops the NIFC Ramp Services Operation Plan
- Manages interagency flight helmet repair service through the NFES for participating agencies and cooperators.

Assistant Aviation Management Specialist/Pilot: This position is developmental and provides the incumbent with the skills and background to compete for vacancies at the State and National levels, GS-12 and above. This position works under the guidance of national program managers as assigned but is supervised by the Flight Operations Manager.

- Provides assistance to program managers within the National Aviation Office.

- Serves as a Developmental Pilot functioning as a Pilot Trainee and Pilot-In-Command of single and multi-engine reciprocating and turbine powered airplanes under visual and instrument flight rules.

2.5 BLM State/District/Field Office Organizations

State Directors, District/Field Manager: Aviation responsibilities are outlined in *350 DM 1 Appendix 4*.

- State Directors are responsible for all aviation activities within their respective jurisdiction.
- Each state will assign a State Aviation Manager (SAM). The SAM position provides oversight of the state aviation program and support to the state/district/field offices on all aviation matters.
- District/Field Managers are responsible for all aviation activities within their respective jurisdictions.
- Each District/Field Manager will assign a Unit Aviation Manager (UAM) to provide oversight and staff assistance on all aviation matters.
- District/Field Managers are responsible for review and approval of Project Aviation Safety Plans, when required, for aviation activities within their respective jurisdictions.

State Fire Management Officer (SFMO): The SFMO is responsible for providing oversight and approval of the acquisition and use of BLM fire aircraft within their state.

- Provides state strategic direction and guidance.
- Has the authority to prioritize the allocation, reallocation, pre-positioning and movement of all fire aircraft assigned to the BLM within their state.
- Coordinates with Districts/Units, Geographical Area Coordination Centers (GACC), and NAO to maximize the utilization of Exclusive Use aircraft assigned to their state.
- Ensure all state assigned aerial resources are managed to maximize initial attack effectiveness.

State Aviation Manager (SAM): The SAM serves as the principal aviation professional for the State Director and is responsible for providing aviation program management, oversight and support to district/field office aviation operations within the state. The SAM has functional responsibility in the following areas and should have a delegation of authority for each area of responsibility:

- Develops and implements the state aviation management plan and establishes aircraft safety and accident prevention measures.
- Reviews all Project Aviation Safety Plans (PASP) with a Final Risk Rating of “High” prior to implementation.
- Serves as the Contracting Officer’s Representative (COR) on all BLM aviation exclusive use contracts assigned to the state.
- Nominates candidates to the Contracting Officer for potential appointment as Alternate CORs (ACOR) and assigns Project Inspectors (PI) for all BLM exclusive use aviation contracts in their state.
- Authorized to order aircraft and ensures all aircraft ordering and dispatching occurs via a dispatch office.
- Provides aviation training support to the state office, field/district offices, and other cooperative agencies.
- Provides statewide statistical analysis and A-126 reporting.
- Coordinates with the NAO specialists regarding aviation issues.
- Coordinates with other interagency partners on regional and state levels.
- Is a member of a geographic area(s) coordinating group aviation committee.
- Establishes an “Aviation Point of Contact” or designates an acting SAM when needed. Ensures that acting SAM meet all training requirements and any state requirement for delegation (reference *BLM NAP Appendix 8*).

- Reviews all potential End Product contracts that could conceivably utilize aircraft (reference BLM *NAP* 3.9).
- Collects annual BLM aviation statistics for the state to include all fire and resource flight hours and associated costs. Desired delivery to the NAO by November 1st annually. https://www.nifc.gov/aviation/av_BLMadmin.html
- Reference the *NWCG Standards for Airspace Coordination* (Chapter 2, Roles and Responsibilities) for specific airspace coordination responsibilities.
- Reviews request for UAS projects to ensure agency compliance.

Zone/District Fire Management Officer (FMO): This position is responsible for hosting, staffing, supporting, providing daily management and dispatching all BLM fire aircraft assigned to their unit.

- Authorized, through a line officer delegation, to request additional fire aircraft; establish priorities; and allocate all fire aircraft assigned to the BLM within their unit or zone.
- Ensure that all BLM Exclusive Use aircraft and affected Airbases assigned to their unit are staffed for seven-day coverage throughout the contract period barring adverse weather conditions and one hour callback provisions.
- Ensure status of all BLM fire aircraft (On-Call and Exclusive Use) assigned to their unit is reported each day to the GACC as either "Committed" or "Available". Aircraft will not be designated as available "local only".
- When directed by the state office, will mobilize BLM fire aircraft and assigned personnel as requested.
- Ensure BLM fire aircraft and aircrews are ready for assignments off-unit.
- Ensure that when dispatched off-unit, assigned aircraft managers and aircrew will accompany the aircraft to provide appropriate staffing.
- Delegates or performs the function of the UAM when this position is not assigned.

Unit Aviation Manager (UAM): Field offices (district/center/zones) must designate a UAM, either full time or collateral duty, to provide program oversight at the local level. Some Units may utilize Service First or similar agreements with interagency partners to provide the UAM (Unit Aviation Officer (UAO), Forest Aviation Officer (FAO)). The UAM is the principal local aviation professional and is responsible for managing and supporting the aviation program for the unit. The UAM has functional responsibility in the following areas and should have a delegation of authority for each area of responsibility:

- Ensures district/unit flight compliance with DOI/BLM/state and district policies and regulations.
- Confirms that a qualified flight manager is assigned to all flights as required.
- Ensures that visiting aircrews, pilots and incident management teams receive a Unit aviation briefing.
- Develops and implements the District/Unit aviation management plan (Interagency aviation management plans if applicable), as well as specific operating plans for other aviation programs (helitack, SEAT, airbase, and air tactical).
- May serve as the ACOR or PI on BLM exclusive use aircraft.
- Interagency Aviation Manager may also function as a COR for USFS contracts.
- Authorized to order approved aircraft utilizing agency procurement documents and processes. See *NAP 3.8.3* for DOI On-Call and USFS Type 1 and Type 2 helicopter CWN and *NAP 3.8.4* for DOI Aircraft Rental Agreement.
- Assists in development, review and briefing the appropriate level of signatory authority for PASP's per BLM *NAP 4.3.2*
- Ensures that airspace coordination procedures with the military airspace schedulers at the local dispatch center are current and that coordination with military airspace schedulers is completed for all flights.

- Identifies unit flight hazards and coordinates the creation and annual updating of flight hazard map products (reference *Interagency Standards for Fire and Fire Aviation Operations*, Chapter 16, *NSHO* Chapter 3).
- Reviews unit SAFECOM reports and facilitates corrective actions.
- Ensure units' Aviation Mishap Response Guide and Checklist is updated in accordance with *NAP 5.12*, and functional.
- Facilitates, tracks unit aviation training, and coordinates with unit training manager and SAM.
- Conducts reviews and inspections of aviation facilities, aircrews and field operations.
- Coordinates arrangements for land use agreements/leases of aviation operations facilities.
- Ensures Aviation Security Plan is current and implemented.
- Collects and compiles aviation activity statistics and makes reports. https://www.nifc.gov/aviation/av_BLMadmin.html
- Coordinates with SAM on all Senior Executive Service (SES) flights, and use of cooperator aircraft.
- Coordinates with SAM on any aircraft flight service contracting needs.
- Designates an acting UAM when needed. Ensures that acting UAM meets all training requirements (reference *BLM NAP Appendix 8*).
- Coordinates with SAM on all potential End Product contracts that could conceivably utilize aircraft.
- Reference the *NWCG Standards for Airspace Coordination* (Chapter 2, Roles and Responsibilities) for specific responsibilities.
- Reviews request for UAS projects to ensure agency compliance.
- If a Storm Water Prevention Pollution Plan (SWPPP) is in place at their facilities, UAM's will ensure that the SWPPP is current and being followed by BLM personnel.

First Line Supervisors of BLM Pilots: Duties for this position are outlined in *350 DM 1 Appendix 3*. Duties include:

- Maintain aviation supervisory currency in accordance with OPM-4.
- Ensure employee pilots meet training requirements set forth by the Bureau as well as those outlined by *351 DM 3* and *OPM-22*.
- Ensure employee pilots maintain personal documentation of required training.
- Maintain an employee pilot training file.
- Pilot training records documentation will be submitted to the Alaska SAM for BLM Alaska pilots and to the BLM NAO for all other BLM employee pilots by May 15 annually.

BLM Pilot – Fleet (2101, 2181 position series) & Incidental/Dual Function: The pilot is in command of the aircraft and has ultimate responsibility, under both Federal Aviation Administration (FAA) and DOI policy, for the safety of the aircraft and personnel onboard. Other responsibilities include the following:

- Duties outlined in *350 DM 1 Appendix 3*.
- Meet training requirements set forth by the BLM as well as those outlined by *351 DM 3* and *OPM-22*.
- Maintain personal documentation of required training.
- Submit training records documentation to immediate supervisor by May 1 annually.
- Comply with all requirements of *351 DM 3* and any other applicable policy, including pilot qualification carding for authorized missions.
- Incidental/Dual Function pilots must have a letter of authorization issued by the BLM state office in coordination with the NAO. The letter describes the pilots' duties and restrictions to include any special use requirements (reference *351 DM 3.2C*).

- Operates the aircraft in accordance with applicable federal aviation regulations (FAR) and DOI/BLM guides, policy and procedures, and within aircraft contract specifications.
- Develops, activates and closes FAA or agency flight plans.
- Wears and uses personal protective equipment as required (reference *Aviation Life Support Equipment Handbook* (ALSE) and applicable operations Handbooks).
- Conducts mission planning, performs a thorough pre-flight inspection of the aircraft and briefs all passengers in accordance to *351 DM 1.5*.
- Does not deviate from flight plan or mission profiles unless agency authorization is received or as directed by air traffic control.
- Completes all flight records (OAS-AURM or AMD-23), completes OAS procedures as authorized.
- Works with OAS maintenance and helps to arrange for aircraft maintenance as needed.

2.5 BLM Montana/Dakotas BLM Supplement: State/District/Field Office Organizations

The BLM State Director has overall responsibility for the BLM aviation program which is delegated to the Branch Chief of Fire and Aviation Management (State FMO). The State FMO assigns the daily duties and responsibilities of managing the aviation program to the BLM State Aviation Manager (SAM).

State Aviation Manager (SAM): The following duties are supplemental to the list found in the BLM-NAP:

- Maintains currency as an Interagency Aviation Trainer (IAT) per the standards in OPM-4.
- Functions as BLM representative on the NRCG Aviation Working Team (AWT) along with aviation managers from other federal and State agencies. The AWT provides interagency management, coordination, and oversight for fire-related air operations and aviation safety.
- Serves as the point of contact for aviation policy for the BLM.
- Establishes procedures and provides guidance to the field for ordering flight services per the Articles of an Inter-Governmental Order (IGO) with DOI-OAS and for obligating funds in FBMS for non-fire point-to-point and mission flights including SES flights.
- Participates as the BLM representative on the Northern Rockies Single Engine Airtanker (SEAT) working group.

Unit Aviation Manager (UAM): Each BLM Office in Montana/Dakotas has identified and designated a District/Unit Aviation Manager who is responsible for the oversight of all aviation activities conducted under BLM operational control on their respective District. The UAM may be in a stand-alone position, or assigned aviation responsibilities as a collateral duty to another position title. The specific authority and responsibilities of each UAM is specified in a letter of delegation signed by the Line Officer(s).

Each UAM is required to write a Unit Aviation Management Plan, or edit/review an existing plan annually. Unit aviation plans should be submitted to the SAM for review annually. In all cases, the Unit aviation plan shall be finalized and signed by the appropriate Line Officer (i.e., District Manager/Field Manager/etc.). See Section 5.1 Operations for a more detailed description of the aviation programs for BLM Montana/Dakotas.

2.6 Aviation Positions

Aircrew Members: Personnel (not pilot/passenger) required to be on board the aircraft to perform an active mission function during a flight to ensure the successful outcome of the mission. For public aircraft operations, an aircrew member is also defined as a "qualified non-crewmember" (see definition for qualified non-crewmember below). For position equivalency Reference *OPM-04* One-Way NWCG Position to IAT Training Position Crosswalk. Aircrew Members include, but are not limited to:

- Designated observers - Spotters
- Personnel conducting surveys or mapping
- Photo/video operators
- Loadmasters and flight attendants

Aircraft Dispatcher: Dispatch personnel trained in aviation mission operations, policies, and procedures who receive process and place orders for aircraft, provide flight following and other aviation support services. Duties include:

- Confirms that a BLM Flight Request 9400-1a (or equivalent) is utilized, and completed for BLM operationally controlled non-fire flights (point-to-point and mission flights).
- Provides flight following and coordinates with other agencies on flight following when air operations cross jurisdictional boundaries.
- Maintains a current *Aviation Mishap Response Guide and Checklist* and initiates emergency search-and-rescue procedures for overdue, missing, or downed aircraft. Required to test the plan at least annually through a simulation exercise. (See also *BLM NAP 5.12*)
- Follows the procedures established in the *Geographic* and *National Mobilization Guides.*
- Utilizes required boundary plan checklist (reference *NWCG Standards for Airspace Coordination* Chapter 7) when dispatching any aircraft into identified dispatch boundary zones.
- Provides appropriate notification to assist in airspace coordination and de-confliction and meet any applicable airspace coordination agreements that BLM has with military airspace scheduling authorities (FAA, bordering dispatches, and military).
- Authorized to order and/or hire approved aircraft utilizing DOI AQD aircraft contract sources for non-fire and fire flights. Cooperator aircraft (USFS, state, and National Guard) can be ordered per fire master agreements and Unit Aviation Plan.
- Reference the *NWCG Standards for Airspace Coordination* (Chapter 2, Roles and Responsibilities) for specific responsibilities.

Airspace Coordinator (ASCO): An Airspace Coordinator may be ordered to assist or assume airspace coordination duties. The Airspace Coordinator may be located at a GACC, local unit, Area Command, or State Office. Individual must have extensive experience coordinating airspace issues. Duties could include airspace deconfliction, Temporary Flight Restriction, coordination with DoD and FAA, activating airspace agreements, Pilot briefings and conflict resolution. For additional information, consult Chapter 2 "Agency Organizations, Roles and Responsibilities and Airspace Committees" of the *NWCG Standards for Airspace Coordination*. An "Agency Specific" Position Taskbook has been created for ASCO. The Taskbook is posted at: http://www.nwcg.gov/publications/agency-taskbooks

Aircraft Manager: Aircraft managers supervise tactical aircraft operations. Each manager complies with appropriate *Interagency Operations Guide*, Redbook and is responsible for the following:

- Plans, coordinates, and supervises aircraft operations according to DOI/BLM policy.
- Directs pilots and crews, and provides operational and safety briefings to aircrews, project leaders, and passengers.
- Conducts and completes flight time reports, daily diaries, and all related documentation.
- Conducts mission planning and risk/hazard analysis with the pilot.

Flight Manager: A flight Manager will be designated for point to point flights transporting personnel. The flight manager is a government employee (which may be the pilot) that is responsible for coordinating, managing, and supervising flight operations. The flight manager is not required to be on board for most flights, however for complex multi segment flights a flight manager is recommended to attend the entire flight. The flight manager will meet the qualification standard for the level of mission assigned as set forth in the *Interagency Aviation Training (IAT) Guide*.

- Reference *National Interagency Mobilization Guide* Chapter 20 for specific responsibilities.
- Non-fire Special Use fixed wing missions (as defined by *OPM-29*) require oversight by a Fixed Wing Flight Manager-Special Use.

A helicopter flight manager is utilized to supervise missions limited to point to point transport of personnel from one helibase/airport to another helibase/airport, low and high level reconnaissance, and landings or takeoffs at unimproved sites; the Helicopter Manager-Resource is **not** expected to fulfill all the duties of a qualified non-fire helicopter manager. Rather, he/she is the government representative who coordinates with the pilot regarding the safety and efficiency of the flight.

Helicopter Manager – Resource: Responsible for coordinating, scheduling managing and supervising non-fire resource helicopter operations. Training Requirements involve the completion of the task book and meeting the training requirements in OPM-04.

Fire Helicopter Manager: A single Resource Boss (HMGB) is responsible for supervising and directing a fire suppression module. Training Requirements HMGB**.**

Vendor Pilot: All vendor pilots must conform to the procurement document requirements they are operating under.

2.6 - Montana/Dakotas BLM supplement: Aviation Positions

- Air Tactical Group Supervisor (ATGS): The ATGS assigned to staff the exclusive use contracted fixed wing aircraft in Billings is targeted to be an ATGS trainer to promote ATGS training and program development.
- Plastic Sphere Dispenser (PSD) and Helitorch Instructors: The State Aviation Manager (SAM) must issue a written letter of certification, per Chapter 2 of the Interagency Aerial Ignition Guide, for PSD and Helitorch Instructors. Recertification is required annually. The SAM and UAM will each maintain letters of certification on file for at least five years.

3.0 Administrative Requirements

3.1 General

This section establishes: definitions, management responsibilities, policies, and procedures for administration of the aviation program in BLM.

New program requests involving aerial assets, not already approved by established Bureau or Departmental policy, must be routed through the State Director to the Division Chief Aviation for approval. (See NAP 3.23)

3.2 Reporting and Documentation Requirements

General administration policy for BLM Aviation is found in *350 DM 1*.

- The approval and documentation of Senior Executive travel in agency and agency procured aircraft is as required by *OMB Circular A-126*. States shall forward biannual reports (April and October) to the NAO, who will forward to OAS.
- Documentation requirements for aviation activities shall follow requirements in *BLM Manual 1220 Records and Information Management* Appendix 2, Combined Records Schedules, Schedule 10/8 and 9.
- Each office will maintain an aviation reference library and aviation files (these may be paper copies and/or electronic documents) per BLM Preparedness Review Checklist #4 "Aviation Management" located at: http://web.blm.gov/internal/fire/fire_ops/toolbox.htm
- Documents must be retained for at least three years. The designated aviation manager at the unit, state and national levels must be responsible for maintaining and updating all aviation related references, files and records.

3.3 Aviation Plans: National, State, Unit, and Project

BLM Manual 9400, Aviation Management specifies national aviation management policy. The national, state and district/field offices aviation plans describe procedures that implement policy direction in the *9400* manual. State and unit plans supplement national policies and procedures. State and field offices must not implement policy or procedures less restrictive than national policy. If a state or unit plan must contain more restrictive procedure, a written request, prior to implementation, is to be sent to the NAO.

National Aviation Plan (*NAP*): The BLM *NAP* provides comprehensive information regarding BLM aviation organization, responsibilities, administrative procedures and policy. The BLM *NAP* is intended to serve as an umbrella document that state aviation plans can follow for formatting and describe procedures applicable to the organizational level. The BLM *NAP* will be updated and issued annually prior to March 1 by the NAO. The *NAP* is approved by the Assistant Director of the BLM Fire and Aviation Directorate (FA-100).

NIFC Ramp Services Operation Plan: The Ramp Services Operation Plan defines the mission, provides checklists, orientation outlines and instruction for employees and contractors and standardizes operating procedures at NIFC Ramp Services.

State Aviation Plans: Each state must publish an aviation plan that implements national policy and describes protocols specific to each state's aviation program. The State Aviation Plan serves as an umbrella document for Unit Aviation Plans. However the State Aviation Plan may also be designed to serve as an overall Unit Aviation Plan provided that the local unit administrative and operational

procedures are incorporated along with the aircraft supplemental plans that are specific to each unit aviation program (see identified procedures listed under Unit Aviation Plans). State Aviation Plans are approved by the State Director. State Aviation Plans shall be updated annually and submitted to the NAO for inclusion to the BLM Aviation web site: https://www.nifc.gov/aviation/av_BLMlibrary.html

Unit Aviation Plans: Units (districts/field offices/zones) are required to maintain and update Unit Aviation Plans annually, which implement national and state policy and establish local procedures and protocol. Unit Aviation Plans are approved by the District/Field Office Manager. Unit Aviation Plans must address local administrative and operational procedures to include:

- Unit/state organizations
- Aviation facilities
- Radio use
- Repeater locations
- Phone and computer use
- Airspace coordination to include boundary zone deconfliction (reference *NWCG Standards for Airspace Coordination* Chapter 7)
- Flight hazards
- Aircraft ordering
- Dispatching and flight following procedures
- Administrative procedures
- Identification of typical aviation missions
- Risk assessment and mitigation specific to the Unit or not addressed in State/National Aviation Plan (reference BLM *NAP 4.4*)
- Unit Aviation Plan, Supplemental Operational Plans or Project Aviation Safety Plans must address recurring aircraft operations. Examples include:
    - Airbase operations
    - Helitack operations
    - Smokejumper operations
    - Airtanker operations
    - Aerial Supervision.
    - Light Fixed Wing (Fire Detection and Recon, Logistical, etc.).
    - WH&B
    - ACETA
    - Law Enforcement operations
    - Non-Fire Aviation Activities

Project Aviation Safety Plans (PASP): A PASP will be developed and approved at appropriate levels depending on project/flight complexity and risk as required for specific non-fire flights/projects (reference BLM *NAP 4.3.2* for specifics regarding PASP requirements).

3.3 - BLM Montana/Dakotas Supplement: State and Unit Aviation Plans

As suggested in the BLM National Aviation Plan (NAP), Sec. 3.3 above, Montana/Dakotas is inserting the State Aviation Plan as a supplement or second tier to the NAP. BLM Districts are encouraged, but not required, to adopt this format and include their unit aviation plan as a third tier into the appropriate sections of this document. Unit Aviation Plans will be reviewed by the SAM and signed/approved by the unit Line Officer (i.e. District Manager) annually. Unit Aviation Plans and/or programs may not implement a policy or procedure that is less restrictive than State and National Aviation Plan direction.

3.4 Aircrew Orientation Briefing Package

Each state and unit will create an Aircrew/Pilot Orientation Briefing Package. Ultimately, the format of this package will be standardized throughout the states. Unit aviation managers are responsible for providing visiting pilots, aircrews and Incident Management Teams with a briefing. The orientation briefing package serves as a source of information about local administrative and operational procedures (copy of the unit aviation plan, frequency sheets, repeater locations, flight following procedures, hazard map, known landing zones, recommended lodging/dining list, maps, etc.).

3.4 BLM Montana/Dakotas Supplement: Aircrew Orientation Guide

Aircrew orientation guides are developed/updated and distributing annually for the BLM Fire and Aviation programs in Montana/Dakotas.

3.5 Land Use Policy for Aviation Activities

The regulation of aviation activities on or above BLM managed lands is typically dependent on resource management plan (RMP) direction, wilderness management regulations and any applicable federal aviation regulations.

Temporary aviation operations on BLM lands may be restricted due to RMP direction. UAMs should coordinate with resource managers to identify areas of restriction when developing district/field office operating plans, unit aviation plan, and PASP. For information regarding implementing invasive species control measures for aviation activities reference BLM *NAP 5.14*. The local resource advisor is the focal point for coordinating the reporting of any fire chemical aerial application in or near waterways.

3.5 BLM Montana/Dakotas Supplement: Land Use Policy for Aviation Activities

Aviation operations supporting fire incidents or non-fire projects on BLM lands may require coordination with agency Resource Advisors. Private lands and certain airports owned/managed by the Montana State Division of Aviation are sometimes temporarily used by agency or interagency Fire suppression aircraft. This incidental use of non-federal land will normally require implementing an emergency Land Use Agreement that defines the authorized use and method of reimbursement by the government.

Procedures for reporting the inadvertent or intentional application of fire chemicals within 300 feet of waterways are listed in Chapter 12 of the Interagency Standards for Fire and Fire Aviation Operations (Red Book). Additional local procedures and points of contact may be described in more detail in the Unit Aviation Plan.

3.6 Budget

BLM exclusive use contract fire aircraft daily availability is budgeted by the NAO (FA-500). All exclusive use availability guarantees and fixed government ownership costs for fire aircraft are held at the NAO.

Non-Fire exclusive use contract and fleet aircraft are budgeted outside the NAO through a variety of sources.

3.7 Aircraft Flight Service Ordering

Only flights with a scheduled air carrier on a seat fare basis and with payment utilizing their federal government credit card are initiated by individual BLM employees. Aircraft acquisition and procurement for all other flights are approved to be arranged only by IBC (AQD), (Exceptions - *353 DM 1.2.A & OPM-15)*. These flights are scheduled, managed and arranged by qualified aviation and dispatch personnel in their respective BLM offices (see also BLM *NAP 3.17.1*) and approved at the appropriate management level (reference state and unit aviation plans).

Aviation services under DOI contract or rental agreement are paid through the IBC. Contractors are responsible for final submission for payment, through the processes defined by IBC. Assigned Flight/Aircraft Managers are responsible for input/review and signature of the AMD-23E. COTRs and CORs are designated by the CO to monitor aviation services contract performance and technical provisions of the contract.

When ordering aircraft, no modification of contract requirements are authorized, except by the CO.

> **Ratification of Unauthorized Commitments:** Unauthorized commitments (orders with vendors without a current and valid DOI ARA or On-Call contract) could be subject to the ratification procedures set forth in the Federal Acquisition Regulation 48 CFR 1.602-3 (reference *353 DM 1.8*).

On-Call contracts and ARAs have specific ordering procedures. The procedures are found on the OAS web site: https://www.doi.gov/aviation/aqd/contracts

An ordering official is a person who places an order directly with a vendor. They must have the knowledge to conduct and document a cost comparison/ Contractor selection rationale. For BLM the only personnel that have Bureau authorization to order aircraft are qualified aircraft dispatchers, UAMs and SAMs.

Orders for service shall be placed with the Vendor who is determined to represent the best value to the Government, using tradeoff analysis. In selecting an aircraft, the ordering official must evaluate Vendors by trading-off the differences in capability and price. If one Vendor has both the better capability and the overall lower price, then that Vendor will be the best value. If one Vendor has the better capability and the higher price, the requestor will decide whether the difference in capability is worth the difference in price. If the requestor considers the better capability to be worth the higher price, then the more capable, higher priced Vendor will represent the ultimate best value to the Government.

When selecting a vendor with the better capability but a higher price, the ordering official must provide a short explanation to support this decision on the cost comparison.

Criteria evaluated are:

- Aircraft or contractor capability.
- Price (flight time, guarantees, mobilization, per diem, service truck mileage)
- Availability of the contractor to meet time frames.

Once the selection is made, it is the Bureau personnel's responsibility to ensure the aircraft and pilot offered by the vendor are approved for the mission.

Procedures for placing orders against the DOI On-Call/ARA for all "Non-Fire" and "Non-Emergency" aircraft services: The ordering unit shall complete a DOI Flight Services Request Form (AQD-91) for all flights and submit the completed form to: aqd91@ibc.doi.gov

If utilizing the ARA and your estimate exceeds $150,000.00, contact your OAS Flight Coordination Center or the Contracting Officer.

The ordering official shall document the vendor price analysis on the second tab of the Flight Services Request Form (AQD-91). Selection of three sources within the local area to compare best value criteria will meet this competition requirement. When selecting a Vendor with the better capability but a higher price, the requester shall place a short explanation to support this decision on the AQD-91. (Reference BLM *NAP 3.2* for documentation retention)

3.7 BLM Montana/Dakotas Supplement: Aircraft Flight Service Ordering

UAMs, Center Managers, and qualified Aircraft Dispatchers (as designated by the Center Manager or UAM) are authorized to arrange for the use of rental and on-call (CWN) contract aircraft for administrative, logistical, or tactical mission flights. The UAM will ensure that an aircraft with the appropriate performance capability for the mission is selected using acceptable evaluation criteria and processes.

The NAP and the Acquisition section of the OAS website describe the requirement to complete a Best Value Determination form prior to hiring an aircraft using one of the DOI on-call flight services contracts or the Aircraft Rental Agreement. The documentation requirements may vary depending on which contract will be used to procure an aircraft to perform a mission. The appropriate instructions, forms, and documents are found on the OAS website. When in doubt about the process, UAMs should call the appropriate AQD Contracting Officer to receive specific guidance. Districts are responsible for developing the Interagency Agreement (IAA or IGO) and obligating the funds for specific missions.

Use of a BLM exclusive-use contract fire aircraft, for either fire or non-fire projects, is already covered by an IAA established at the national level. Fire aircraft may become unavailable on short notice or be unexpectedly diverted from a resource project to perform initial attack.

Offices are cautioned about exceeding the amount authorized in any IAA obligation that will result in ratification. If that occurs, a second IAA will be needed to obligate additional funds. Estimate high when you obligate and refer to the latest State Office Instruction Memorandum for specific details about Ratifications of Unauthorized Commitments.

3.7.1 Inter-Agency Agreements (IAA)

DOI AQD Contract/ARA aviation services procured by BLM can be funded via an Interagency Agreement with AQD. This will require a substantial amount of lead time for Non-Fire aviation services to ensure the agreements for funding are in place before any flight activity takes place. The user of the aircraft must ensure that an Interagency Agreement (IAA) has been completed by their agency and accepted by DOI prior to placing an order against the contract. That document will identify the amount, purpose, period of performance and source of the funding.

DOI AQD Contract/ARA Aviation Services Acquired in Support of Non-Fire Activities: Aviation users must work with local UAM to assure Non-Fire aviation services are ordered in accordance with State/District protocols to include:

- Identifying the need for a non-fire flight.
- Completing an AQD-91 Flight Services Request Form / Best Value Comparison to identify a particular aircraft and associated cost.

- Completing a PR request with appropriate funding from benefiting activity.
- Creating a new IAA or modifying an existing IAA as needed, and referencing the existing IAA on the AQD-91.

BLM Exclusive Use contract aircraft can perform BLM non-fire project work without the need to create an AQD-91 specific to that aircraft and mission. If no AQD-91 exists, the Aircraft Manager would just include the appropriate charge code for the BLM non-fire costs on their normal payment document and the benefiting activity will be expensed. If an AQD-91 has already been created and the Unit wishes to utilize those dollars already obligated on the AQD-91 then the Aircraft Manager will need to submit a separate payment document specific to just that project that references the Task Order created for the AQD-91. If this process does not occur, the unit could in effect be double billed if the Unit does not de-obligate the AQD-91 prior to year-end fiscal blackout.

DOI Contract/ARA Aircraft Services Acquired in Support of Fire Management Activities: The Department has provided direction to create miscellaneous obligations for intra-agency agreements with AQD. These obligation numbers will be disseminated by the National Aviation Office each fiscal year after the agreements for fire exclusive use availability and BLM fire management activities are executed.

- A National IAA is established for BLM fire management activities (suppression, severity, prescribed fuels, emergency stabilization, burned area rehabilitation, preparedness, and any other federal emergency response).

- A separate National IAA is established for BLM fire exclusive use aircraft availability and BLM NAO Fleet aircraft (N190PE, N49SJ, N618, N162GC, and N700FW) monthly rate.

3.7.2 Cross Servicing with AQD for Contract/ARA Aviation Services Acquired in Support of Non-Fire Activities: Cross Servicing functionality in the Financial and Business Management System (FBMS) affords Bureaus 100% financial transparency of funding from requisition to award by eliminating the need for Interagency Agreements as well as the burden of managing the Intra-Governmental Payment and Collections (IPAC's). The functionality allows requesting Bureaus to create requisitions in their business area of the Systems, Applications, and Products data processing software (SAP) that flow directly to AQD's area of Procurement Information System for Management (PRISM) for award. When awards are released in PRISM the obligation flows directly to the requesting Bureaus business area of SAP. Aviation users must work with local UAM to assure Non-Fire aviation services are ordered in accordance with State/District protocols to include:

- Identifying the need for a non-fire flight.
- Completing an AQD-91 Flight Services Request Form / Best Value Comparison to identify a particular aircraft and associated cost.
- Create a PR with the appropriate funding from benefiting activity.
    - The PR must be completed in accordance with the cross servicing instructions provided by AQD.
- Document the PR number in the block provided on the AQD-91.

3.8 Aircraft Contracts

Aircraft flight services in excess of $150,000 require an Exclusive Use aircraft contract or the use of: DOI On-Call or USFS Call When Needed (CWN) contract to include competitive task orders when

deemed appropriate. Short term projects (< $ 150,000) may utilize the DOI Aircraft Rental Agreement (ARA) or the On-Call contract.

The DOI On-Call and USFS CWN contracts are competitive bid contracts that do not have a $150,000 limit like the ARA.

3.8 – BLM Montana/Dakotas Supplement: Aircraft Contracts

The SAM serves as the Contracting Officer's Representative (COR) for two BLM Exclusive Use fire helicopter contracts and one air tactical fixed wing contract that are based in Montana. The daily duties of administering these contracts are usually delegated to a UAM who may be formally designated as the "Alternate COR" (ACOR) by a DOI-AQD Contracting Officer. A description of these contract aircraft is found in Chapter 5, Operations.

- When an existing exclusive use contract expires (all option-years have passed), or if a new contract is needed in Montana, the SAM will submit a new AMD-13 to the BLM National Aviation Office (NAO).
- NAO will verify that adequate funds are available in the current year FA-500 allocation to support the contract daily availability, and an OAS-16 will be issued to confirm funding.
- The UAM will consult with his/her Unit FMO to determine the start date for each year's exclusive use contract period and then notify the SAM. The SAM will coordinate with and notify the NAO.
- The SAM will submit an OAS-19 "Notice to Proceed" to the Contractor and the DOI-AQD Contracting Officer (with a courtesy copy sent to the NAO) at least four weeks in advance of the desired start date. Once the OAS-19 is acknowledged by the contractor, the start date can be varied by up to 14 days before or after the projected start date, as stated in the contract and in Sec. 3.8.2 of the NAP above

Contract extensions will be authorized per the NAP procedures in Sec. 3.8.2 above.

3.8.1 Non-Fire Exclusive Use Aircraft Contract Process

- State, field and district offices are required to submit a "Request for Contract Services" Form (AQD-13) to the SAM for all potential or desired contracted flight services. The SAM will review and approve/disapprove all AQD-13's. The SAM will work with the appropriate AQD Contracting Officer (CO) and NAO personnel to provide coordination, technical input, solicitation review, and decision making for each contract award.
- A "Pre-Validation of Funds for Contract Award/Renewal" Form (AQD-16) will be authorized by an appropriate budget officer prior to awarding or renewing Non-Fire aircraft contracts.
- The SAM will provide the NAO program manager with a copy of any AQD-13, AQD-16, "Notice to Proceed" (AQD-19), Request for Amendment/Modification and/or Request for Contract Extension for any Non-Fire Exclusive Use aviation contract at the same time the original request is forwarded to the AQD CO.

3.8.2 Fire Exclusive Use Aircraft Contract Process

- Any changes in aircraft type or capability that would significantly increase fixed costs must be supported and approved by the Assistant Director of the BLM Fire and Aviation Directorate (FA-100).
- The appropriate NAO program manager completes Form AQD-13 in coordination with the SAM for approval of all requested exclusive use aircraft. The NAO program manager will review all

AQD-13's and work with the appropriate contracting officer in providing coordination, technical input, solicitation review, and decision making for each contract award.
- SAM will provide the NAO program manager with a copy of any AQD-19 and/or Request for Amendment/Modification for any Exclusive Use aviation contract at the same time the original request is forwarded to the AQD CO.
- All AQD-16's will be authorized by the NAO prior to awarding, renewing, or extending fire aircraft contracts.

Changing the Contract Start Date: The aircraft start dates can be changed to accommodate the government work or training schedules. If the start date is altered from that shown on the original AQD-16, the COR will notify the Deputy Division Chief, Aviation (FA-500). The start date of the exclusive use period may be adjusted up to 14 days prior to, or 14 days after the normal start date (as stated in the aircraft contract). The start date is established by a Notice to Proceed Form (AQD-19) issued by the COR. Adjusting the start date does not alter the length of the use period.

Funding through the following code; **LLFA540000 LF1000000.HT0000** begins on the new start date and is available continuously for the total number of exclusive use days (excluding contract extension) specified in the contract.

Contract Extension: Mutual Extension - The exclusive use period may be extended on a day by day basis after the Mandatory Availability Period (MAP), provided that such extension is agreeable to both parties in writing prior to the extension. An extension on the use period creates use "outside" of the normal exclusive use period and requires early planning, coordination and a contract modification by the CO. It also requires a dedicated funding source approved by the NAO. Extensions are not guaranteed; they require written mutual agreement (contract modification). They are normally used when additional work is anticipated and other funding sources are available. Funding for extensions may be through BLM (i.e. suppression, severity, rehab, non-fire, etc.) or from another agency which requires a reimbursable agreement to be in place.

- Funding from **LLFA540000 LF1000000.HT0000** is limited to the number of days specified in the contract and **is not** to be utilized during contract extension.
- Use Rates for Pay Item Codes (FT, SM, PD, EP, ET, SC, etc.) - All Use Rates will be charged to the appropriate office and benefiting activity, but not to the NAO code.
- SAM will make a request for any Exclusive Use contract extension a minimum of two weeks prior to end of exclusive use period to the Deputy Division Chief, Aviation.
- Contract extension on Severity Funding must be requested by the State and approved by the National Office through the standard severity request process.

3.8.3 On-Call/Call When Needed (CWN) Aircraft Contracts

AQD administers the DOI On-Call aircraft contracts and the USFS administers the Type 1 and Type 2 Helicopter CWN contract. Authorized BLM personnel (UAM, Aircraft Dispatcher) can hire aircraft using these contracts through the Resource Ordering and Status System (ROSS) as described in the contracts and the *National/Geographic Area Mobilization Guides*. Funding for these aircraft is made through specific incident emergency fire suppression, approved severity funding or approved non-fire activity funding. The emergency fire suppression funding is only available until the specific incident is controlled/out. Resource ordering procedures are described in the *Geographic Mobilization Guide*. The types of DOI On-Call and USFS CWN aircraft contracts available to BLM are:

DOI On-Call Contracts: Reference AQD web site for contract details and ordering procedures: https://www.doi.gov/aviation/aqd

There are separate contracts for:

- Small helicopters (ICS Type 3) – 4 to 6 seat helicopters.
    - Used for Fire Operations and Resource Management Projects.
    - DOI On-Call C27.2.2 NON-FIRE and ONE-DAY FIRE missions can be hired on a daily availability and fixed flight rate basis or a project flight rate basis. Orders placed and accepted on the basis of payment for daily availability and the fixed flight rate will be subject to contract clause C27.
    - Reference DOI On-Call C26.2.1"……requires a government representative to submit an AQD-91 Flight Request Form with a government estimate to include three contractors……"
- SEAT – Fire suppression.
- Air Tactical Fixed Wing – Fire Suppression or Non-fire missions.
- On Call Wild Horse & Burro and ACETA – Inventory/Census, Herding, Marking/Eradication/High Velocity Darting, Net-Gunning/Low Velocity Darting, Wild Horse and Burro (WH&B) herding and capture. Census and classification may be accomplished under the DOI On-Call Small Helicopter Contract.
- UAS
    - Fire: Reconnaissance, mapping, and situational awareness.
    - Non-Fire: Various resource management projects.

USFS CWN Aircraft Contracts: Reference USFS web site for contract details and ordering procedures: http://www.fs.fed.us/fire/contracting/helicopters_cwn/helicopters_cwn.htm

There are separate contracts for:

- USFS National Type 1 and 2 Helicopter CWN contract - Medium to heavy lift helicopters. Project flight rates apply for non-fire projects.
- USFS Regional Type 3 Helicopter CWN contracts – Light, multi-purpose helicopters.
- USFS Exclusive Use and CWN contracted aircraft are available for DOI use per requirements of *OPM-39*.

3.8.4 DOI Aircraft Rental Agreements, Non-Fire – (ARA)

ARA for helicopters in the L-48 has been combined with the DOI On-Call Small Helicopter contract. The ARA must NOT be utilized to obtain direct fire suppression aircraft and tactical fire support aircraft. Non-tactical operations that an ARA aircraft may be used for include; fire monitoring, fire detection, personnel or cargo transportation (non-Initial attack) etc. The ARA is used to procure flight services requested under a blanket purchase agreement (BPA), and are acquired under the authority of Federal Acquisition Regulations (FAR), Part 13, and BPA. These are not competitive contracts, thus have limitations of $150,000 total expenditure per ordered project. Project requirements of more than $150,000 must not be separated into several transactions to avoid expenditure limits. The OAS Regional Offices administer the ARA program through the Flight Coordination Centers. The AQD web site has a link to the Aircraft and Pilot Source List: https://www.doi.gov/aviation/aqd/aviation_resources

Resources are in a database that is searchable by: vendor, type of aircraft, special use qualification. Helicopters are ordered, depending on project needs, from the DOI On-Call contracts: Small Helicopter, or the ACETA. The airplanes available on the ARA Source List typically do not have the same level of avionics that the On-Call contracted planes have. Most ARA aircraft have a minimum flight hour daily guarantee.

The numbers of approved rental aircraft must be consistent with program objectives. Requests from the field to add new vendors must be carefully reviewed at the state and national level. All "Request for

Rental Services" (AQD-20) will be reviewed and submitted by the SAM to the NAO. The appropriate NAO program manager (fixed wing, helicopter) will review the request and, if approved, forward to the OAS for processing. Some criteria for assessing need for additional rental aircraft are:

- Type of aircraft.
- The number of same type of aircraft available locally to the field offices.
- The estimated annual usage of that type of aircraft.
- Special services/equipment provided by the contractor.

3.8.5 Contractor Evaluations

In accordance with Federal Acquisition Regulation 42.1502, past performance evaluations shall be prepared at least annually and at the time the work under a contract or order is completed.
The AQD-136A Form (Evaluation Report on Contractor Performance (Exclusive Use, On-Call, CWN and ARA)) is used for documenting contractor performance for aviation services performed in support of DOI customers. This form is located at: https://www.doi.gov/aviation/library/forms#aqdforms

The CO will register each contract by submitting the contract information to the agency's CPARs office. For both exclusive use and on-call contracts, the Project Inspector (PI)/Flight Manager is responsible for completing the contractor evaluation form. The evaluations for the exclusive use contracts will be forwarded to the Contracting Officer Representative (COR) for review and entry into the CPARs system.

On-Call includes; Small Helicopters, Air Attack, SEAT, UAS and ACETA. The on-call contract evaluations shall be forwarded to the SAM. The SAM will review and forward the on-call evaluations to the respective Contracting Officer for entry into CPARs.

National Call When Needed (CWN) USFS Type1 and Type 2 helicopter contract. The PI/Helicopter Manager shall complete the USFS Contractor Performance Assessment Report and submit to the USFS CWN Contracting Officer with a courtesy copy to the SAM. The form is available in the vendors copy of the contract and at the following link: http://fsweb.wo.fs.fed.us/aqm3/pages/nifc/

The CO will review and submit the evaluation to the Contractor for their review and signature. The contractor has 30 days to either accept the rating or provide comments. After agreement of both parties, the evaluation becomes an official past performance record which may be used in future source selections.

The PI/Flight Manager should discuss the evaluation with the contractor's representative before submission. If during the performance of a contract there are negative performance issues the PI should attempt to resolve issues with the contractor's representative and inform the UAM and COR of issues. If any issues cannot be resolved locally, then the COR will facilitate contacting the contractor and/or the CO.

3.8.6 Contractor Fueling-Lower 48

DOI / BLM aviation contracts in the lower 48 states require the aircraft contractor to provide fuel for government contracted aviation operations regardless of the location. SEAT and Helicopter contracts require the vendor to have a fuel truck in addition to the aircraft. Aircraft contractors are obligated to provide fuel for their own contracted aircraft and the fuel support vehicles. The aircraft contractors have the discretion to purchase aircraft fuel from commercial sources on site/airport or provide their own fuel for the contracted aircraft. FAA specifically addresses what aircraft owners and associate businesses are permitted to do specific to fueling operations.

The FAA's Airport Compliance Manual - Order 5190.6B 11.2. Restrictions on Self-servicing Aircraft. Grant Assurance 22(f), Economic Nondiscrimination, clearly indicates that an aircraft owner or operator may perform their own self-fueling activities, including bringing fuel to the airport with its own employees in conformance with the airports rules and regulations pertaining to self-service operations.

BLM personnel will not direct the contractor on where or how to acquire aviation fuel. Local aviation managers should be familiar with their local airport authority's rules governing self-fueling and any fuel flowage fees that apply to BLM operations. Local Aircrew Orientation Briefings will address the airport's schedule of fees that may be applicable to their BLM flight operations. At a minimum the briefing shall address the following:

- Airport fees such as landing fees, tie down fees and or fuel flowage fees.
- Identify who the contractor is responsible for paying on site / airport. Point of contact with the airport authority.
- Fees applicable to BLM operations may be paid for by the BLM unit or through the aircraft contract. In instances where the contractor is responsible, units should refer to the aviation contract or the contracting officer for specific information on miscellaneous fees that are permitted for reimbursement.

Contractors involved with aircraft fueling are held to NFPA 407-Standard for Aircraft Fuel Servicing or as otherwise directed by the governing contract.

3.9 End Product Contracts

End Product Contracts are not aircraft flight service contracts. They are used to acquire a product for the Department (i.e., per-acre, per-unit or per-area, or per head basis). The intent of this type of procurement is for the contractor to supply all personnel and equipment in order to provide a "service" or "end-result." Many contractors utilize aircraft (including UAS) to meet the performance objectives of End Product contracts for activities such as: animal capture, seeding, spraying, survey, photography, etc. Since these are not flight services contracts, the AQD does not perform any acquisition service. End Product contracts are administered from the state office or BLM National Operations Center (Denver NOC) procurement units. All contracts with cost estimates greater than $100,000 are administered from the NOC.

Contracting officers, procurement specialists, and aviation managers at all levels must be aware of the requirements outlined within OPM-35.

Understanding the differences between end product contracts and flight service contracts is important in order to avoid placing the Department with operational control when it is not appropriate. Attempting to exert any influence on certain aspects of the operation conducted under an end product contract exposes the Department to risks that would be appropriately managed under a flight services contract.

These contracts will be conducted in accordance with *OPM-35. OPM-35* aids in determining whether an operation is being conducted as either "end-product" or "flight service" and supplements existing DOI policy regarding End Product contracts found in *353 DM 1.2A (3)*. If the provisions of *353 DM 1.2A (3)* and *OPM-35* are met, the aircraft (including UAS) will be operating as a civil aircraft and the aviation management principles normally required for aircraft under BLM operational control do not apply.

3.9 BLM Montana/Dakotas Supplement: End Product Contracts

The SAM highly encourages all Offices to consider using end product contracts to the maximum extent possible whenever a project need arises that does not require BLM personnel to be on board an aircraft or directly controlling operations. Per the NAP, "*End Product contracts where contractors could conceivably utilize aircraft must be reviewed by the BLM SAM prior to solicitation to ensure that specifications and language do not unintentionally imply or determine aircraft operation control*." The same policy will apply at the District level when contracting/procurement staff and resource specialists are developing a local end-product solicitation. The UAM must also review the solicitation prior to it being let for bids. (BLM employees should refer to *OPM-35* for additional DOI policy guidance.)

3.9.1 End Product Contract Specifications

Specifications in the contract must only describe the desired quantity or quality of the service or contracted end-result. BLM contracting officers and resource specialists must consult with BLM aviation managers if the acceptable language guidelines do not address a specific project requirement or the contract solicitation does not follow the guidelines in *OPM-35*. State End Product contracts where contractors could conceivably utilize aircraft (including UAS) must be reviewed by the BLM SAM prior to solicitation to ensure that specifications and language do not unintentionally imply or determine aircraft operation control. Bureau-wide End Product Contracts (i.e. Wild Horse & Burro) must be reviewed by the BLM National Aviation Office prior to solicitation. Reference *FA-IB-2015-021*

The following list describes acceptable contract language for BLM End Product Contracts.

- No contract language describing aircraft (including UAS) or pilot capabilities, standards, requirements or aircraft specific payment provisions.
- The area of work should be described in terms of: scale of area, general topography, elevation, slope, vegetation, and accessibility by roads or off-road vehicles, land use restrictions for mechanized equipment, etc.
- Aviation Regulations - Acceptable Language: "The Contractor must comply with all applicable federal, state and local regulations and appropriate land use permitting procedures applicable to their operations."
- Airspace Coordination – In areas of military airspace it is acceptable to describe any BLM coordination agreements with military airspace scheduling or range control authorities and that it is the contractors' responsibility to coordinate their activities with the scheduling office or Range Control. Close coordination is necessary to ensure compliance with applicable airspace coordination agreements that states have with military authorities.
- Aircraft Equipment Specifications - Acceptable Language: Delete all reference to aircraft/equipment. Suggested example clause: "...Contractor is required to demonstrate to the government that the equipment can capture the imagery and/or data as specified in the project description."
- Radio/Communication Requirements - Acceptable Language: "Contractor must provide a communication system so that contractor personnel engaged in the project at different locations can communicate at all times with each other, and so that government Project Inspectors may communicate with the contractor at any time to discuss performance matters." (The government VHF-FM radio system may have to be described.)
- Application validation: Marking/GPS - Acceptable Language: "Application equipment will be capable of physically marking or electronically mapping application routes to ensure that seed/fertilizer is applied evenly and completely and at the specified rates."
- Transporting, Passengers and Equipment - Acceptable Language: "Only approved contractor personnel, contractor equipment and government-provided equipment required for performance ... will be transported by contractor vehicles, trailers, animals or equipment."
- Safety Hazards - Acceptable Language: "Any ground or aerial hazards that would pose a danger to Contractor's personnel or operating equipment must be identified and mitigated by the Contractor prior to commencing operations".

- Aircraft Use Reporting - Acceptable Language: Do not mention or require flight hour/aircraft usage reports.

3.9.2 End Product Project Management

Operational Control: During the performance of End Product contracts, DOI will not exercise operational control of the aircraft (including UAS) in any way. DOI will not direct the contractor as to flight profiles, flight following, landing areas (except for areas that are off limits due to land management restrictions), use of personal protective equipment, etc. DOI personnel assigned to administer End Product contracts will have no aviation management responsibility or authority. Any directions to the contractor must be in terms of the service or end-result being specified; e.g. desired imagery quality, number and disposition of animals surveyed, etc. It is acceptable to inform military airspace scheduling authorities or range control that the contractor plans on performing work during specified time periods and provide the military authorities the contractor contract information. DOI dispatchers will not perform the airspace scheduling service for the contractor. DOI personnel must not become involved in any way with aircraft ground operations such as take-off and landing areas, loading, fueling, etc. They can however, be on site for other support activities such as setting ground control, scale bars, etc. or collection of data for ground truthing to aid in the overall data collection aspects.

BLM Passengers or Aircrew: BLM personnel are not allowed to board any aircraft that is being provided by the contractor **during performance of the End Product contract**. BLM personnel must not become involved in any way with aircraft ground operations such as take-off and landing areas, loading, fueling, etc.

Aircraft Use Reporting: Since aircraft utilized by the contractor under DOI end product contracts are operating entirely within the applicable 14 CFR as a civil aircraft, and procurement is not through AQD, the Bureau will not submit any billing invoice to AQD in conjunction with End Product contracts. Any flight time incurred by the contractor will not be recorded or reported as DOI or Bureau aviation statistics.

Aircraft Incidents and Accidents: Although aircraft utilized by the contractor under End Product contracts are operating entirely within the applicable 14 CFR as a civil aircraft, mishaps should be reported in accordance with 49 CFR 830. To continue to promote aviation safety, the Bureau will report aviation incidents or accidents incurred by these contractors to OAS. These events should be noted in the Contract Daily Diary and reported through channels as normally required for End Product contracts.

Reconnaissance/Observation Flights: Before, during or after the performance of an End Product contract it may be necessary for Bureau employees to aerially survey or inspect the project area. When flights transporting DOI personnel are required, an AQD aviation “flight service” procurement (completely separate from the End Product contract) is required. Aircraft and pilots must have current OAS approvals for the intended mission and a current DOI contract or Aircraft Rental Agreement must be in place. When a DOI procurement is utilized all DOI and Bureau aviation management policy, procedures and requirements must be applied.

Operations within Military Airspace: If an “End Product” contract project using aircraft is being conducted within Military Airspace (MOA, RA, MTR) it is the responsibility of the contractor to coordinate with the Military Airspace Scheduling Office. DOI Contracting Officers and CORs should

inform the contractor of any DOI agreements with the Military organizations regarding airspace. The Bureau may contact the Scheduling Office to alert them of the project and general time frames and provide contractor contact information.

3.10 BLM Supplemental Fire Aircraft Acquisition

When existing contracted aircraft cannot meet all demands, supplemental aircraft will be requested and acquired using the following procedures:

Fire Aircraft Needed Immediately for Initial Attack

- Obtain Bureau or cooperator aircraft from adjacent units under existing mutual aid agreements.
- Coordinate with BLM state office to obtain the BLM contracted aircraft from other locations within the state.
- Coordinate with the NAO to reassign BLM contracted aircraft from out of state.
- Hire On-Call/CWN aircraft available locally.

Fire Aircraft Needed to Fill Large Fire Orders: Aircraft will be obtained through normal dispatch procedures. The BLM exclusive use aircraft are primarily initial attack resources. Assignment of these aircraft to ongoing large fires will be the exception and require:

- Unit FMOs will consult with the appropriate SFMO.
- SFMOs will consult with NAO and/or the Division of Fire Operations.

Severity Fire Aircraft: Statewide needs will be met with existing aircraft within the state whenever possible. When state offices determine that supplemental aircraft are needed, they may submit a request for fire severity funding to the Fire and Aviation Directorate. Fire severity funding is the authorized use of suppression operations funds (normally used exclusively for suppression operations and distinct from preparedness funds) for extraordinary preparedness activities that are required due to an abnormal increase in fire potential or danger, or to fire seasons that either start earlier or last longer than planned in the fire management plan.

Specific direction is stated in Chapter 10 of the *Interagency Standards for Fire and Fire Aviation Operations*, which may be found at: http://www.nifc.gov/policies/pol_ref_redbook.html

- The NAO will consolidate and adjudicate all state office supplemental aircraft requests and determine the number/type/configuration and procurement method of aircraft. If there is a possibility to re-position a BLM aircraft from other areas, the NAO will coordinate the re-positioning of the aircraft. NAO then will make recommendations of severity funded aircraft needs to FA-300 Fire Operations, which makes final approvals of states' requests.
- Severity funding covers the following costs: aircraft mobilization, daily availability, per diem, proficiency/mission currency, rental vehicle, relief crew transportation, additional aviation management personnel base pay (non-fire personnel), travel and per diem.

National Preposition Funding: Units may request national preposition funding to acquire supplemental fire operations assets. National preposition funding may be used to mobilize resources when BLM units:

- Do not have available preparedness funding
- Do not have available short-term severity funding; or
- Do not meet the criteria for use of national severity funding

Approved national preposition funding may be used only for travel and per diem costs for the duration of the assignment, and overtime labor costs associated with the original move. The Preposition Request Process can be referenced at:
http://web.blm.gov/internal/fire/fire_ops/toolbox_preposition_process.htm

3.11 Cooperator Aircraft

Cooperator Aircraft are an affiliated, military, or other Government agency aircraft as defined in *350 DM 1 Definitions*

Cooperative aircraft operations and partnerships are encouraged for the purpose of efficiency and standardization in procedure. The NAO and the states shall make a concerted effort to establish cooperative structures to increase capability and avoid duplication and conflicting procedures.

Use of Cooperator aircraft and pilots; affiliate, state/local government, military, or other federal agency aircraft by BLM employees may require prior inspection and approval by OAS, usually in the form of a Letter of Authorization (LOA) and/or Memorandum of Understanding (MOU) (reference *351 DM 2.5.(3)*. Proposed use of these aircraft must be requested through the SAM to the NAO and include the following:

- Name of Cooperator agency and point of contact to include phone numbers and e-mail address if available.
- Requested aircraft make and model, pilot(s) name, and support equipment.
- Intended use.
- If reimbursement through IBC is contemplated, a copy of the document(s) authorizing the relationship (e.g., multi-agency agreement).
- The requesting bureau point-of-contact to include phone numbers and e-mail address if applicable.
- Period of need – single use, single year, or repetitive multiyear.
- Military Aircraft Use. (if applicable)
    - Coordinate with the appropriate OAS Regional Director to assist in a search for commercial resource availability.
    - Identify and locate military aircraft capable of meeting identified needs.
    - Initiate a written request for non-emergency use to the appropriate OAS Regional Director.
        - Requests shall include statements that clearly demonstrate that the requirement is in the national interest and indicates action taken toward obtaining commercial resources.
        - Military support specifically authorized by statute negates the requirement for a statement concerning national interest. The requesting agency must furnish a reference to the appropriate statute.

Any employee who is considering using or flying on a cooperator aircraft must consult their respective aviation manager to ensure approvals are in place. States are required to obtain necessary letters of authorization in advance of intended use (reference *351 DM 4*).

Annual Operating Plans or Interagency Agreements (IAA) specifies how re-imbursement for flight services is managed. Note: When using aircraft under USFS contracts reference *OPM-39*.

3.11 BLM Montana/Dakotas Supplement: Cooperator Aircraft

Aircraft owned, contracted, and operated by the USFS generally meet the same inspection standards as the Department of Interior (DOI), and may be utilized by Bureau employees without additional approval. However, Cooperator aircraft operated by affiliate organizations or partner agencies such as a County Sheriff, National Guard, and State agencies require special approval through a Cooperator Aircraft Letter of Approval. *References are found in the BLM 9400 aviation policy, the BLM National Aviation Plan, DOI 351DM4, and the FS 5700 manual.*

DOI-BLM approval letters are issued by the West Region Director of OAS via the BLM National Aviation Office. BLM Montana/Dakotas has historically submitted requests for approval letters concurrent with USFS Regional inspections and approval.

Requests to approve a new Cooperator Aircraft will be submitted by the UAM to the SAM. Adequate lead time of at least two to three months is normally necessary to schedule aircraft inspections and secure approvals. In the NR, the SAM will consolidate these requests whenever possible so that a single Interagency Approval Letter signed by the Forest Service Regional Aviation Officer RAO and the OAS West Region Director may be issued. Approval letters have a one-year life span and must be carried on board the specified aircraft whenever agency personnel are utilizing that aircraft. If there will be an exchange of funds for flight services, there must also be an interagency agreement or MOU in place.

In all cases, employees may NOT fly on any unapproved aircraft even if they are on annual leave or days off, to accomplish work-related duties and circumvent aviation policies regarding cooperator aircraft. (Refer to BLM National Aviation Plan, Sec. 5.5.)

3.11.1 Non-Federally Approved Aircraft

Reference *Interagency Standards for Fire and Fire Aviation Operations,* Chapter 16 for protocols regarding utilization of non-federally approved aircraft in response to federal wildfire: http://www.nifc.gov/policies/pol_ref_redbook.html

3.12 Senior Executive Service (SES) Flights

An aircraft may be used to transport SES personnel to meetings, administrative activities, or training sessions when it is the most cost effective mode of transportation. Prior approval is required by the solicitor's office for employees above the GS/GM-15 level, members of their families, and all non-federal travelers on the flight. These flights are typically requested through the SAM however some of the responsibilities may be delegated to UAMs (refer to applicable State Aviation Plan for specifics). DOI requirements and procedures are outlined in *OMB Circular A-126* and *OPM-07*. The OPM and OAS Forms may be found at the OAS document library: https://www.doi.gov/aviation/library

- Coordination with the State Aviation Manager prior to any SES flight activity is mandatory.
- All government aircraft use (including SES flights) must be requested and arranged at the local level (where the flight is to occur) utilizing a BLM Aircraft Flight Request 9400-1a (or equivalent).
- The SES flight requests require seven days advance notice.
- All mission flights (non point-to-point transportation), including the SES mission flights, will be approved by a local line manager. Special Use mission flights require the completion of a

Project Aviation Safety Plan (PASP) and local line manager approval. Mission flights do not require prior approval from the DOI Solicitor's Office.
- All point-to-point SES transportation in government aircraft must be evaluated and approved by the Department of the Interior (DOI) Solicitor's Office.
- An AQD-91/Best Value Comparison Form is completed prior to using DOI contract aircraft (reference BLM *NAP 3.7*).

Reference BLM *NAP Appendix 3* for SES Flight Scheduling Guide

3.12 BLM Montana/Dakotas Supplement: BLM Senior Executive Service (SES) Flights

All BLM point-to-point SES flights in Montana/Dakotas will be ordered and coordinated by the SAM due to the complexity of the required documentation package that is submitted to the DOI Solicitor's Office for approval. If the planned flight is going to be a non-fire mission or special use flight, an authorized official may order or assign an aircraft with adequate performance for the mission, assign a qualified Flight Manager, provide passengers with any required Personal Protective Equipment, and develop a Project Aviation Safety Plan (PASP). Early notification and close coordination with the SAM will be needed so that appropriate justification documents (OAS-110) can be prepared and submitted to the Solicitor.

3.13 BLM Law Enforcement Flights

The state and/or unit plan should describe all procedures related to BLM law enforcement aviation that occur at that level. Non-DOI contracted aircraft and personnel requires prior to use:
- A fiscal agreement for the exchange of funds (reference *351 DM 4* & *OPM-39*).
- Aircraft that are not approved by DOI-OAS or USFS (DEA, National Guard, etc.) will require a Letter of Authorization (LOA) for those missions not identified in current MOU's.

3.14 Search and Rescue (SAR) Flights (see also BLM *NAP 3.71.1, 5.6, 5.12 & 5.16*)

The use of BLM aircraft and aviation personnel for SAR operations are not considered normally planned BLM operations. DOI policy (*900 DM 1.10* and BLM *H-1112-1.40.C*) and the *Federal Land Policy and Management Act* (43.U.S.C. 1742) provide authority to incur expenses and to take a temporary lead role in any SAR emergencies in which immediate and quick response can save lives. Request for BLM aircraft to respond to a SAR mission is coordinated through the UAM, FMO/Duty Officer/IC and the responsible Line Officer.
- Documentation of the request can be made on a BLM Flight Request 9400-1a (or equivalent) on a resource order or in WildCad or equivalent dispatch program.
- Sheriff's Office SAR: Request for BLM aircraft to assist is typically routed through BLM law enforcement officials to the responsible Line Officer. If a request for assistance is made directly to the Dispatch Center, the authority to dispatch BLM aircraft and personnel is at the District/Field Office Manager level.
- Notification to the Air Force Rescue Coordination Center and FAA of BLM aircraft response is required if the SAR involves a missing or downed aircraft (reference *Interagency Aviation Mishap Response Guide*).
- BLM Exclusive Use contracted aircraft should not be released from their contract for non-agency search and rescue operations. If the local unit deems that exigent circumstances exist, and they are unable to provide funding, the COR will work with the CO to facilitate release. The NAO program manager should be notified of any release from contract after the fact.

3.15 National Guard and United States Military Aircraft Flights

U.S. Military – Requests for U.S. military aircraft support is per agreement between Department of the Interior and Department of Defense. The National Interagency Coordination Center is authorized to coordinate for fire and large Incident activations. The Military Use Handbook describes procedures. Additionally, there are MOU's for non-fire and LE Counterdrug joint missions between DOI and DOD. Proposed use of these aircraft must be requested through the SAM. Refer to OAS website for current MOU's and corresponding IB's: https://www.doi.gov/aviation/library

National Guard – Each state typically has an agreement between the State and the National Guard for fire support resources. A request for National Guard aviation support is coordinated with the Geographic Area Coordination Center (reference *National* and *Geographic Area Mobilization Guides*, *Military Use Handbook*, and *OPM-41*). A Cooperator Letter of Approval is required be in place prior to utilizing National Guard aircraft for those missions not identified in current MOU's. Additionally, there are MOU's for non-fire and LE Counterdrug joint missions between DOI and DOD. Refer to OAS website for current MOU's and corresponding IB's: https://www.doi.gov/aviation/library. Proposed use of these aircraft must be coordinated through the SAM. Requests for approval for those missions not identified in current MOU's must be submitted through the SAM to the NAO.

3.16 Unmanned Aircraft Systems (UAS) Flights (see also BLM *NAP 5.29*)

Policy: BLM UAS operations will be conducted in accordance with the FAA *Small Unmanned Aircraft Rule* (*14 CFR, Part 107*) and DOI, *OPM-11*. UAS operations on incidents will be conducted in accordance with the *NWCG Standards for Fire Unmanned Aircraft Operations (PMS 515)*.

- Remote Pilots will possess a DOI Remote Pilot card (OAS-30U) and an FAA Remote Pilot certificate. DOI Remote Pilots are required to maintain their FAA Remote Pilot certificate as required by FAA.
- Agency owned UAS will be certified by OAS and have a current UAS Data Card (OAS 36-U). Annual inspections are required. Refer to *OPM-11*.
- UAS flights will have an airspace authorization (FAA part 107, DOI/FAA MOA, COA, or SGI). Refer to *OPM-11*.
- A signed and approved PASP is required for all non-incident UAS operations. For UAS missions occurring on a routine basis, the required PASP can be rolled into a station/unit aviation plan (i.e. flight by notification) that is reviewed at least annually (*OPM-06*).
- All UAS flights will be recorded and submitted on an OAS-2U form.
- Personally owned UAS aircraft are not be used for agency purposes. Agency employees are not authorized to purchase UAS with federal funds or utilize personally owned UAS for agency purposes.
- Additional information: BLM UAS Website or Interagency Fire UAS Website

Presidential Memorandum, February 15, 2015, *Promoting Economic Competitiveness While Safeguarding Privacy, Civil Rights, and Civil Liberties in Domestic Use of Unmanned Aircraft Systems* require that:

- Data not essential to the mission of the BLM should be destroyed within 180 days.
- UAS will only be used to collect data consistent with the authorized mission of the BLM. Any data-sharing agreements or policies, data use policies, and record management policies applicable to UAS shall conform to applicable laws, regulations, and policies.
- UAS collected information can only be shared outside of BLM if it helps to meet the authorized mission of this agency.

- It is prohibited to use UAS to collect, use, retain, or disseminate data in any manner that would violate the First Amendment or in any manner that would discriminate against persons based upon their ethnicity, race, gender, national origin, religion, sexual orientation, or gender identity.
- Program evaluations, per *NAP 4.5.3*, will include review of the unit's compliance with UAS policies and regulations.

UAS Training

- UAS Basic Remote Pilot (IAT, A450) is required for all UAS remote pilots. An FAA Remote Pilot certificate is a pre-requisite for this training.
- Incident Operations require successful completion of UAS Incident Operations (S-373)..
- Training Links:
  - BLM A-450 (Basic Remote Pilot)
  - S-373, UAS Incident Operations

UAS Purchase – UAS purchase requests are routed to the UAS Program Manager via the SAMs. State leadership should be notified of UAS purchases. The Program Manager will consolidate all requests and forward them to the OAS fleet manager via the Division Chief, Aviation. Purchase requests must be documented and approved with the OAS-13U and OAS 93U forms and forwarded to the UAS Program Manager by the SAM.

Recreational UAS Flights: BLM has no national restrictions for flying UAS for hobby or recreational purposes on public lands. People operating UAS for hobby/recreational purposes do not need permission from the FAA or BLM to fly on public lands as long as they comply with FAA policy and don't interfere with official government business or emergency operations such as wildfire management. Additional state/local office guidance may apply.

Non-Recreational (Commercial) UAS Flights:

- Conduct flights in accordance with FAA policy.
- **Additional state/local office guidance may apply**

Incident Flights: Flights conducted on incidents will be conducted in accordance with:

- FAA Policy
- OPM-11
- *NWCG Standards for Fire UAS Operations (PMS 515)*
- *Interagency Standards for Fire and Fire Aviation Operations*

Cooperator Agency UAS Project Coordination:

- Any other federal agency operating UAS within BLM jurisdiction will coordinate with the Line Officer and UAM prior to the commencement of UAS flight operations.

UAS Mishaps and SAFECOMS

- UAS mishaps must be reported as per DOI policy. Refer to BLM NAP 4.5.2.
- Cooperator UAS mishaps on BLM jurisdiction will be reported to the Local UAM and the program manager. DOI mishap reporting policies also apply.

3.17 Dispatching BLM Aircraft - Flight Requests

All flights will be arranged by aviation dispatchers and/or appropriate aviation manager with the exception of:

- Flights with a scheduled air carrier on a seat fare basis (Part 121 or 135 scheduled flights open to the general public on a ticket sale basis). Seat fare is defined as the cost for a DOI employee to occupy one seat between two different airports/heliports when the aircraft is not under the exclusive control of the DOI. It does not include any charter or on-demand operation.
- Transactions to acquire an End Product contract.

All BLM flights must:

- Be approved at the appropriate management level.
- Be authorized and documented **prior** to takeoff.
- Use approved pilots and aircraft as directed by the DMs.
- Allow only authorized passengers.
- All passengers shall be given a preflight safety briefing by the pilot or qualified aircrew member as per *351 DM 1.5.B*.
- For all flights utilizing DOI contract aircraft, the ordering official/user must assure that there is an Interagency Agreement in place with AQD that includes approved funding for the flight (reference *NAP 3.7*).

The BLM standard format for aviation operations is Degrees and Decimal Minutes (DDD° MM.MMM'). Reference BLM *NAP Appendix 3* for additional details. Utilization of the correct format must be discussed between dispatch and the flight crew to assure accurate navigation.

- Note: The format for the US NOTAM OFFICE for Temporary Flight Restrictions issued by the FAA and in ROSS will be in a Degree, Minutes and Seconds, input with NO punctuation (ddmmssN/dddmmssW).

A BLM Aircraft Flight Request 9400-1a (or equivalent) is required to be completed for all non-fire flights that do not require a PASP (reference BLM *NAP 4.3.2*). The 9400-1a Form (Aircraft Flight Request/Schedule) can be accessed at: https://www.nifc.gov/aviation/av_BLMadmin.html

The UAM must review the 9400-1a (or equivalent) Flight Request and obtain approval by appropriate level of authority as determined by the Unit's Line Management and documented in the Unit Aviation Plan.

3.17.1 Categories of Flight with specific procedures regarding Flight Requests:

Life Threatening Emergency Flight Requests (See also BLM *NAP 3.14, 5.6 & 5.16*)

- Requests for aircraft to meet life threatening emergency needs should be filled with the closest available aircraft with the appropriate capability for the mission.
- Normal protocols associated with ordering/hiring of aircraft can be addressed as time allows after the initial response.
- Local Line Officers are responsible for all aviation activities within their jurisdiction. The response to a life threatening emergency must be coordinated with the UAM, FMO/Duty Officer and Line Officer.

Non-Fire Point to Point Flight Requests (see *NAP 5.7* Categories of Flight)

- Prior to hiring or arranging for the flight: Complete a cost analysis comparing costs of using a chartered or government owned aircraft versus commercial airline or driving, time frame requirements, other associated costs. An example Travel Cost Analysis Form (OAS-110) is located at: https://www.doi.gov/aviation/library/opm

- Prior to flight: 9400-1a (or equivalent) is completed. UAM reviews and appropriate approval obtained (state or local unit determination).
- AQD-91 and Best Value Comparison forms are not required for exclusive use aircraft but are required when comparing rentals to fleet, etc. (reference BLM *NAP 3.7*).
- Flight Manager designated when required (reference *National Interagency Mobilization Guide* Chapter 20, BLM *NAP 2.6*, for specific responsibilities).
- Resource tracking method determined (reference *National and Geographic Mobilization Guide* for details).

Non-Fire Special Use Flight Requests (see *NAP 5.7* Categories of Flight)

- Lead time for flight request, IAA & Task Order issuance, as described in Unit Aviation Plan.
- UAM to assess project/mission complexity; determine whether a PASP is required (reference BLM *NAP 4.3.2*).
- 9400-1a (or equivalent) is approved by the appropriate level of authority for low complexity one time types of missions.
- If a PASP is required (reference BLM *NAP 4.3.2*), a 9400-1a Form may be used for dispatch office internal flight tracking purposes.
- AQD-91/Best Value Comparison Form is not required for exclusive use aircraft but is required when comparing rentals to fleet, etc. (reference BLM *NAP 3.7*).

Fire Point to Point and Fire Training Flight Requests (BLM Operational Control)

- Dispatch office receives a request, completes a resource order per dispatch procedures.
- UAM/Dispatch assures the front page of a 9400-1a Flight Request/Schedule or equivalent Aircraft Flight Strip (per Dispatch SOP) completed.
- The BLM Fire IAA # is used, and the DOI Fire contract Task Order # for the hired vendor is used.
- Flight Manager designated when required (reference *National Interagency Mobilization Guide* Chapter 20, BLM *NAP 2.6*, for specific responsibilities).
- Resource tracking method determined (reference National and Geographic Mobilization Guides for details).
- Training: Fire training flight requests are made by the supervisor/manager (Helitack, SEAT, and Aerial Supervision) to the FMO, duty officer, UAM and coordinated with the aircraft dispatcher.
- Contractor directed training flights are coordinated with the PI, airbase manager, or UAM. These flights are the responsibility of the contractor. The Dispatcher/UAM is responsible for conducting and documenting a cost comparison and Contractor selection rationale prior to hiring aircraft. (Reference BLM *NAP 3.2* for documentation retention)

Fire Operations Flight Requests

- Requests come from:
    - Incident commander (IC) or designated incident personnel (i.e., AOBD, ASGS, ATGS/ATS).
    - FMO or duty officer.
    - Per unit dispatching plan.
- Initial Attack aircraft requests can be documented on a Resource Order and/or Aircraft Dispatch form.
- Initial Attack aircraft requests should be ordered on a Resource Order via ROSS and/or Aircraft Dispatch Form. Generating and awaiting a Resource Order should not be allowed to affect the response time for an initial attack mobilization within the host Geographic Area or with neighborhood agreements across Geographic Area boundaries through established dispatch

ordering channels. Resource orders through ROSS can be provided after mobilization has occurred for initial attack. BLM Initial Attack aircraft may be launched to new incidents with just the location, bearing, distance and flight following frequency. All other pertinent information will be provided to aircrews while en route to include:

i. Destination latitude – longitude coordinates (Degrees and Decimal Minutes (DDD º MM.MMM')
ii. Radio frequencies - air to air/air to ground/flight following
iii. Incident name/contact (if any)
iv. Airspace hazards and dispatch boundary concerns
v. Other aircraft on scene or en route

- The Dispatcher/UAM is responsible for conducting and documenting a cost comparison and Contractor selection rationale prior to hiring aircraft. (Reference BLM *NAP 3.2* for documentation retention)
- The BLM Fire IAA # is used, and the DOI Fire contract Task Order # is used.

3.18 Aircraft Use Payment Systems

Aviation Information Report Support (AIRS): AIRS is an IBC web based system utilized by vendors for generating and processing flight use invoices.

- BLM-AK currently renders payment to non-fire vendors via the BLM-AK Pilot Project.

AIRS training - https://www.doi.gov/aviation/aviation-information-report-support-airs-help-video
AIRS Help Desk - Email: AIRS_access@ibc.doi.gov Phone: (208) 433-5010

Internet Payment Platform (IPP): The Internet Payment Platform (IPP) is a comprehensive electronic invoicing and payment information service made available to all Federal agencies and their suppliers by the U.S. Department of the Treasury's Financial Management Service (FMS). IPP centralizes transaction processing in the order-to-payment notification cycle, including purchase orders, invoices and payments: https://www.ipp.gov/

Aircraft Use Report Manager (AURM): The AURM is used within DOI for government owned "Fleet" aircraft billing to create aircraft use report data files which are emailed to OASfleetmanager@ios.doi.gov for uploading into the FBMS system. OAS Technical Services has also developed a "next generation" Aircraft Use Report Manager application for iPads.

Forest Service Aviation Business System (ABS): Flight time, daily availability, and other authorized charges or deductions shall be recorded on a Flight Use Report in ABS for all USFS contracted aircraft. The data shall be entered and reviewed by the government and the contractor's representative. BLM employees (including BLM AD employees) that are flight or aircraft managers with responsibility to input flight use data into the USFS ABS will need to register with the USFS ABS program. ABS can be found at: http://www.fs.fed.us/business/abs

3.19 Coding for Flight Use Reports

Documentation of all non-fleet flight services is accomplished on an AMD-23E Aircraft Use Report form, which is then entered by the vendor into AIRS. The hard copy form acts as the 'Field Receiving Report' which provides evidence that the flight information is accurate. Until further notice, AIRS will be the

Government's "Electronic Receiving Report", which supports Contractor payments that are invoiced and paid through IPP.

BLM SAMs serve as the COR for exclusive use contract aircraft in their state. As such, they are responsible for ensuring that designated alternate CORs and aircraft managers are informed of all coding requirements and that flight invoices are properly completed. BLM pilots, in coordination with the SAM, are similarly responsible for proper flight invoice coding for fleet aircraft.

The following business rules apply to all BLM contracted aircraft:

3.19.1 Task "Order" Number: The contract number to be identified on the AMD-23/23E forms is the appropriate **order number** that was issued by the CO for the applicable contract.

- Reference https://www.doi.gov/aviation/aqd for On-Call Fire Suppression Task Order Numbers for specific type of contract being utilized.

3.19.2 Billee Code: Billee Codes are a required field, for payment by AQD, on the AMD-23E. The Billee Code is a good method to query reports in FBMS and should continue to be utilized for that purpose.

- For Exclusive Use contract aircraft, the "Home Unit" Billee Code will be used regardless of the operating location for all Pay Item codes when utilizing a BLM Task Order number.

3.19.3 Charge Codes: New direction now allows for simplified coding for aircraft costs associated with suppression related charges and Fire Exclusive Use Availability. The following outlines new procedures for inputting financial coding on the AMD-23 form.

BLM Nationally Funded SEAT's: Separate guidance will be provided annually to address coding for nationally funded SEATs.

BLM Fire Exclusive Use contracted aircraft:

Availability during MAP:

- FA540 – This is the financial code for entry in the "Charge Code" section of the AMD-23 for EU Availability only.
  - Do not use "FA-540" for anything other than "AV" during the exclusive use mandatory availability period.

Availability during Contract Extension:

- Appropriate four-digit only "Fire Code" (suppression/severity/GACC support code) or;
- Entire (Cost Center, Functional Area and WBS) cost string if utilizing Preparedness (LF100), Pre-Positioning (LF561) or other Non-Fire funds.

All other pay item codes (FT, SM, PD, EP, ET, SC, etc.):

- Appropriate four-digit only "Fire Code" (suppression/severity/GACC support code) or;

Entire (Cost Center, Functional Area and WBS) cost string if utilizing Preparedness (LF100), Pre-Positioning (LF561) or other Non-Fire funds.

BLM hired On Call/CWN/ARA fire aircraft:

Availability:

- Appropriate four-digit only "Fire Code" (suppression/severity/GACC support code) or;

- Entire (Cost Center, Functional Area and WBS) cost string if utilizing Preparedness (LF100), Pre-Positioning (LF561) or other Non-Fire funds.

All other pay item codes (FT, SM, PD, EP, ET, SC, etc.):

- Appropriate four-digit only "Fire Code" (suppression/severity/GACC support code) or;
- Entire (Cost Center, Functional Area and WBS) cost string if utilizing Preparedness (LF100), Pre-Positioning (LF561) or other Non-Fire funds.

BLM hired On Call/CWN/ARA non-fire aircraft:

- Entire (Cost Center, Functional Area and WBS) cost string for all charges.
- Additional guidance specific to utilizing non-fire aircraft is referenced in *BLM NAP 3.7.1, 3.7.2, 3.8.3, 3.8.4 and 3.17.1*

3.19.4 Mission Use Codes: Mission Codes apply only to AMD-23E line entries for flight time. (For all non flight time entries AQD will input a default mission codes and are not required to be filled out by either the aircraft manager or the pilot) Each specific type of flight will have the unique mission use code recorded. Example: A helicopter flies a total of 2.1 hours, but does 1.1 hours of bucket work; 0.5 hours initial attack delivery of firefighters, and 0.5 hours of recon. Each type of flight will be shown on its own line entry with the specific mission use codes.

3.20 FEPP

Reserved

3.21 FBMS

All BLM financial activities are managed through the DOI FBMS program. All fire retardant expenditures (Full service contract and bulk purchase) are entered into FBMS by the district or state level designated officials (reference state and unit aviation plans).

End of Year financial procedures are announced via the departmental and Bureau instruction memorandum (IM) system.

3.22 Aviation Program Reviews

Details about aviation program evaluations and fire preparedness reviews are described in BLM *NAP* 4.5.3.

3.23 New Program Requests

New program requests involving aerial assets, not already approved by BLM, must be routed through the State Director to the Division Chief, Aviation for approval. Upon NAO approval, new program requests will be forwarded for consideration of approval to the Associate Director, OAS. This request shall include a copy of the NAO approval, and a proposed Operations Plan. New Program Request Form is available on the NAO website.

4.0 Aviation Safety Management Systems

4.1 General

The BLM Aviation Safety program is modeled after the aviation industry and FAA Safety Management Systems (SMS). Each BLM employee and contractor involved with aviation has the responsibility to plan missions thoroughly, conduct missions with a conservative attitude, and respect for the aircraft and environment in which the missions operate. The intent is to improve the aviation culture by increasing hazard identification, reduce risk taking behavior, learn from mistakes, and correct procedures before a mishap occurs rather than after the accident.

The BLM NAO Aviation Safety & Training Advisor is the focal point for the BLM national level program. SAM's are the focal point for state aviation programs, and the unit aviation manager (UAM) is the focal point for district/field office aviation program.

4.2 Safety Management Systems (SMS)

SMS serves to structure the BLM existing safety initiatives and provides a review process for how well those initiatives function. SMS is not a safety program; rather it is a system which organizes existing safety processes around the concept of system safety and the four pillars (Policy, Risk Management, Safety Assurance and Safety Promotion). SMS incorporates a proactive approach using hazard identification and risk management to achieve accident prevention. Additional information regarding SMS is available at the Lessons Learned website:
http://www.wildfirelessons.net/Home/

4.2 BLM Montana/Dakotas Supplement: SMS

The SAM is responsible for managing a statewide BLM Aviation Accident Prevention program in Montana/Dakotas. This is may be accomplished in partnership with the USFS Regional Aviation Safety Manager (RASM) via training sessions, briefings, site visits, information sharing with the field, preparedness reviews, etc.

The SAM implements all components of SMS via the following duties and responsibilities:

- Provides safety briefings and leads discussions for BLM and cooperator (interagency) employees in a variety of venues including Fire and Aviation Leadership Team and Agency Administrator workshops, as an IAT course instructor, and at workshops for Helicopter Managers, Airbase Managers, SEAT Managers, Air Services Officer, and Dispatchers.
- Performs interagency aviation safety related task assignments for NRCG to include participation on ASATs. (See Sec. 4.5.1 of NAP below.)
- Manages the BLM SAFECOM program in Montana/Dakotas, writes Corrective Action response statements and addresses or elevates issues.
- Reviews BLM and Interagency PASPs, providing suggestions and edits for enhanced language in the Risk Assessment portion.
- Conducts site visits to airbases, project sites, and fire incidents to meet with AOBD's, flight crews, fire managers, Line Officers, and UAMs. Assists with aviation mishap investigations as needed or requested on behalf of the State Office or NAO.

4.3 Policy

SMS is a critical element of management responsibility in determining the agency's safety policy and SMS also defines how the agency intends to manage safety as an organizational core function.

- Policy guides aviation safety doctrine, philosophy, principles and practices.
- Policy provides framework for aviation plans (reference BLM *NAP 3.3*).
- Policy assists in the development of local standard operating procedures.
- Policy will foster and promote doctrinal principles and safety management systems within the states.

Aviation management policies describe; authorities, responsibilities, acceptable operating practices, and administrative procedures. These directives provide the structure for the SMS to effectively function. Safety is a product of effective policy and management processes. All aviation safety standards and policy requirements identified in the BLM *NAP 1.6* must be followed.

4.3.1 Aviation Life Support Equipment (ALSE)

All personnel engaged in aviation activities must wear appropriate Personal Protective Equipment (PPE), depending on the mission (reference *NAP 5.4* and *350 DM 1.2.C* regarding flights on foreign aircraft in foreign countries). Requirements are listed in *351 DM 1.7* and outlined in the *ALSE Handbook* and mission specific guides and handbooks. Reference BLM *NAP 5.22* and *5.27.1* for additional PPE requirements utilized for helicopter operations and low level (less than 500' AGL) fixed-wing flight operations. Any questions concerning the requirements and procedures for obtaining PPE are directed to the local aviation manager. Project leaders must ensure that appropriate and adequate ALSE, including PPE, is available and worn by individuals. If required ALSE is not available, all flights will be canceled or postponed.

4.3.2 Project Aviation Safety Planning (PASP)

Accident prevention is paramount when planning individual aviation projects. Flights may not deviate from Department and Bureau policy and procedures, except for safety of flight considerations. A PASP is required for non-fire Special Use projects. A 9400-1a (or equivalent) may be completed in lieu of the PASP for a low complexity/one-time non-fire mission flights. The PASP or 9400-1a must be reviewed by the UAM and approved by the appropriate level of authority per the state/unit aviation plan. Managers must be briefed by the UAM prior to their approval of the plan.

- PASP's that have a final risk assessment of high will require a SAM review prior to line manager approval.
- A courtesy copy of all PASP's will be routed to the SAM prior to implementation.

Projects/flights that occur periodically over a season or fiscal year can have one PASP prepared and approved. In this situation a 9400-1a (or equivalent) will be required for each periodic flight. The 9400-1a approval level would be at the UAM level with a courtesy notification to the SAM.

For projects/flights that are conducted by a units' aviation operations group (helitack, aerial supervision, smokejumpers, UAS); if the project/flight is typical and routine to the operational group with mission risk assessment documented in the groups' annual operations plan and the state and unit plan allows; then the project/flight can be conducted, without a specific PASP, after completion of 9400-1a documentation.

- "PASPs developed for reoccurring projects will be reviewed, updated and signed each year (not to exceed12 months).

- Routine, time critical UAS flights may utilize the Flight by Notification in lieu of completing an entire new PASP if the mission falls within the overarching/blanket PASP identified within the Unit Aviation Plan. (Reference BLM *NAP 5.29*)

Required elements of a PASP include:

- Project name/Objectives/Supervision
- Justification
- Project date and location
- Projected cost of aviation resources and funding code(s)
- Desired aircraft, make/model, pilot skills (Included if available and/or specific N# and pilot to be noted on 9400-1a)
- Communication Plan, Flight following and emergency search and rescue
- Flight routes/areas and altitudes
- Hazard identification (e.g., weather, takeoff or landing weights, landing areas, wire hazards, etc.)
- Wire Strike Prevention (*352DM1.9.D*)
    - Flight Environment Considerations: Bureau projects often dictate that flights be conducted in close proximity to the ground where wires are prevalent
    - Risk Assessment/Hazard Maps: To reduce wire strike potential, it is critical that a risk assessment be conducted prior to all low level flights. A low level flight hazard map must be constructed for the local operational area. All preplanned low level flights require a thorough map reconnaissance of the route to be flown
- Description of take-off and landing areas
- Pre-flight briefings/After Action Reviews
- Participants: List individuals involved in flights, their qualifications (HMGB, Aircrew Member, Passenger, etc.) dates of last aviation training and include individual's project responsibilities
- Aircraft and equipment approval
- Airspace Coordination and Aerial hazard identification
- Risk assessment utilizing the SMS worksheets as appropriate
- Personal protective clothing/equipment (if required)
- Load calculations and/or weight and balance information requirements
- Unit Aviation Managers review and signature (not to exceed 12 months if reoccurring project)
- Project Lead Supervisor's and line officer's approval signature (not to exceed 12 months if reoccurring project) See NAP 6.2 for Management Responsibilities and training requirements.

A good resource for aviation project planning can be found in the *NSHO* Chapter 3. Personnel needing assistance with mission flight or project planning requirements should contact their unit/state aviation manager. Risk assessments of the relevant project hazards can utilize maps, aerial photos, Google Earth photos, and SkyVector.com maps to help identify and map out where the hazards are located. Particular attention in the risk assessment is essential when determining how to mitigate the risk by reducing exposure to hazards in: flight profiles, method of operations, external load operations, winter weather, and high/hot/heavy operations.

4.3.2 BLM Montana/Dakotas Supplement: Project Aviation Safety Plans (PASP)

At least two weeks of advanced notice is normally required for most non-fire PASPs to be developed, reviewed, and routed for approval signature. Local unit aviation plans may specify additional needed lead time.

BLM Montana/Dakotas requires a PASP for every mission regardless of complexity. The NAP statement that *"The reverse side of the 9400-1a may be used as a PASP for low complexity, one-time non-fire mission flights"* applies only in rare circumstances and with case-by-case SAM approval. The process of identifying hazards and developing mitigation strategies using the formal risk assessment process of a PASP is an effective tool for briefing line officers, supervisors, pilots, and Aircrew.

Interagency projects that involve BLM and USFS personnel require the PASP to be reviewed by both the BLM SAM and the USFS Regional Aviation Safety Manager (RASM). Only Line Officers (i.e. the BLM District Manager or Field Manager) are authorized to approve PASPs. When multiple agency employees are involved in a mission, only the approval signature by the Line Officer of the agency having operational control is normally required. (Some projects, such as an interagency prescribed fire with aerial ignition, may require both agency line officers' signatures.) By signing a PASP, a Line Officer is certifying that he/she accepts the remaining "residual" risk after mitigations are implemented, and has determined that the benefits of allowing the mission to proceed outweigh that residual risk.

A briefing on hazards and an assessment of risk are also required on the day of each flight. Items to consider include the current and forecast weather conditions, the status of personnel assigned, and any last minute logistical or mission requirements that could affect complexity or risk. Likewise, each mission should conclude with a debriefing or After-Action-Review (AAR).

4.3.3 Aircraft Accident Investigation Process

The National Transportation Safety Board (NTSB) has the responsibility to investigate all aviation accidents except for military (49 CFR Parts 830 and 831, Public Law 106-181, and Federal Management Regulation 102-33.185). OAS Chief of Aviation Safety is typically invited by the NTSB to be a party to the investigation. NTSB is still the controlling authority. Policy, including responsibilities and procedures concerning DOI aircraft mishaps are contained in *352 DM 3*. Two Bureau positions may be established to assist the DOI Investigation Team: 1) as a selected member of the investigation team working directly for the OAS Safety Investigator-In-Charge (IIC), or 2) as the Bureau-designated on-site liaison to coordinate with the OAS Safety Investigator-In-Charge. NOTE: In many cases, the Bureau will provide only one representative to the investigation team and that individual will perform only as a liaison, or as both a team member and a liaison. OAS Chief of Aviation Safety, as the Departments representative to the NTSB, will determine who will participate. The NTSB IIC will then either accept or deny the individuals proposed by the Chief, or OAS IIC.

The BLM investigation team member:

- Must be requested by OAS to be an investigation team member.
- Will be appointed by the BLM Aviation Division Chief.
- Will normally be BLM NAO staff members or SAM.
- Must not have a personal interest in the mishap.
- Will work directly with the OAS Safety Investigator-In-Charge (IIC).
- Is bound by confidentiality regarding all aspects of the investigation and preliminary findings and conclusions.
- Will at no time express opinions of their own or recite opinions of others on the team.

The BLM Liaison:

- Will be appointed by the BLM Aviation Division Chief (FA-500).

- Will provide on-site coordination and support to the OAS Safety IIC for personnel, resources, transportation, office space, communications, etc.
- Will coordinate and facilitate in and out-briefings with local BLM management.
- Will serve as liaison between the investigation team and local BLM management, BLM specialists and/or incident management team.
- Will provide the IIC with technical expertise and Bureau organizational information.
- Will make arrangements for interviews, site visits, document review, etc.
- Will **not** conduct interviews or investigative actions unless requested by the IIC.
- Will be bound by confidentiality regarding all aspects of the investigation and preliminary findings and conclusions.
- Will at no time express opinions of their own or recite opinions of others on the team
- Must not have a personal interest in the mishap.

4.4 Risk Management

Risk management enables personnel at all levels to do exactly what the term implies: manage risks. The process of risk management applies to programs and operational missions. The risk management process is designed to mitigate risk to acceptable levels by the identification, assessment, and prioritization of risks followed by coordinated application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events.

These basic decision making principles must be applied before any anticipated job, tasks, or mission is performed:

- **Accept no unnecessary risk:** Unnecessary risk does not contribute to the safe accomplishment of a task or mission. The most logical choices for accomplishing a mission are those that meet all the mission requirements while exposing personnel and resources to the lowest possible risk.
- **Make risk decisions at the appropriate level:** Making risk decisions at the appropriate level establishes clear accountability. Those accountable for the success or failure of a mission must be included in the risk decision process. Supervisors at all levels must ensure subordinates know how much risk they can accept and when they must elevate the decision to a higher level.
- **Accept risk when benefit outweighs cost:** Weighing risks against opportunities and benefits helps to maximize unit capability. Even high-risk endeavors may be undertaken when there is clear knowledge that the sum of the benefits exceeds the sum of the potential costs.
- **Integrate risk management into planning and execution at all levels:** To effectively apply risk management, leaders at all levels must dedicate time and resources to incorporate risk management principles into the planning and execution phases of all operations. Integrating risk management into planning as early as possible provides the decision maker with the greatest opportunity to apply risk management principles.

Risk assessment can be divided into three levels:

- **Time Critical:** This method is an “on-the-run” mental or verbal review of the situation using the risk management process without necessarily recording the information. The process is used to consider risk while making decisions in a time limited situation. Rapid risk assessment requires effective training of personnel, effective operational practices and a thorough understanding of objectives of the mission.
    - Note that “time critical” does not mean “hasty” or “uninformed.”
- **Deliberate:** This type is used when planning time permits. It involves systematic risk identification, risk assessment/analysis, consideration of control options and risk decision making,

implementation of controls, and supervision. Note that all of these may be applied to time critical risk management; however, the time frame in which the rapid examination is performed is extremely compressed by the urgency of the situation. This will involve documentation of the process and actions.

- **Strategic:** Strategic Risk management is conducted at the highest levels of the organization and is typically applied to multiple systems type complexity and requires professional reviews. This method should be used in instances where new technology, change, or development of new programs or activities. It involves an analysis of cost/benefit of mitigations. The strategic process produces a more permanent record of findings and decisions used for long term planning, organizational decision-making and as authoritative training resources.

Risk Management Process: The process by which risk is managed is ongoing throughout the mission. It starts in the planning stage, continues to the approval and scheduling phase, is evaluated and adapted during the execution phase and is analyzed and collected as lessons learned in the post flight phase.

- **Identify Hazards:** The first step in risk management is to identify hazards. The hazards are the potential sources of danger that could be encountered while performing a task or mission. Hazards include, **but are not limited to**, weather, time of flight, terrain, equipment, training, and proficiency level of personnel.
- **Assess Hazards:** Hazard or risk assessment is part of the risk management process. Risk assessment can range from simple to complex but must be detailed. The process of assessing hazard causes personnel to analyze the degree of risk associated with each threat, and place these in perspective relative to the objectives of the mission and organization.
- **Develop Controls/Make Risk Decisions:** Starting with the highest threat, identify the risk control options that reduce exposure to the threats for all of those identified in the previous steps that exceed an acceptable level of risk.
- **Implement Controls/Execute and Monitor:** Implement the plan and ensure that the risk controls are known by all and are utilized. Ensure that people know and do what is expected of them. A high level of risk that cannot be effectively controlled should be reported to the person supervising the operation. Continually evaluate the effectiveness of the controls and ensure that the risk remains in balance with the benefits.
- **Supervise and Evaluate:** Note any changes to the operation, equipment, environment, and/or people and how they may affect your plan. It is important to remember that risk management is a continuous process! Adjust to changes in the situation in real time by remaining vigilant and maintaining your situation awareness to identify unexpected as well as planned threats. Track your progress by taking note of intermediate accomplishments that will denote and add up to the completion of your objective. Additionally, after action reviews are a good way to assure that the supervision and monitoring of the mission are effective and that lessons learned are captured for the future.

Risk Assessment Tools: As discussed previously, the second step of risk management is assessment of the threats/hazards. There are several tools that may be used to document the risk involved in the operation. A good source for a variety of risk assessment tools can be found in the *NSHO* Chapter 3: and https://www.nifc.gov/aviation/av_BLMsafety.html

4.5 Assurance

The safety assurance component involves processes for quality control, mishap investigation, and program reviews. Assurance emphasizes:

- Continuous monitoring and evaluation

- Standards for evaluations
- Internal/external audits and evaluations
- Investigations
- Emergency preparedness and response
- Reporting and feedback

Quality assurance (QA) techniques can be used to provide a structured process for achieving objectives. Currently BLM efforts have shifted with more emphasis being placed on the assurance pillar which consists of annual review of BLM contracted aviation resources during the field season.

4.5.1 Aviation Safety and Technical Assistance Team (ASTAT)

During high levels of aviation activity, it is advisable to request an Aviation Safety and Technical Assistance Team (ASTAT). An ASTAT's purpose is to enhance risk management, efficiency, effectiveness and provide technical assistance while reviewing aviation operations. If an ASTAT cannot be filled internally, the request may be placed with NICC through established ordering channels using individual overhead requests. An ASTAT should operate under a Delegation of Authority from the appropriate State/Regional Aviation Manager(s) or Multi Agency Coordinating Group. Formal written reports shall be provided to appropriate manager(s) as outlined at the in-brief. A team should be developed to fit the need of the requesting unit and may consist of the following:

- Aviation Safety Manager;
- Operations Specialist (helicopter and/or fixed wing);
- Pilot Inspector;
- Maintenance Inspector (optional);
- Avionics Inspector (optional);
- Aircraft Dispatcher (optional).

4.5.2 Aviation Safety Communiqué - SAFECOM

The SAFECOM system is used to report any condition, observance, act, maintenance problem or circumstance which has the potential to cause an aviation-related mishap. **The SAFECOM system is not intended for initiating punitive actions.** Mission personnel are encouraged to collaborate on SAFECOM development prior to submission to avoid any punitive implication, submission duplication and to increase the narrative accuracy of events. Submitting a SAFECOM is **not** a substitute for "on-the-spot" correction(s) to a safety concern. It is a tool used to identify, document, track and correct safety related issues. All personnel involved in aviation activities are encouraged to submit SAFE-COMs. A SAFECOM can be submitted via:

- Website: https://www.safecom.gov/
- Mobile application: https://www.safecom.gov/mobile/#/
- Phone: 1-888-464-7427

Personnel in doubt about completing a SAFECOM should contact their UAM. Reference the BLM *NAP Appendix 4* for BLM SAFECOM management roles.

- Elevated SAFECOM's will not be made "Public" until a determination/ investigation has been completed. The National Aviation Safety Manager (FA-500) will assign a liaison to OAS-Safety on a case by case basis.

4.5.2 BLM Montana/Dakotas Supplement: SAFECOM

Personnel at all levels are encouraged to promote a positive safety culture through reporting hazards and mishaps. SAFECOMs may be submitted by any individual who witnesses or has specific knowledge of an event. Although retaining anonymity is an option when submitting a SAFECOM, it is highly recommended that employees engage in discussions with the UAM or SAM when submitting the

report and provide a method of being contacted in case further questions arise. Although not required, the most effective learning SAFECOMs are often jointly written by the government employee and the involved pilot or mechanic so that technical facts can be articulated correctly.

An employee (i.e. UAM, FMO, etc.) who needs to review and edit SAFECOMs in the system should submit an access request form to the SAM who will sign and forward it to the BLM NAO Safety and Training Advisor. The UAM will provide a written corrective action statement for any BLM SAFECOM generated on their Unit that indicates the BLM had operational control. The SAM will review and initiate follow-up discussions with the UAM and may write additional corrective action language before the final submission of the document. When a BLM contract aircraft or BLM employees are involved in another agency's event that generates a SAFECOM, the SAM is available to engage in learning discussions with the Cooperator agency and will normally request and retain a copy of the SAFECOM on file.

4.5.3 Program Evaluations, Readiness Reviews, Site Visits

Aviation program evaluations/reviews are an integral part of the System Safety Assurance program.

BLM aviation program reviews are conducted at two levels within the department to insure that safety standards, policy compliance and Bureau efficiency objectives are being met.

BLM Fire Preparedness Reviews: Aviation functional operations and facilities are reviewed as part of the total Fire Preparedness review of field/district operations. Reviews are conducted every four years by a national level review team. District or state level fire readiness reviews are conducted annually. The SAM will be responsible for coordinating annual readiness reviews of the state's aviation crews/personnel, project and base site visits, and developing guidelines for UAM oversight of district/field office aviation activities. The SAM has the responsibility to ensure the reviews are being conducted for aviation operations within the required time frame and to identify well qualified individuals to conduct the review (reference *Interagency Standards for Fire and Fire Aviation Operations*, Chapter 18 for information).

OAS Aviation Program Evaluation: OAS will administer an aviation program evaluation of each BLM state and the NAO every five years. The purpose of these evaluations is primarily to review non-fire aviation activities as they relate to administration, operations, safety, training and security. The NAO will identify qualified individuals to assist with the review (reference BLM *NAP Appendix* 5 for schedule). The SAM will assist with the review and provide scheduling and logistical support. Additional reviews may be conducted if a need is identified by the aviation division chief.

4.5.4 National Fire and Aviation Operations Alert System

The BLM Office of Fire and Aviation has established an "Operation Alert" system designed to provide field units and personnel with critical ground or aerial operational information in a timely manner. The system is intended to respond to emerging issues as identified through such means as SAFECOMS, SAFENETS, investigation reports, after action reviews, etc. This system is not a replacement for any existing formal notification and alert system such as Interagency Safety Alerts or Aviation Accident Prevention Bulletin. In fact, the intent is for the operations alerts to complement these existing systems in those instances where it is appropriate. These alerts will also complement the department and Bureau manual process. The operations alert system will provide time sensitive information to state and unit FMOs and aviation managers. It is anticipated that these individuals will provide the information to appropriate parties through established channels and processes. The Office of Fire and Aviation, Operations (FA-300) and Aviation (FA-500) groups manage the program.

4.6 Promotion

The BLM must promote safety as a core value with practices that support a positive safety culture. BLM Aviation Managers are encouraged to promote aviation safety and accident prevention at every opportunity, within all fire and non-fire programs. Line Managers play a critical role in establishing a just safety culture at the State and Field levels. Safety promotion can be accomplished through:

- Training
- Communication
- Reporting and Feedback
- Safety and Mishap Information
- Safety Awards

4.6 BLM Montana/Dakotas Supplement: Safety Promotion

The Montana SAM and UAMs promote aviation safety through frequent interaction and briefings, AARs, and SAFECOM reviews with Line Officers, the NRCG Aviation Working Team (AWT), District Fire Managers, and through the measures listed in Section 4.2 above.

UAMs are responsible for local safety promotion and quality assurance through:

- Preparing and reviewing PASPs and risk assessments for non-fire projects
- Updating the Unit Aviation Plan annually with attention to accuracy, completeness, and detail, submitting it for signature within required timeframes.
- Providing aviation training on the local Unit, monitoring the IAT training records for non-fire District employees to ensure those who fly on aviation missions are current and qualified as Aircrew and/or Flight Manager.
- Presenting, attending, or ensuring a qualified flight manager conducts pre-mission briefings and AARs with an emphasis on reviewing the PASP and risk assessment.
- Providing corrective action statements for SAFECOMs submitted on the local Unit during missions in which the Bureau has operational control. Briefing the SAM and local fire managers/supervisors when events occur or trends are identified.

Disseminating Safety Alerts, Accident Prevention Bulletins, Lessons Learned reports, and other safety-related information, and/or maintaining a display board of these products as they are received from the SAM and other sources.

4.6.1 Lessons Learned

National and State level aviation program managers are responsible for providing input into training curriculum development, lessons learned messages, development of new procedures and operational methodologies.

SAM's are responsible for disseminating pertinent aviation safety information, actively engaging resource and fire managers during annual work plan development.

Additional information regarding Lessons Learned is available at the Lessons Learned website: http://www.wildfirelessons.net/Home

4.6.2 Aviation Safety Awards Program

Aviation safety awards are a positive part of the aviation program and are provided to all organization levels. National awards are given following the guidelines in *352 DM 4* for pilots and employees. Airward recommendation narratives are submitted through the SAM to the NAO Safety and Training Advisor.

5.0 Aviation Operations

5.1 General

As a Bureau, we are often challenged with working in high-risk and dynamic environments that are not always predictable. It is the responsibility of each employee, cooperator and contractor to conduct aviation operations that have been planned properly, approved by management, that utilize the correct equipment and personnel and are carefully executed per SOP to minimize risk. Safety is the first priority and leadership at all levels must foster a culture that encourages employees to communicate unsafe conditions, policies or acts that could lead to accidents without fear of reprisal. The four components of SMS (policy, risk management, assurance, and promotion) are critical to the success of safe operations.

State and local units are required to staff exclusive use aircraft assigned to their jurisdiction throughout the contract period and any extensions. Additionally local units will ensure that support functions (i.e. airtanker bases and local dispatch centers) necessary for the mobilization of national assets (i.e. large airtankers, Lead planes, SEAT's, ASM's and fire helicopters) are staffed to support local dispatch as well as GACC to GACC and national mobilization.

5.1 BLM Montana/Dakotas Supplement: General

BLM Montana/Dakotas conducts a wide range of fire and non-fire aviation missions each year in support of fire and resource management programs. It is imperative that managers and supervisors pay close attention to the work and flight environments due to the complex and dynamic nature of each. Successful and safe operations depend on effective mission planning, open communication, adherence to policies and established procedures, maintaining situational awareness, and a continuous focus on sound risk management principles and practices.

North Central Montana District:

- Collateral duty, permanent full-time (PFT) AFMO/UAM
- 1 Exclusive Use 90-day helicopter contract, a PFT Helicopter Manager/crew supervisor, a career seasonal Assistant Manager, career seasonal lead crew member and 6 interagency crew members, based at Lewistown, MT (LWT). The crew is trained and equipped to perform aerial ignition.
- One bulk retardant (LC-95A) base with a 3,000 gallon capacity retardant storage tank and mix tank, water supplied by water storage tank and water tender. Base is capable of operating four SEATs which are now procured via a national on-call contract.

Eastern Montana/Dakotas District:

- Collateral duty, permanent full time (PFT) AFMO/UAM
- 1 Exclusive Use 90-day helicopter contract staffed by a 10 person helitack fire crew. Crew is supervised by a permanent full time helicopter manager/crew supervisor, an assistant manager and lead crew member. The helitack crew is trained and capable of performing aerial ignition.
- 1 bulk retardant contract (LC-95A) with a 10,000 gallon capacity retardant storage tank and mix tank on leased ramp space, and water supplied from a storage tank. The base is capable of operating two pits for SEATs. The base is staffed by a career seasonal Base Manager, and a seasonal airbase technician/SEAT Manager.

Western Montana District:

- Collateral duty, permanent full-time (PFT) FMO/UAM.

Billings Field Office:

- Collateral duty, permanent full-time (PFT) AFMO/UAM
- 1 Exclusive Use 90-day air tactical contract, shared with Fairbanks, AK. The resource is an Aero Commander 690B fixed-wing twin-engine air tactical airplane based at Billings Logan Airport (KBIL), with a qualified BLM Air Tactical Group Supervisor (ATGS).
- Full service retardant contract (LC-95A), approximately 120 days. The base is staffed by a career seasonal base manager, career seasonal assistant base manager, and two seasonal Ramp.

5.2 Policy, Operational Guides and Handbooks

A list of all of the BLM aviation policy documents can be found in the BLM *9400* Manual and BLM *NAP 1.6*.

5.3 Public/Civil Aircraft Operations

DOI aviation activities include both "civil" and "public" operations. Civil aircraft operations must comply with 14 CFR (Federal Aviation Regulations) in the operation and maintenance of public aircraft with the few exceptions outlined in *DM 350-353*. Operators under contract to DOI are bound by that contract to conduct operations in accordance with their FAA-approved commercial operator or airline certificate specifications, unless otherwise authorized by the contracting officer.

Standard Flight and Duty Limitations (Reference *Redbook Chapter 16* for Interim Duty Limitations): Interagency standards for pilot duty days and flight time are:

- 14-hour maximum duty day;
- 8 hours maximum daily flight time for mission flights;
- 10 hours for point-to-point, with a 2 pilot crew;
- A maximum of 42 hours flight time during any consecutive 6-day period. When a pilot acquires 36 or more flight hours in a consecutive 6-day period, the pilot shall be given the following day off. A new 6-day cycle shall begin upon return from any day off;
- Minimum of 10 hours uninterrupted time off (rest) between duty periods; and
- Two days off within any 14-day period.

If these standards are exceeded, the following time off requirements will be followed.

- 11 consecutive hours of rest if the duty day or flight time limitations are exceeded by not more than 30 minutes
- 12 consecutive hours of rest if the duty day or flight time limitations are exceeded by more than 30 minutes, but not more than 60 minutes
- 16 consecutive hours of rest if the duty day or flight time limitations are exceeded by more than 60 minutes

There will be no impact to the contractor's daily availability for these additional time-off requirements. Notification through the contracting chain of command should occur and a SAFECOM should be submitted.

Maintenance Test and Ferry Flights by Government Pilots on contracted aircraft: Government Pilots may perform functional maintenance check-flights and ferry aircraft to and from the Contractor's maintenance facilities when it is in the best interest of the Government and the following conditions are met:

- Flights are not being paid for by the Government and the operational control remains with the Contractor.
- The test flight does not follow any installation, overhaul, major repair, or replacement of any engine, propeller or flight control system.
- The aircraft is operating under an approved and current OAS Inspection.
- Notification and approval from OAS and the NAO.

5.3 BLM Montana/Dakotas Supplement: Public and Civil Aircraft Operations

Aviation managers, fire and resource managers, supervisors, and line officers receive briefings on civil and public aircraft operations from aviation managers and IAT Instruction. Briefings are delivered through courses such as M3 Aviation Management for Supervisors, the (DOI) M2, the M-581 Fire Management Leadership course, and other venues. FAA Advisory Circular AC 00-1.1a, Public Law 103-411, FS 5712 - 5714, 351 DM 4, and the NR Interagency "Master Agreement" are referenced and cited in these presentations.

5.4 BLM Employees on Non-BLM Aircraft

All agency employees will comply with Bureau and DOI aviation policies when performing agency employment-related duties on board any organization's aircraft and/or aircraft operated under any other organization's operational control. These policies include, but are not limited to: approved aircraft and pilot (by carding or cooperator letter of approval), project aviation safety plans, flight following, PPE, appropriate flight management, etc. (reference *351 DM 4*).

Exceptions are:

- Flights in foreign countries (*351 DM 4.1.E.(4)*), (*350 DM 1.2.C*). Parts 350 - 354 of the DM do not apply to international DOI operations (except for fleet operations). However, BLM employees are expected to use good judgment and should attempt to follow DOI aviation policies to the extent practical.
- Undercover Law Enforcement missions (*351 DM 1.6.D*)
- Flights with a scheduled air carrier on a seat fare basis (Part 121 or 135 scheduled flights open to the general public on a ticket sale basis). Seat fare is defined as the cost for a DOI employee to occupy one seat between two different airports/heliports when the aircraft is not under the exclusive control of the DOI. It does not include any charter or on-demand operation (*353 DM 1 & OPM-15*)

5.5 Passengers

A passenger is any person aboard an aircraft, when traveling on official BLM business, who does not perform the function of a flight crewmember or Aircrew member. Unauthorized passengers will not be transported in any DOI aircraft. For official, unofficial and unauthorized definitions, reference *350 DM 1.8*.

All passengers will:

- Use appropriate personal protective equipment (reference *ALSE Handbook*).
- Report aviation incidents, operations deviating from policy to the UAM and/or through the SAFECOM system.
- Emphasize personal safety as well as the safety of others involved in the flight.
- Meet the requirements of DOI *OPM-04*.

Agency employees in off duty status: Federal employees cannot utilize annual leave/LWOP or "volunteer" in order to circumvent agency policy. If any aspect of the employee's activity is related to their official duties, they are conducting agency business, irrespective of their pay status.

Reference the regulations regarding off-duty activities in accordance with the *Standards of Ethical Conduct for Employees of the Executive Branch* (5 CFR. Part 2635.802-803).

Non Federal passengers (not covered by established agreements): (reference *350 DM 1.8.A(3)*)

- General: A qualified Helicopter Manager or Flight Manager must be assigned to the mission. All requirements regarding use of personal protective equipment, flight following, load calculations, and hazard analysis must be followed.
- Resource/Project Missions: If the mission is special use, a Project Aviation Safety Plan must be required and approved by line management prior to the flight. It must show that the carriage of Non-Federal passengers aboard the aircraft is of an official nature and is advantageous to the agency. Since the Non-Federal passengers are designated official passengers, no flight release waiver is necessary
- Incident Missions: As a general rule, the Incident Commander on Type I or II Incident Management Teams may authorize all flights with Non-Federal passengers on board. On local unit fires, the line manager or their designee is usually the approving authority. Flights on government aircraft with Non-Federal passenger aboard must be in the interest of the government. No flight release waiver is required. This general guidance may be further restricted by agency local unit policy. The air operations staff should check with the local area to ascertain any additional restrictions or necessary approvals.
- Restricted Category Helicopters: Carriage of passengers aboard restricted category aircraft is specifically prohibited.
- Local Unit Aviation Manager and State Aviation Manager should be notified prior to any flights with Non-Federal passengers aboard.

Volunteers: Volunteers when traveling on official business, are official passengers, within the terms of *350 DM 1.8.A.(3)* and BLM *9400.67.A*. Volunteers are not permitted to operate aircraft or serve as an aircrew member on any DOI aircraft. Volunteers aboard DOI aircraft performing mission flights must be pre-approved by the appropriate BLM line manager. During fire mission flights, the incident commander with delegation of authority or the local line officer are the appropriate levels of approval. *OMB 0596-0080* requires use of Volunteer Service Agreement form OF301a

5.6 Emergency Exception to Policy:

Federal employees who are involved in an event in which there clearly exists an imminent threat to human life, and there is insufficient time to utilize approved methods, may deviate from policy to the extent necessary to preserve life (reference *350 DM 1.3.B*). The following provisions and follow-up actions apply:

- Personnel involved are expected to use good judgment.
- Personnel involved in the decision making associated with deviating from policy must weigh the risks verses benefit.
- Any deviations must be documented on a SAFECOM.

5.7 Categories of Flight

The following terminology is used throughout this section under these definitions.

A **"Point-to-Point"** flight is one that originates at one FAA-designated airport, seaplane base or permanent helibase (identified in the FAA Airport/Facilities Directory, FAA Sectional Aeronautical Charts or FAA supplement for the geographic area) and flies directly to another developed airport, seaplane base or permanent helibase with the sole purpose of transporting personnel or cargo (this term does not apply to flights with a scheduled air carrier on a seat fare basis). These types of flights are often referred to as "administrative" flights and require the aircraft and pilot to be only carded and approved for point-to-point flight. A point-to-point flight is conducted higher than 500 feet above ground level (AGL). Point-to-point missions, when flown in Department owned or contracted aircraft, shall be considered civil aircraft operations and must be flown in full compliance with applicable provisions of 14 CFR.

A **"Special Use flight"** is defined as any flight other than point-to-point, conducted with the express purpose of performing (or directly supporting) an agency or resource management related task or tactical job such as fire suppression, wildlife census, reconnaissance, etc. These missions require special techniques, procedures and considerations due to increased risks inherent in such operations. Aircraft and pilots must be approved for each specific activity prior to use. Special Use flights require additional agency planning, active flight following, additional pilot and aircraft inspections and carding, and operational supervision by agency personnel (reference *OPM-29*).

5.8 BLM Montana/Dakotas Supplement: Flight Planning and Mobilization

Proper tracking of tactical aircraft requires either a resource order or an agency flight plan (i.e. Form 9400-1a) for all flights in the Montana/Dakotas. Pilots will notify dispatch of departure and arrival times, any necessary deviations from the planned flight route or timeframes, and upon arrival at any intermediate stops and the final destination. If there are unique or specific local procedures on how the flight planning and approval process is managed on the local Unit, those details may be addressed in the District Aviation Plan or the Dispatch Center Operating Plan. A PASP is required for non-fire mission flights in Montana/Dakotas with few exceptions, as discussed in Chapter 4, Section 4.3.2.

5.8 Flight Planning - Unless exempted by *351 DM 1.4*, all flights will be conducted with an approved flight plan. (See also *National Interagency Mobilization Guide* Chapter 20)

Point-to-Point Flights will be tracked by a FAA - visual flight rules (VFR) or instrument flight rules (IFR) flight plan or on an international Civil Aviation Organization (ICAO) flight plan; or in accordance with a Bureau approved flight plan program; or in accordance with an OAS Director approved vendor flight program specified in a DOI procurement document. FAA flight plans may be supplemented by agency flight plans and the administrative tracking and notification procedures specified in the *National and Geographic Area Mobilization Guide*. A qualified flight manager (per *OPM-04*) will be assigned to perform the administrative functions and assure a briefing is given to the pilot and a pre-flight safety briefing is given to the passengers (reference *National Interagency Mobilization Guide* Chapter 20 for specific responsibilities). A 9400-1a Form or other Aircraft Flight Strip (per Dispatch SOP) will be utilized to provide dispatch with the appropriate aircraft and pilot information, a passenger manifest, and an estimated time of departure and arrival.

Special Use Flights: Agency flight plans for fire/emergency mission flights will be documented on the Aircraft Flight Strip (per Dispatch SOP) and/or Resource Order. Agency flight plans for non-fire/non-emergency mission flights will be documented on the 9400-1a Flight Request/Schedule or equivalent Aircraft Flight Strip (per Dispatch SOP) and/or PASP. The flight manager and the pilot will plan the mission together. Approval to conduct non-fire/non-emergency mission flights is required prior to flight (see *NAP* 4.3.2). Elements to be considered are:

- Type of mission

- Environmental conditions – departure point, route, destination
- Time frames
- Logistics – fuel, landing areas, equipment, support crew
- Communications
- Airspace, flight hazards
- Aircraft and/or Pilot carding requirements (i.e ACETA, Low-Level, etc. reference *OPM-29*)

5.9 Flight Following (See also *National Interagency Mobilization Guide* Chapter 50 and *Interagency Standards for Fire and Fire Aviation Operations* Chapter 16)

Sterile Cockpit All Aircraft: Sterile cockpit rules apply within a 5-mile radius of the airport. The flight crew will perform no radio or cockpit communication during that time that is not directly related to safe flight of the aircraft from taxi to 5 miles out and from 5 miles out until clearing the active runway. This would consist of reading checklists, communication with Air Traffic Control (ATC), Flight Service Stations, Unicom, or other aircraft with the intent of ensuring separation or complying with ATC requirements. Communications by passengers or air crew members can be accomplished when the audio panels can be isolated and do not interfere with flight operations of the flight crew.

Exception: When conducting firefighting missions within 5 miles of an uncontrolled airport, maintain sterile cockpit until departing the traffic pattern and reaching final altitude. Monitor CTAF frequency if feasible while engaged in firefighting activities. Monitor CTAF as soon as practical upon leaving the fire and returning to the uncontrolled airport. When conducting firefighting missions within Class B, C, or D airspace, notify dispatch that ATC communications will have priority over dispatch communications.

Point-to-Point Flight following is accomplished by an authorized flight plan as outlined in *NAP 5.8*. Aircraft on FAA IFR flight plans are continuously tracked via radar. Radar tracking for VFR traffic is not guaranteed, but is available when requested if the controller workload, terrain, and operating altitude allow coverage. The designated flight manager will confirm that the pilot has filed and activated an authorized flight plan and performs several functions associated with the agency flight plan. When utilizing an FAA VFR flight plan or agency flight plan, the pilot or flight manager will notify Dispatch upon departure, arrival at any interim stops, and arrival at the final destination to close out resource tracking. The flight following method is documented on the Flight Strip or 9400-1a Form.

Mission Flight Following is accomplished by flight crews and agency dispatchers using positive two-way communication (agency radio systems, satellite telephones, satellite texting), via the internet-based Automated Flight Following (AFF) system, or by agency personnel on the scene of an incident or project where the aircraft is operating.

The method of flight following for fire incidents is documented on an aircraft resource order or in a *Dispatch Center's Mobilization/Operating Guide*. The method for flight following non-fire missions will be documented in a PASP and/or 9400-1a (or equivalent).

Agency Flight Following: Begins with providing the departure time, souls on board (total personnel on the aircraft), quantity/duration of fuel, and heading to next check-in point. Position reports during a mission normally include the aircraft call sign, latitude, longitude, and heading. The default standard check-in for flight following is 15 minutes. If this is not possible, reporting frequency must be established and briefed prior to the mission and position reporting shall not exceed one hour intervals under normal circumstances (reference *351 DM 1.4.B*). If the 15 minute time limitation is to be exceeded, prior approval by the SAM is required (reference *9400*.45.C.2.a).

- In certain circumstances, a position report may be given by some other descriptive location, such as reference to a mission grid-square map, a prominent known landmark, etc.
- Flight following may be conducted by FAA air traffic control if the mission flight is operating within Class B, C, or D airspace, and with prior notification to dispatch.
- Position reports and tactical radio transmissions should not be given when operating within five miles of an airport in the "sterile cockpit" environment.

The BLM standard format for aviation operations is Degrees and Decimal Minutes (DDD° MM.MMM'). Reference BLM *NAP Appendix 3* for additional details. Utilization of the correct format must be discussed between dispatch and the flight crew to assure accurate navigation.

Local/on-scene Flight Following: Local flight following by incident or project personnel may be implemented and utilized only when certain requirements are met and in place (reference *NSHO 4. Page 29 line 28.*):

- Local flight follow procedures pre-identified and approved in the 9400-1a or PASP for project operations and in conjunction with Dispatch for tactical operations.
- Flights following procedures and responsibilities have been addressed in pre-flight briefings.
- Methods of flight following are in place and tested, including mandatory communication between designated flight following personnel and dispatch before flight operations begin. Positive communication with Dispatch must be maintained continuously during the operational period.
- A positive, clean "hand-off" must occur between dispatch and the project site when local flight following begins and ends.
- Backup/alternate communication devices are in place, available and tested.
- A reporting interval not to exceed fifteen minutes (or continuous visual contact) is maintained, and the location/status documented on a field radio log.
- Emergency accident and lost communication procedures must be briefed and understood by project flight following personnel, the pilot, flight manager, and dispatch.

Automated Flight Following (AFF): AFF is the preferred method of agency flight following by Dispatch Centers since the aircraft N-number/identifier, position, speed, and heading of each AFF-equipped aircraft is graphically depicted every two minutes. The ability to resume radio flight following will be maintained and utilized in the event the AFF system ceases to function (i.e. agency network internet connection failure or aircraft AFF transmitter failure). Reference the *National Interagency Mobilization Guide*, Chapter 50 for specific direction regarding AFF.

5.9 BLM Montana/Dakotas Supplement: Flight Following

If there are supplemental methods or additional procedures for flight following on an individual Unit, those should be addressed in the District/Unit Aviation Plan or Dispatch Center Operating Plan. It is recommended that the aviation portion of a Dispatch Center Operating plan be included as an Appendix or at least referenced in a Unit Aviation Plan to address this topic.

5.10 Radio Frequency Management/Communications

Bureau of Land Management policies for radio communications are found in Manual Sections:*MS-1291 Radio Frequency Authorization Manual, and MS-1292 Radio Communications.*

Do not transmit on a frequency without formal approval from the authorized radio frequency management personnel at the local, state, regional or national levels.

5.10 BLM Montana/Dakotas Supplement: Frequency Management/Communications

Aviation frequencies are issued and controlled in the Northern Rockies by and for USFS, BLM, and interagency partners in accordance with FSH 6609.14 and DOI policies. The NR Aviation Frequency Working Group gathers frequency information, and publishes the annual Northern Rockies Aviation Frequency Guide in a spiral-bound pocket-sized format.

National Flight Following (NFF) and Air Guard frequencies: Dispatch Center radio consoles and aircraft radios are required to be capable of monitoring and transmitting on the emergency Air Guard and National Flight Following (NFF) frequencies.

NFF is available for flight following only those aircraft on point-to-point flights across dispatch area boundaries, or for flights departing from a base of operations flying cross country to or from an incident or project site. Communications on this frequency is limited to administrative exchanges regarding aircraft status and location, such as relaying the aircraft's Latitude-Longitude every 15 minutes if it is not equipped with AFF, to report taking off and landing, or deviations from planned routes. Other acceptable NFF transmissions include Dispatch diverting an aircraft to a higher priority incident, or the pilot/flight crew updating an estimated arrival time or confirming a radio hand-off. Upon arrival at an incident Fire Traffic Area (FTA) or a project site, a different frequency must be utilized for conducting tactical operations and communications with other aircraft on-scene, or with ground personnel. NFF is not to be used as a tactical channel. The NFF frequency is heavily used during field season by transient aircraft and becomes congested quickly if misused. Individual transmissions can impact multiple Dispatch Centers.

Air Guard is generally reserved for transmitting emergencies. It is also authorized for establishing initial contact when there is no response on other designated frequencies, and to recall or redirect an aircraft if unable to do so by other means. Dispatch Centers and pilots are required to monitor Air Guard at all times during flight operations.

5.11 Overdue, Missing or Downed Aircraft

An aircraft is considered "overdue" when it fails to arrive within 30 minutes past the estimated time of arrival (ETA) and cannot be located. An aircraft is considered "missing" when its fuel duration has been exceeded, it has been reported as "overdue" to the FAA and the FAA has completed an administrative search for the aircraft without success. If an aircraft is overdue, missing, or downed, initiate the *Interagency Aviation Mishap Response Guide and Checklist* (NFES 2659). It is critical that the response plan is implemented, followed and documented throughout the duration of the event.

5.12 Mishap Response

The *Interagency Aviation Mishap Response Guide and Checklist* outlines appropriate response to a loss of flight following, or an aircraft incident or accident. The plan describes procedures and requirements, including initiation of SAR, fire and medical response, notification of OAS Safety (1-888-4MISHAP) and BLM management. This guide (or equivalent) is specific to each Unit and shall be available in all Dispatch Offices (reference *352 DM 3.5*). The guide must be updated annually by the date established in the state aviation plan. Dispatch Centers are encouraged to augment the *Interagency Aviation Mishap Response Guide and Checklist* with additional local protocols and notification procedures and are required to test the Plan at least annually through a simulation exercise.

- Timely upward reporting of any confirmed or potential accident or incident is critical. If there is any doubt on how any occurrence might be classified contact your: State Aviation Manager, National Aviation Safety Advisor or the National Division Chief, Aviation (in that order) for clarification.

The *Interagency Aviation Mishap Response Guide and Checklist* is available at: https://www.doi.gov/aviation/library

5.12 BLM Montana/Dakotas Supplement: Mishap Response

Dispatch Centers are required to have their Aviation Mishap Response Plans updated annually. The Plan should be tested with one or more simulation exercises during each annual field season. Simulations and drills are recommended to ensure all dispatchers who will be mobilizing and tracking aircraft are proficient with initiating an effective response and proper notifications. It is critical to ensure that phone contact lists are current and accurate.

5.13 Transportation of Hazardous Materials

Transportation of hazardous materials aboard agency contracted aircraft must meet the requirements set forth in the *NWCG Standards for Aviation Transport of Hazardous Materials*

Transport of hazardous materials aboard commercial aircraft must be in accordance with that company's policy.

5.13 BLM Montana/Dakotas Supplement: Transportation of Hazardous Materials

The most current DOT 9198 letter of Exemption and the current edition of the *Interagency Aviation Transport of Hazardous Materials Guide* must be carried on board any aircraft under BLM operational control when hazardous materials are being transported. The pilot and any employees who are involved with packaging, transporting, or carrying such materials on any flight must have completed the required IAT A-110 course within the past three years per OPM-4 and the IAT Guide. The course matrix in the IAT Guide and OPM 4 further points out that any Dispatcher who mobilizes and tracks a flight carrying Hazmats, and any Aviation Manager who oversees an aviation program in which aircraft are utilized to carry Hazmats must also complete A110 at least once every three years to remain current. The course length is two hours, and it may be completed as on-line computer-based training, or in a classroom setting. (See Chapter 6-Aviation Training for more details.)

5.14 Invasive Species Control

Aquatic invasive species are easily transported in a variety of ways (i.e. helicopter buckets, scoopers, fixed tank helicopters and SEATs utilizing open water sources, fire engines and water tenders, and other water handling equipment). Agency personnel should become knowledgeable in the preventive measures associated with mitigating the spread of aquatic plants and invertebrates. Aviation managers should consult with local unit resource advisors to acquire information associated with: contaminated water sources, approved water sources, cleaning of equipment exposed to contaminated water requirements, and other pertinent information.

Work is underway to develop additional guidance and procedures in the cleaning of equipment that has been exposed to aquatic invasive. Additional operational guidelines for aquatic invasive species can be found in the *Interagency Standards for Fire and Fire Aviation Operations*, Chapter 2.

5.15 Fire Chemicals and Aerial Application Policy near Waterways

Interagency policy only allows the use of a product that is qualified and approved for intended use. A qualified products list (QPL) is published for each wildland fire chemical type and maintained on the Wildland Fire Chemical Systems (WFCS) web site:
http://www.fs.fed.us/rm/fire/wfcs/index.htm

Personnel involved in handling, mixing and applying fire chemicals or solutions shall be trained in proper safe handling procedures and use the personal protective equipment recommended on the product label and safety data sheet (SDS). The SDS for each approved fire chemical can be found on the WFSC web site.

Airtanker bases shall have appropriate spill containment measures in place. Consult with the local safety officer on requirements.

Products must be blended or mixed at the proper ratio by approved methods prior to being loaded into the aircraft by authorized personnel.

For operational guidelines on use of fire chemicals and the Policy for Delivery of Wildland Fire Chemicals near Waterways, reference the *Interagency Standards for Fire and Fire Aviation Operations*, Chapter 12.

5.15 BLM Montana/Dakotas Supplement: Fire Chemicals and Aerial Application Policy near Waterways

See USFS National Aviation Safety and Management Plan, Section 5.15 for additional guidance on retardant avoidance areas, misapplication reporting requirements, and a link to a map of avoidance areas.

5.16 Search and Rescue (SAR) (See also BLM *NAP 3.14*)

Agency line officers, managers or an incident commander may direct agency personnel to participate in SAR aviation missions on or over public lands.

- All personnel involved with SAR operations should remain within the scope of their employment.
- Proper planning, risk assessments, and briefing the mission prior to an event will significantly reduce risk and improve the odds of success.
- SAR operations could lead to actions in conflict with DOI policy (reference BLM *NAP 5.6* Emergency Exception to Policy).
- DOI policy (*900 DM 1.10* and BLM *H-1112-1.40.C*) and the *Federal Land Policy and Management Act* (*43.U.S.C. 1742*) provide authority to incur expenses and to take a temporary lead role in any SAR emergencies in which immediate and quick response can save lives.

5.17 Large Airtanker (LAT), Very Large Airtanker (VLAT) and CL-215/415 (Scoopers) Operations

Airtankers are a national resource and their primary mission is initial attack. GACCs mobilize these aircraft according to *National and Geographic Area Mobilization Guides*. In addition to federally contracted airtankers, military airtankers with the Modular Airborne Fire Fighting System (MAFFS) and cooperator aircraft may be utilized to supplement the federal fleet through established agreements.

Operational considerations concerning LAT, VLAT and Scoopers can be referenced in the *SAS*.

5.17 BLM Montana/Dakotas Supplement: Large Airtanker Operations

Foreign Government Airtankers: See 5.20.

MAFFS: Billings is currently approved for using MAFFs. Rotation of these resources will be managed in accordance with the local tanker base operating plans. Orders for these resources must be placed through Northern Rockies Coordination Center per the procedures found in the NR Mobilization Guide.

5.18 Airtanker Base Operations

The airtanker base manager and/or fixed base manager supervise ground operations in accordance with the *NWCG Standards for Airtanker Base Operations*.

The *NWCG Standards for Airtanker Base Operations* establishes qualifications, certification and currency requirements for BLM.

5.19 SEAT Operations

SEATs are a national resource and their primary mission is initial attack. Mobilization is managed by dispatch centers with support by a national SEAT coordinator and aviation managers. Operational considerations concerning SEATs can be referenced in the *BLM Nationally Funded SEAT SOP's*, *NWCG Standards for Single Engine Airtanker Operations, NWCG Standards for Airtanker Base Operations* and the *SAS*.

SEAT Manager (SEMG) responsibilities are outlined in the *NWCG Standards for Single Engine Airtanker Operations*, and their training and currency requirements are contained in NWCG PMS *310-1*.

Utilization of remote/satellite SEAT bases must be in compliance with *NWCG Standards for Single Engine Airtanker Operations* requirements.

5.19 BLM Montana/Dakotas Supplement: SEAT Operations

BLM maintains several SEAT bases that are available to host and/or reload the current fleet of national-contract SEATs. These bases, which have water sources and bulk retardant in stock, are located in Lewistown and Miles City, as well as the Billings full service airbase. A brief description of the three primary Montana BLM SEAT bases (Billings, Miles City, and Lewistown) is provided in Sec. 5.1 above. Additional bases have historically been established at numerous other small airports. Each Unit Aviation Plan that has a SEAT base or reload base on their unit will include a SEAT Base Operating Plan as an appendix to the Unit or District Aviation Plan.

Districts are highly encouraged to share SEATs and other aerial resources with neighboring Districts, Forests, and other agency lands in accordance with established interagency initial attack agreements. Resource sharing is encouraged both within the geographic area as well as across GACC boundary lines, if aircraft are available. Coordination between the ordering Dispatch Center, State Aviation Manager, National SEAT Coordinator's desk at NIFC, and Northern Rockies Coordination Center (NRCC) is required when additional aircraft are needed but unavailable from a neighboring Dispatch Center.

SEATs missions are occasionally cancelled (i.e. due to a false alarm) after an aircraft has already taken off in response to a reported fire. Due to safety and aircraft structural limitations, the aircraft cannot return and land with a full load of retardant on board. Therefore, each base must identify acceptable retardant jettison sites away from the airport, any urban area, or developed private land. Jettison site locations should be documented in each SEAT base operating plan. District Resource Specialists should be consulted annually to review established jettison sites for continued suitability. Jettison areas should be discussed during initial pilot briefings, and pilots should be asked to enter jettison site locations as waypoints in the aircraft panel-mounted GPS before the initial dispatch or as soon as possible thereafter.

5.20 Foreign Airtanker Operations

The *National Interagency Mobilization Guide* identifies procedures for ordering foreign airtankers. Requests for foreign airtankers will be ordered through the GACC and forwarded on to NICC. In accordance with *351 DM 2.3.C* all airtanker make and models, regardless of nationality, must be Interagency Airtanker Board approved. Each aircraft and pilot(s) will be issued Letters of Approval per the procedures outlined in *351 DM 4.1* and *351 DM 4.4* and the *National Interagency Mobilization Guide*. Operations of foreign airtankers will be consistent with the procedures outlined in the *SAS*.

5.20 BLM Montana/Dakotas Supplement: Foreign Government Airtankers

Foreign Government Airtankers: Agreements are in place to utilize Canadian airtankers and birddogs on an as needed basis and for boundary (International) fires. Approval procedures are listed above.

5.21 Air Attack, ASM and Lead plane Operations

These air tactical resources conduct operations in accordance with the *SAS*, and the policies and procedures prescribed in the *Interagency Standards for Fire and Fire Aviation Operations*. Dispatch and ordering procedures are accomplished in accordance with the *Geographic Area and National Interagency Mobilization Guide*.

The *SAS*, Aerial Supervision Logbook and associated forms are located on the NWCG website: http://www.nwcg.gov/publications

Aerial supervision resources will be dispatched, when available, for initial and extended attack to enhance efficiency and safety of ground and aerial operations. The rapid response speed of aerial supervision aircraft is critical to maximizing initial attack safety, effectiveness, and efficiency. This includes responding to incidents outside of the dispatch zone and GACC boundaries.

The ROSS status of BLM exclusive use air attack aircraft and personnel will be updated daily as GACC available. Aircraft and personnel will be released from incident at the end of each day to be available for IA the following day.

In accordance with *NAP 2.5* (FMO Duties) BLM Exclusive Use aircraft will be staffed for seven day coverage throughout the contract period. Regular Agency employees should be prioritized ahead of Casual (AD) employees to staff the aircraft in the event the assigned agency employee is not available (days off, etc.).

Air tactical aircraft must meet the avionics typing requirements listed in the *SAS*, and the pilot must be carded to perform the air tactical mission.

The BLM Air Attack Program is managed by the BLM Air Attack Program Manager. This position will provide oversight for operational and strategic movement of national funded Exclusive Use ATGS Aircraft in coordination with the National/Geographic Area Coordination centers to optimize response efficiency and effectiveness during all planning levels.

- The BLM Air Attack Program Manager or designated Fixed Wing Coordinator GACC rep shall (SHOULD?) be consulted on all orders outside of the hosting GACC.
    - Factors that should be considered include but are limited to:
        1. Closest resource
        2. Days off schedule
        3. Continued GACC and local coverage
        4. Scheduled maintenance
        5. Pilot schedules
        6. Weather and Fire Behavior Forecast
- Closest resources apply to all immediate fire responses. This does not include GACC aviation preposition orders on Regional support codes.

5.21.1 Aerial Supervision Personnel

Personnel associated with aerial supervision will be trained to the standards in NWCG PMS *310-1* and the *SAS*. Training and qualification requirements for ASM crewmembers are defined in the *SAS*. Individuals performing duties as an AITS or ATP must be certified and authorized by the BLM NAO. AITS's will match days off with the ATP on the aircraft they are an aircrew member on. This is for the purpose of maximizing aircraft and crew availability.

ATGS training and currency requirements are contained in NWCG PMS *310-1*. However, additional currency requirements for BLM ATGS are defined in the *SAS*. The ATGS Cadre monitors and coordinates ATGS personnel and training at the GACC level and coordinates with National Program Managers, SAMs, GATRs, and the ATGS Cadre Chair.

Personnel who are performing aerial reconnaissance and detection will not perform aerial supervision duties unless they are fully qualified as an ATGS and the aircraft is equipped and carded for air tactical operations (reference BLM *NAP 5.27.2&3* for additional information on aerial observation)

5.21.1 BLM Montana/Dakotas Supplement: Aerial Supervision

BLM has one exclusive use Air Tactical fixed wing contract in Billings. The Vendor provides a twin turbine engine Aero Commander 690B with pilot. This aircraft averages 200 to 300 flight hours per year.

5.22 Helicopter Operations

All BLM helicopter operations must be accomplished in accordance with the *NSHO*, unless otherwise waived by the NAO and/or the aircraft contract.

The applicable hover out of ground effect (HOGE) chart will be used to determine payload limits for all BLM helicopter operations for the first time landing into remote landing sites, or when the pilot deems that environmental conditions warrant use of HOGE chart.

BLM Exclusive Use contracted helicopters must meet the daily minimum staffing levels defined by *NSHO* (Chart 2-4), except for weather and 1 hour call back.

Utilization of the R-44 helicopter: Utilization of this model of helicopter shall be addressed in the State Aviation Plan. Additionally, the aircraft user shall review OAS Safety Information Bulletin NO. 05-02 "R-44 Helicopters" prior to ordering. This IB is located at: https://www.doi.gov/sites/doi.gov/files/migrated/aviation/library/upload/IB_2005-02.pdf

National BLM approval is required for new program requests to host the following:

- Cargo Letdown
- Short-Haul
- Rappel
- Fast Rope
- Single-Skid, Toe-in, and Hover Exit/Entry (STEP)

Requests for approval are initiated by a State Office to the NAO with the final approval made by the aviation division chief. The "BLM Aviation Enhancement Application Form" has been developed for these requests (reference BLM *NAP 3.23*).

5.22 BLM Montana/Dakotas Supplement: Helicopter Operations

This section will address the two BLM exclusive use helicopter programs in greater detail.

North Central Montana District has a 90-day exclusive use contract and a nine-person helitack crew. The District owns and uses Plastic Sphere Dispensers (PSD) for aerial ignitions. The crew has qualified PSD Operators (PLDO). The helitack program does not own a Helitorch. The aircraft averages 120 flight hours each year.

Eastern Montana/Dakotas District has an exclusive use contract for 90 days/year. The helicopter is staffed by a 10 person crew. The District owns and uses a PSD for aerial ignition, and there are qualified PLDO's on the crew.

The SAM is the COR on all BLM exclusive use aircraft contracts in Montana. The DOI-OAS Contracting Officer writes formal letters of delegation annually to identify the SAM as the COR and the UAM on each of the host Districts may be identified as an Alternate COR (ACOR). The SAM typically designates each exclusive use Helicopter Manager/Crew Supervisor, each Assistant Manager, and the Lead Crewmember on each crew as Project Inspectors via a letter of delegation from the State Office.

5.22.1 Helitack

All helicopter personnel responsibilities are outlined in the *NWCG Position Catalog*. CWN Helitack training and currency requirements are contained in the NWCG *PMS 310-1* to include the *Federal Wildland Fire Qualifications Supplement*. Exclusive use helitack minimum crew staffing, training and currency requirements are contained in the *Interagency Standards for Fire and Fire Aviation Operations*. Each unit hosting an exclusive-use helicopter is responsible for providing essential management, overhead, equipment, facilities and the resources necessary to fully support the helitack crew.

BLM EU Helitack Crews are encouraged to meet the following staffing levels:

- Type 3 helicopter – 9 helitack personnel
- Type 2 helicopter – 17 helitack personnel

Hoverfill: BLM Exclusive Use helicopter crews' and aircraft may be allowed to utilize Hoverfill operations. Before an Exclusive Use Helitack Program utilizes hover fill operations, training, risk management, and operational procedures, must be outlined and approved within their Unit Aviation/Helitack Operations Plan.

Helicopter Emergency Longline Last Option (HELLO):
The HELLO mission is defined as transporting a critically injured person from an otherwise inaccessible location using a helicopter longline. HELLO is considered a last resort option, when other methods are unavailable or cannot respond in the necessary time frame for life preservation. HELLO can be considered, utilizing available resources in the field, to perform such a rescue, when faced with this type of life-threatening situation HELLO should be performed by exclusive use helicopter programs if possible. The ultimate goal is to get a critically injured patient to definitive care (hospital) by the quickest means available.
HELLO supporting documents can be referenced at: BLM Helicopter Web Page

Fire Helicopter Program Strategy:
The fire helicopter program strategy lays out a path forward into the future for the BLM's helitack programs. Some of the items identified in the strategy are:

- Helitack crew size adjustments to realize the full capability of contract helicopters
  - Type 2 helicopter crew staffing at 17
  - Type 3 helicopter crew staffing at 9
- Part 27 or Part 29 twin engine helicopter into the helitack fleet
- Type 1 evaluation initiated during the 2017 fire season, and ongoing
- Creation of a national helitack standard Operating Procedures (SOP) document

5.22.2 Single Skid, Toe In, and Hover Edit/Entry (STEP)

All STEP approved BLM EU Helitack programs should outline STEP operations in their local aviation plans and adhere to the policies and procedures outlined in OPM-40. Exclusive Use Helicopter programs interested in implementing a STEP program must follow the steps for new program requests in 3.23.

5.22.3 Cargo letdown

BLM cargo letdown will be conducted in compliance with the *BLM Cargo Letdown Operations* (reference BLM *NAP* Appendix 6). BLM personnel involved in cargo letdown operations shall record initial and recurrent training on the BLM Cargo Letdown Trainee Qualification Record (reference BLM *NAP* Appendix 6).

5.22.4 Type-1 Helicopter Mobilization

The BLM type 1 helitack program is a pilot project. In order to thoroughly evaluate the effectiveness of this initial attack program, prioritization and prepositioning of the BLM type 1 helitack program must occur nationally through a coordinated effort.

The BLM type 1 helitack program's primary mission is initial attack. This aircraft comes with a compliment of crewmembers and flight mission capabilities that are unique to this category of aircraft.

While most effective at providing rapid initial response, the crew is equipped to respond to extended attack incidents and critical need missions on large fires.

MOBILIZATION

- As with any initial attack resource, Boise Helitack and the Black Hawk are most effective when prepositioned in areas with predicted or current elevated fire danger.
- BLM States may request to preposition Boise Helitack and the Black Hawk, either directly to the BLM State Duty Officer hosting the crew, or through the National Duty Officer (208-387-5876). Contact the National Duty Officer for preposition funding options.
- Order as Type 1 EU – Limited
- Daily staffing of 16 to 20 Helitack personnel and 5 vendor personnel accompany the aircraft.
- Ground support vehicles include helitack buggies, command vehicles, large fuel tender, and mechanic truck with trailer.
- Initial Attack aircraft requests should be ordered on a Resource Order via ROSS and/or Aircraft Dispatch Form. Generating and awaiting a Resource Order should not be allowed to affect the response time for an initial attack mobilization within the host Geographic Area or with neighborhood agreements across Geographic Area boundaries through established dispatch ordering channels. Resource orders through ROSS can be provided after mobilization has occurred for initial attack.
- The BLM State Duty Officer for the state hosting Boise Helitack while on assignment is responsible for:
  - Prioritizing use of Boise Helitack to meet BLM and interagency initial attack priorities;
  - Communicating status/location of Boise Helitack by maintaining the Asset Intelligence System (AIS) utilized by the BLM Fire Operations Group (FOG);
  - Communicating status/location of Boise Helitack with the Helitack Crew Supervisor, District Duty Officers, surrounding BLM State Duty Officers, and the pertinent Geographic Area Coordination Center (GACC); and
  - Approving requests to utilize the aircraft and crew beyond initial attack and communicating approval to the GACC.
- The aircraft and crew may be reallocated to areas of greatest need by the BLM Division Chief, Aviation, in coordination with the National Duty Officer.
- All initial attack resource orders for the BLM type 1 helitack program should be honored regardless of dispatch or jurisdictional boundaries.

5.23 Aerial Ignition Operations

Aerial ignition operations and projects are accomplished in accordance with the *NWCG Standards for Aerial Ignition*.

The DOI On-Call Small Helicopter contract provides for vendor supplied helitorch equipment and mix/load personnel. If a vendor supplied helitorch operation is desired, the CO must be contacted prior to ordering. The CO will negotiate the helitorch services pricing.

5.24 Wild Horse & Burro Operations (WH&B)

Wild Horse and Burro operations will be conducted in accordance with the BLM *WH&B Aviation Management Handbook H-4740-1*, the DOI OPM-33 and *NAP 4.3.2 Project Aviation Safety Planning*, if conducted as a flight service contract (reference *NAP 3.9* for End Product contract procedures).

5.25 Aerial Capture, Eradication and Tagging of Animals (ACETA)

ACETA will be conducted as per the *DOI OPM-33*, if conducted as a flight service contract (reference *NAP 3.9* for End Product contract procedures). The DOI On-Call ACETA contract has been established to acquire vendor services for ACETA and WH&B operations.

5.26 Smokejumper Operations

Smokejumper dispatch and ordering is accomplished in accordance with the *Great Basin, Alaska and National Interagency Mobilization Guide*.

5.26 BLM Montana/Dakotas Supplement: Northern Rockies Smokejumpers

There are no established BLM Smokejumper bases in Montana/Dakotas. There are USFS smokejumpers based in Missoula, MT and West Yellowstone, MT with a satellite base in Miles City, MT which is opened and operational on an as needed basis. USFS and/or BLM smokejumpers are frequently available from neighboring geographic areas and may be ordered through established dispatch protocols.

5.26.1 Smokejumper Personnel

Smokejumpers: Smokejumper operations are performed according to the *Interagency Smokejumpers Pilots Operations Guide* (ISPOG) and the policies and procedures prescribed in the *Interagency Standards for Fire and Fire Aviation Operations*.

Smokejumper Pilots: The *ISPOG* serves as policy for smokejumper pilots' qualifications, training and operations.

5.27 Light Fixed Wing Operations

Fixed wing dispatch, ordering, and operations must be accomplished in accordance with state and unit aviation plans. At minimum flights must meet the requirements outlined in *NAP 3.17* for flight scheduling/operations.

5.27.1 Low-level Flight Operations (Less than 500' AGL):

The only fixed-wing aircraft missions authorized for low level operations are:

- Smokejumper/para-cargo
- ASM and lead operations
- Retardant, water and foam application
- Seeding/spraying
- Other missions approved by a PASP (i.e. resource recon <500' AGL)

Operational Procedures:

- Fixed-wing aircraft and pilots must be specifically approved for low-level flight operations.
- No passengers are allowed. Non-pilot participants must be qualified as Aircrew Member.

- A high-level recon will be made prior to low-level flight operations.
- All flights below 500 feet will be contained to the area of operation.
- PPE is required for all fixed-wing; low-level flights (reference *ALSE Handbook*). Flight helmets are not required for multi-engine airtanker crews, smokejumper pilots, Leadplane and ASM flight/aircrew members.

5.27.2 Aerial Observer
The purpose of Aerial Observer is to locate and relay fire information to fire management. In addition to detecting, mapping and sizing up new fires, this resource may be utilized to describe access routes into and out of fire areas for responding units.

Flights as an Aerial Observer and referenced to as "Patrol or Detection" designation should communicate with tactical aircraft only to announce location, altitude and to relay their departure direction and altitude from the incident. *Training Requirements: Federal Wildland Fire Qualifications Supplement.* *https://iqcsweb.nwcg.gov/sites/default/files/inline-files/FedSupplement_2.pdf*

Only qualified aerial supervisors (ATGS, ASM, HLCO and LPIL) are authorized to coordinate aircraft operations in incident airspace and give tactical direction to aviation assets.

5.27.3 Non-Fire Reconnaissance
BLM non-fire fixed wing mission flights require at least one agency person on that flight or at the departure/arrival base meet the IAT requirements of Flight Manager. Agency personnel must meet IAT requirements for Fixed Wing Flight Manager or NWCG comparable position. Reference *OPM-04* One Way NWCG Position to IAT Position
Crosswalk. https://www.doi.gov/sites/doi.gov/files/uploads/opm-04.pdf

5.27.4 Single Engine IFR/Night Flight
For single engine night flight reference *351 DM 1.3*.

5.27.5 Backcountry Airstrip Operations
Reserved

5.28 Law Enforcement Operations (LE)

LE personnel involved in any aviation operation will adhere to DOI and Bureau aviation policy. Local LE personnel that are required to utilize aircraft to support LE operations shall discuss all aspects of the operation with the UAM or SAM, well in advance of operations. The BLM SAM must be briefed on all BLM law enforcement involvement in Short-Haul missions occurring within their state. The UAM will review all LE PASPs prior to commencing operations. Line officers shall be informed of LE aviation activities within their area of responsibility.

LE personnel involved with aviation activities shall receive and be current in required aviation training (NWCG and/or IAT) commensurate with the aviation position they will fill, prior to any aviation operations.

LE personnel will utilize aircraft and pilots that have been approved by OAS (carded/LOA/MOU) for the intended use.

Aircraft contracted for fire/resource operations are allowed to conduct non-threatening surveillance and reconnaissance law enforcement missions only.

- Certain LE operations could lead to actions in conflict with DOI policy; (reference BLM *NAP 5.6* Emergency Exception to Policy).
- Certain exceptions to policy for undercover Law Enforcement operations are addressed in *351 DM 1.6.D*.

5.28 BLM Montana/Dakotas Supplement: Law Enforcement (LE) Operations

Standard agency aviation policies and procedures described in the NAP and other DOI policy documents apply to all BLM LE operations except those involving response to an unexpected or imminent life and death emergency.

The Ranger or Special Agent and the Unit Aviation Manager will ensure all flights are properly coordinated. A PASP will be developed and approval signatures acquired prior to each mission. The local Dispatch Center Manager must be notified of any BLM law enforcement aviation mission at least 24 hours in advance, and provided with a copy of the PASP. All planning and operations will incorporate risk management principles and require a thorough pre-mission briefing with pilots, observers, the flight manager, and aircrew.

UAMs are responsible for tracking the IAT aviation training and qualifications records for employees who fly on LE missions.

5.29 Unmanned Aircraft Systems (UAS) (see also BLM *NAP 3.16*)

Minimum Operational Requirements: The following requirements must be met prior to any operational use of UAS:

- Approved operations plan:
  - PASP (non-fire/incident, planned project)
  - Flight by notification (non-fire/incident spontaneous flight)
  - Fire/Incident: See below
- Airspace authorization (part 107, DOI/FAA MOA, COA, or SGI).
- Certified Remote Pilot(s) possessing DOI (OAS 30-U) and FAA Remote Pilot certificates.
- Certified UAS and current UAS data cards (OAS-36U).
- A NOTAM must be filed for all operations other than standard part 107 flights (400' AGL)
- UAS NOTAMs are depicted on-line on the Sky Vector website.
- Personally owned UAS or model aircraft **may not** be used by federal agencies or their employees.

Interagency Fire/Incident UAS Operations:

- Fire/Incident UAS Operations information is posted on the Interagency Fire UAS Website.
- Questions pertinent to incident UAS Operations or UAS ordering should be routed to the UAS Fire Coordinator at 208-387-5335.
- Fire/incident flights shall be conducted in accordance with the NWCG Standards for Fire UAS Operations (PMS 515) and the Interagency Standards for Fire and Fire Aviation Operations.
- Flights within a TFR require a Special Government Interest Waiver (SGI). **SGI requests shall be routed to the FAA via the UAS Fire Coordinator (208-387-5335).**
- Cooperators, pilot associations and volunteer aviation groups or individuals may offer to fly unmanned aviation missions (i.e. aerial surveys, fire reconnaissance, infrared missions, etc.) at

no charge to the IMTs. Although these offers seem very attractive, we cannot accept these services unless they meet FAA, USFS/DOI policy.

5.29 BLM Montana/Dakotas Supplement: Unmanned Aerial Systems (UAS)

Standard agency aviation policies and procedures described in the NAP and other DOI policy documents apply to all UAS operations. Appendix 14: Unmanned Aircraft Supplement has more detail on UAS operations.

5.30 Fleet Aircraft

The BLM currently operates seven Fleet aircraft. N49SJ, N190PE, N32PX, N437CC, N618, N162GC, and N700FW are DOI owned aircraft operated by the BLM.

- N49SJ is a De Havilland DHC-6 Twin Otter; the primary mission is smokejumper delivery. BLM NAO provides overall management of the aircraft. The aircraft is assigned to the Great Basin Smokejumpers, in Boise.
- N190PE is a Pilatus PC-12; the primary mission is utility and fire logistics support. BLM NAO provides overall management of the PC-12. The aircraft is assigned to Alaska Fire Service a portion of the year and Boise NAO the balance of that year.
- N32PX is a Cessna 206; the primary mission is as a utility aircraft. The BLM Alaska-Office of Law Enforcement and Security will have primary use of the aircraft through the calendar year flown by dual function special agent/ranger-pilots. The management of the aircraft will fall under the BLM Alaska Aviation Office with mission management under AFO/AKSO and Anchorage Interagency Dispatch Center.
- N437CC is a CubCrafters CC-18-180 Top Cub. The primary mission is as a utility aircraft. The BLM Alaska Office of Law Enforcement and Security will have primary use of the aircraft through the calendar year and flown by dual function special agent/ranger-pilots. The management of the aircraft will fall under the BLM Alaska Aviation Office with mission management under FDO/AKSO and Anchorage Interagency Dispatch Center.
- N618 and N162GC are Beechcraft Super King Air B200's; the primary mission is ASM/Leadplane operations. BLM NAO maintains overall management responsibility. The aircraft is assigned to the National Aviation Office.
- N700FW is a Quest Kodiak K-100; the primary mission is utility and fire logistics support. BLM NAO provides overall management of the K-100. The aircraft is assigned to Alaska Fire Service a portion of the year and Boise NAO the balance of that year.

BLM fleet aircraft are operated in accordance with the *BLM Fleet Aircraft Standard Operations Procedures Guide* (reference BLM *NAP Appendix 7*).

5.31 Non-Federally Approved Aircraft

Reference *Interagency Standards for Fire and Fire Aviation Operations*, Chapter 16 for protocols regarding utilization of non-federally approved aircraft in response to federal wildfire: http://www.nifc.gov/policies/pol_ref_redbook.html

5.32 Snow Operations

All snow operations will be conducted per Departmental Policy. *351 DM1.3 J(4)* Snow Operations, *351 DM1.6* Special Operations (A) Cold Weather & *351 DM 1.7* Special Use Activities.

6.0 Aviation Training

6.1 General

Aviation training is essential to ensure that BLM maintains a safe and efficient aviation operation in pursuit of the Bureaus mission. Aviation users, supervisors, and managers need to make certain that they and their employees are knowledgeable of the inherent hazards of aviation operations and have been provided the necessary skills, training and equipment to be successful conducting aviation operations. There are two separate, but linked, training programs for BLM Aviation; NWCG curriculum (fire) and Interagency Aviation Training (IAT) non-fire curriculum.

6.1 BLM Montana/Dakotas Supplement: General

The BLM, USFS, and other partner agencies coordinate aviation training at the state/regional level and on local units in order to assess employee training needs, minimize unnecessary travel, and maximize efficiency. The NRCG Training Working Team, and Aviation Working Team, and the USFS-NR Geographic Area Training Officer identify and coordinate NWCG aviation training calendars and events. The SAM, FS Regional Aviation Safety Manager, and staff specialists in Missoula coordinate with Interagency Aviation Training (IAT) Division of OAS in Boise to ensure both fire and non-fire employees receive required training for non-NWCG aviation courses.

6.1.1 Fire Training and Qualifications

The National Wildland Coordinating Group's (NWCG) guides the fire and fire aviation qualifications. Personnel serving in NWCG positions need only meet the qualification and currency requirements required in the *National Incident Management System, Wildland Fire Qualifications System Guide* (NWCG PMS *310*-1), or other interagency guidance as appropriate (smokejumper Spotter, ATS, ATGS, LPIL, BLM Exclusive Use Helitack, etc.).

BLM agency-specific qualifications not in the *PMS 310-1* can be found in the *Federal Wildland Fire Qualification Supplement*

6.1.2 Aviation Training for Non-Fire Flight Activities and Positions

The DOI Aviation User's Training Program (IAT) regulates the "non-fire" aviation training requirements for Bureau personnel. Individuals holding a current qualification under the Incident Qualification Certification System (IQCS) may also be qualified to perform some equivalent non-fire aviation positions under IAT guidelines and do not require additional IAT training. Reference: One-Way NWCG Position to IAT Position Crosswalk located within *Interagency Aviation Training (IAT) Guide.*

Training requirements for non-fire aviation positions are located in *OPM-4.* A description of each position and role can be found in the Interagency Aviation Training (IAT) Guide.

Aircrew Member: An Aircrew member is a person working in and around aircraft who is essential to ensure the safety and successful outcome of the mission. Aircrew Members are required to:

- Be on board or to attend to the loading and unloading of passengers and cargo at all landings and takeoffs
- Attend to external loads
- Ensure all passengers have received a safety briefing prior to all flights.

Required training:

- A-100* Basic Aviation Safety (required in classroom for initial training)
- A-110 Aviation Transportation of Hazardous Materials (if involved in transport of Hazardous materials)
- A-116 General Awareness Security Training (one time)
- A-200* Mishap Review

  *Required every three years

An employee may be authorized to complete the initial Aircrew Member training on-line, on a case-by-case basis and at the discretion of the SAM. A written request must come from the employee's supervisor to the SAM explaining why it is not feasible to attend and complete a classroom A-100 Basic Aviation Safety course prior to the day of the mission.

BLM requires that personnel involved with helicopter external load operations must comply with the following:

- All personnel involved in hover hook ups must complete S-271 Helicopter Crewmember or A-219 Interagency Helicopter Transport of External Loads.
- All personnel involved in long line work must be either:
  - Currently qualified as a Helicopter Crewmember (HECM) **or**;
  - Currently qualified as an aircrew member and completed A-219.
- Documentation for non-fire personnel, indicating the completion of the required training to perform external load work must be maintained at the interagency aviation training website: https://www.iat.gov/
- BLM adheres to the Federal Wildland Fire Qualifications Supplement which requires triennial A-219 and A-110 attendance to maintain Helicopter Long Line/Remote Hook Specialist (HELR) qualifications.

BLM Pilot – Fleet (2101, 2181 position series) & Incidental/Dual Function:

All pilots will be entered into a pilot training program approved by the BLM Division Chief, Aviation.

Minimum pilot training requirements for DOI employee pilots are outlined in *OPM-22*.

6.2 Management Responsibility

Supervisors and managers are those individuals that have management or supervisory oversight responsibilities for programs using aviation resources for mission accomplishment.

6.2 BLM Montana/Dakotas Supplement: Management Responsibility

The SAM will:

- Maintain currency as an IAT Instructor and will respond to training requests by BLM Districts. If a needed course is not available on-line, and no one is locally available to present the course, the SAM will either travel to the Unit to present the course, conduct the training via VTC, or locate a qualified Instructor to meet the need.
- Track the IAT training records for Line Officers in Montana/Dakotas, and schedule an M2 Aviation Management briefing for Line Officers or an M-3 Aviation Managers for Supervisors course as needed. Requests for an M2 will be coordinated with the State Director's Office and with the Aviation Safety and Training specialist at the BLM National Aviation Office (NAO). (*See Sec. 6.2.2*

of the NAP above allows Line Officers to complete M-3 (scheduled for 2016) in lieu of M-2 at least once every three years.)

The Unit Aviation Manager (UAM) is responsible for:

- Coordinating with the local Unit Fire Training Officer and/or Red Card Committee to ensure those who participate as Aircrew on Fire missions (other than firefighter crew shuttle) are current and carded per NWCG requirements in the Interagency Qualifications and Certification System (IQCS).
- Reviewing the PASP, mission planning worksheet, and or flight manifest (or 9400-1a) to ensure the Flight Manager and Aircrew members have completed the required IAT training within the required recent timeframe as specified in OPM-4 and the IAT Guide. (*Note: Any BLM UAM who is not familiar with how to query the IAT system to review an employee's training records and determine currency should consult the SAM for guidance.*)
- Ensuring that those who supervise DOI employees who fly on missions have completed M-3 Aviation Management for Supervisors within the past three years.
- Ensuring that those who perform Aviation dispatching duties for Bureau mission aircraft complete the IAT training requirements for an Aviation Dispatcher, if they have not yet completed the NWCG D-312 "Aircraft Dispatcher" course. *(Note: Some of the courses listed in the IAT Guide require refresher training every three years to maintain currency.)*

Supervisors and Line Officers are responsible for:

- Supporting Departmental and Bureau aviation policies and safety requirements described in 350-354 DM, 9400, OPM's, and the BLM National and State Aviation Plans.
- Completing the required M2 or M3 training and maintaining currency as described in NAP Sec. 6.2.2 above and in OPM-4.
- Fire Management Officers, Dispatch Center Managers, and UAM are responsible for ensuring that those Aviation Dispatchers who have not completed D-312 at least complete the IAT courses for an Aviation Dispatcher listed in the IAT Guide and DOI OPM-4 policy.

6.2.1 Supervisory Personnel

A person who supervises employees that use aircraft to accomplish Bureau programs (first and second level supervisors. These may include but are not limited to such positions as State Fire Management Officers and their Deputy/Assistant, District Fire Management Officers, Dispatch Center Managers, Wild Horse and Burro Program Supervisors and Law Enforcement Supervisors.

Required Training:

- *M-3 Aviation Management for Supervisors (initial course either in a classroom or online)
- *A-200 Mishap Review

*Required every three years

6.2.2 Line Managers

Line managers are those individuals who are responsible and accountable for using aviation resources to accomplish BLM programs. These may include but are not limited to such positions as State Directors and their Deputy/Associate, District Managers, Field Office Managers, Fire and Aviation Assistant and Deputy Assistant Directors.

Required Training:

- *M-3 Aviation Management for Supervisors (initial course either in a classroom or online)

or;

- *M-2 DOI Aviation Management for Line Managers briefing

*Required every three years

6.2.3 Aviation Managers at the Local, State and National Level
Individuals with aviation management responsibilities for a unit, state, regional or national level and serve as a focal point for aviation services and management. These include such positions as unit aviation managers (UAM/UAO), state, regional and national program managers, and helicopter and fixed-wing operations specialists. Training requirements for an Aviation Manager are outlined in the IAT Guide and must be met.

6.2.4 Aviation Contracting Responsibilities COR Training Requirements
BLM CORs and alternate CORs, on BLM exclusive use contracts, are required to have training in DOI aviation policy, basic contract administration, and contract performance verification and understanding technical aspects of contracts. Initial and recurrent COR training requirements can be found in the DOI *COR Manual* or obtained from AQD contracting officers. CORs are required to be registered in the Federal Acquisition Institute Training Application System (FAITAS) and be certified as a COR by the Federal Acquisition Institute before performing the duties of the position on a DOI contract. FAC-COR initial requests and renewal/maintenance requests should be submitted through the Lead Acquisition Official in the State for submission to the Bureau Procurement Chief in WO. These should not be submitted directly to DOI.
http://www.fai.gov/drupal/certification/fac-cor

6.2.5 Contractor and Cooperator Pilot Training
BLM aviation managers at all levels are responsible for assuring that contractors and cooperators are provided adequate briefings of mission requirements, standards and procedures. This may be accomplished through classroom training, computer-based training, simulations, pre-work conferences, aircraft and pilot inspections, pre-flight briefings or other appropriate venues.

6.2.6 Pinch Hitter Training
Pinch Hitter training is encouraged to be completed by aviation personnel whose primary job requires extended flight time as an aircrew member, Spotter, ATGS or reconnaissance duties.
Requests for training should be routed via your immediate supervisor to your respective State Aviation Manager (SAM).

6.3 Instructor Standards

Standards for NWCG Instructors are outlined in NWCG *PMS 901-1 Field Manager's Course Guide*. Reference: https://www.nwcg.gov/sites/default/files/publications/pms901-1.pdf

Instructors for IAT courses will meet the IAT trainer requirements of the *Interagency Aviation Training Guide*. Reference: https://www.iat.gov/docs/IAT_Guide_2017_10.pdf

6.3 BLM Montana/Dakotas Supplement: Instructor Standards

Numerous IAT instructors, basic and intermediate, may be available in the Northern Rockies to facilitate required IAT training. There are several additional instructors who have completed the NWCG "M410" Facilitative Instructor course who are qualified to teach Fire training courses. Many of these instructors

are in specialized aviation positions such as helicopter crew supervisors or assistants. The IAT program managers in Boise recognize M410 as a viable equivalent to IAT A-220 “Train-the-Trainer,” and allow those who routinely instruct Fire aviation courses to be granted equivalent IAT Instructor certification if they are observed and evaluated instructing an IAT course (such as A-100 or M-3) by a national IAT program staff member or an approved designee such as the SAM. The national requirements by which an IAT Instructor maintains currency and certification are described in OPM-4 and the current IAT Guide.

6.4 Development

The NAO offers an Aviation Leadership Development Initiative (ALDI) opportunity for aircraft managers and unit aviation managers. This opportunity is available to GS-7 to GS-9 individuals who currently have aviation management responsibilities along with an interest in a career in aviation management. An Instruction Memorandum is issued periodically informing potential candidates of the opportunity and application process. The program runs approximately 24-28 months, while maintaining the employees’ current position requirements.

Aviation/Pilot and Pilot Mentor Developmental Program: The NAO has two separate Aviation/Pilot Developmental Programs that provide training for employee development in the aviation manager and pilot career paths. The objective for these positions is to develop well qualified aviation managers and pilot candidates with the necessary skills and background to compete for interagency aviation vacancies at the state and national level. These opportunities are for BLM employees that meet the requirements of 351 DM 3.2 and have identified career goals in flight operations. These programs are filled on an as needed basis and as candidates are identified.

7.0 Airspace Coordination

7.1 Interagency Airspace Coordination

Interagency airspace coordination is accomplished through the Interagency Airspace Subcommittee (IASC) charted under the NIAC. Guidance and education is provided through the *NWCG Standards for Airspace Coordination*.

7.2 Flight Planning, Hazards and Obstructions

It is the pilots' responsibility to plan the flight. It is the flight managers' responsibility to provide information to the pilot for the project area and mission objectives. It is the aircraft dispatcher's responsibility to inform the aircrew of "boundary airspace" issues and coordinate with neighboring dispatch centers (reference Airspace Boundary Plan, this chapter). State/districts are responsible to develop area flight hazard maps or planning tools that are posted at: operating bases, aircrew briefing packages, and dispatch office. The following hazards or locally significant areas should be depicted:

- Military Airspace – Warning Area (WA), Restricted Area (RA), Military Operations Area (MOA), Alert Area (AA), Prohibited Area (PA), Military Training Routes (MTRs), Controlled Firing Areas (CFA), Slow Routes (SR), Aerial Refueling Routes (ARs) and Low Altitude Tactical Navigation (LATN) Areas.
- Airspace – Class B/C/D and National Security Areas
- Airports/airstrips – public and private, military
- Dispatch zone boundaries
- Parachute, hang glider, rocket, model airplane operating areas
- Towers over 200 feet. Other towers as locally determined significant
- Wires – Major transmission lines, other lines determined locally as significant (wires crossing – canyons, rivers, lakes, near airports)
- Update/Revision date

7.2 BLM Montana/Dakotas Supplement: Flight Planning, Hazards, and Obstructions

There are several Military Training Routes (MTRs), Military Operations Areas (MOAs), and numerous physical obstructions such as power lines and towers depicted on the Billings and Great Falls aeronautical sectional charts over Montana. Aerial hazard maps are made available to all dispatch centers and fire zones in the NR, which are reviewed and updated annually. Since many flight hazards are not known, reported, or documented on hazard maps, all agency personnel who utilize aircraft are trained and instructed to always conduct a high level reconnaissance to locate hazards prior to descending to work in low-level flight.

7.3 Fire Traffic Area (FTA)

The FTA provides agency communication protocol through a standardized structure to enhance air traffic separation over wildfire or All-Risk incidents. The structure emphasizes established communications, clearances and compliances. See the *IASG* Chapter 4 for details:

7.4 Temporary Flight Restriction (TFR)

In order to enhance safety during an incident, the FAA may be requested to issue a TFR that closes the airspace to non-participating aircraft (with some exceptions). While there are currently nine different types of TFR's, the most commonly issued TFR for wildfire is 14 CFR 91,137 (a) 2 which is explicit as to what aviation operations are prohibited, restricted or allowed. Aviation Managers requesting a TFR should be familiar with the ordering procedures, coordination protocol and exceptions that are outlined in Chapter 6 of the *NWCG Standards for Airspace Coordination*. TFR's are not authorized by the FAA for resource management projects or planned prescribed fires. A NOTAM D may be requested through the aircraft dispatcher at a local GACC who will contact the local Flight Service Station (FSS).

Non wildfire TFRs are under the jurisdiction of the FAA. All participants involved with an "all risk" TFR should be acquainted with the FAA's publication "FAA Airspace Management Plan for Disasters" located at: https://publicintelligence.net/faa-disaster-airspace-coordination/

Presidential (VIP) TFR's (91.141) involve a set of concentric circular Temporary Flight Restrictions with a 10 nautical mile diameter inner ring inside a 30 nautical mile outer ring. Flights within the Presidential TFR's require coordination well in advance of the TFR implementation. For further information, contact a qualified Airspace Coordinator.

7.4 BLM Montana/Dakotas Supplement: Temporary Flight Restriction (TFR)

Orders for TFRs in the Northern Rockies are processed by the Northern Rockies Coordination Center (NRCC). When activity reaches certain trigger points, NRCC will order an airspace coordinator. Timely and clear communications across agency, GACC, and unit boundary lines, as well as with the FAA and military, are key requirements for successful airspace coordination.

7.5 National Firefighting Aircraft Transponder Code (1255)

The FAA has provided the **1255** transponder code as the national designation for firefighting aircraft. It is not agency specific. The code must be utilized by aircraft responding to and operating over fire incidents supporting suppression operations unless otherwise directed by air traffic control (ATC). It is not to be used for repositioning or during cross-country flights. It is authorized specifically for firefighting and is not to be used for FEMA or all-risk disasters.

7.6 Airspace Boundary Plan

When resources are dispatched by multiple units to an incident or area that shares a common boundary, care should be taken to ensure safe separation and communication of responding aircraft. Boundary Plans should be prepared that focus on a 10 NM wide "neutral airspace" corridor for mutual or exchanged initial attack area's or zones. Agencies conducting flight activity within the boundary corridors should implement notification procedures to adjoining agencies and cooperators (reference *NWCG Standards for Airspace Coordination* Chapter 7 for details).

7.7 Airspace Deconfliction

While the word "deconflict" is not in the dictionary, it is a commonly referred aviation term describing the process of reducing the risk of a mid-air collision or a TFR intrusion. Airspace deconfliction can occur for both emergency response and non-emergency aviation activities.

Deconfliction can be accomplished through the following measures:

- Pilots must obtain all information pertinent to flight before flying. This is accomplished by obtaining a briefing from the FAA through the Flight Service Stations. This is the official source of NOTAM information.
- Dispatching units may obtain scheduling information from DOD units that have special use airspace or military training routes and share this information as "hazards" information on the resource order when the aircraft are dispatched. For non-emergency flights, information may be shared through common communication protocol.
- A variety of aviation Internet websites are frequently used for obtaining airspace information, the user must be aware of any disclaimers regarding the timeliness of the information posted. The FAA's U.S. NOTAM office provides current TFR information through DOD Internet NOTAM Service (DINS) at: https://www.notams.faa.gov/dinsQueryWeb/ and http://tfr.faa.gov/tfr2/list.html

7.7 BLM Montana/Dakotas Supplement: Airspace De-confliction

Individual Dispatch Centers have established notification procedures and working relations with several military entities that schedule flight activity on MTRs and in Special Use Airspace. Specific guidance and best practices for de-confliction are provided in the Interagency Airspace Coordination Guide, dispatch mobilization guides, and in dispatch training. Aircrews and field personnel are reminded that effective communication and teamwork enhance the ability of pilots to "see and avoid" other aircraft.

7.8 Airspace Conflicts

Aviation personnel have a responsibility to identify and report conflicts and incidents through the Inter-agency SAFECOM System to assist in the resolution of airspace conflicts. When a conflict or incident occurs, it may indicate a significant aviation safety hazard. Conflicts may include near mid-air collisions (NMAC), TFR intrusions, and FTA communication non-compliance. Further guidance is available in the *NWCG Standards for Airspace Coordination, Chapter 8.*

7.9 Operations Along Foreign Borders

All aircraft operations along border patrol zones require coordination with the U.S. Border Patrol. The Dispatch Centers with foreign border zones will have an operational plan detailing the coordination measures with the U.S. Border Patrol Air Marine Operations Center (AMOC). All pilots and aircrews will be briefed about border zone flight procedures.

7.9 BLM Montana Supplement: Operations along Foreign Borders

Operational plans should effectively address established checklists, forms, and specific operational procedures.

7.10 Airspace Agreements – Memorandums of Understanding

When Special Use Airspace (SUA's), MTR's, Slow Routes (SR's), or Aerial Refueling Routes (AR's) are located over public lands administered by BLM or in areas frequently utilized for flight operations (fire or non-fire), the BLM should consider instituting an agreement with the appropriate DOD entity that schedules the airspace. Airspace agreements provide DOD and local agency dispatch centers and aviation managers with a tool that shares contact information and defines protocols for time-critical airspace de-confliction, response coordination, and resolution of issues.

A template and sample format is provided in the *NWCG Standards for Airspace Coordination, Chapter 12*.

7.10 BLM Montana/Dakotas Supplement: MOU's and LOA's

The BLM has MOUs and/or Letters of Agreement (LOA) with the Montana Air National Guard and Ellsworth Air Force Base regarding airspace coordination and de-confliction procedures. The SAM is responsible for coordinating with the National Interagency Airspace Coordinator for periodically reviewing and updating these agreements.

7.11 Emergency Security Control of Air Traffic (ESCAT)

ESCAT may be implemented due to an air defense emergency as directed by the North American Aerospace Defense Command (NORAD). Reference *NWCG Standards for Airspace Coordination*, Chapter 4.

8.0 Aviation Security – Facilities/Aircraft

8.1 Aviation Security Policy

The policies and procedures in this chapter are intended to make the theft of BLM owned or contracted aircraft more difficult and time consuming and therefore an unattractive target to potential criminals or terrorists. The BLM security program includes the following elements:

Department of Interior Security Policy: Departmental Manuals *444-1* and *352 DM 5* set forth the security requirements for all DOI aviation facilities and assigned aircraft. Reference DOI *Aviation Security Policy 352 DM 5*: http://elips.doi.gov/ELIPS/DocView.aspx?id=1107

Scope and Applicability

- To the extent applicable, the policies and procedures established herein are intended to supplement the minimum physical security standards detailed in *444 DM 1*, *Appendix A*. Nothing in this chapter reduces the requirements prescribed by *444 DM 1*, Physical Protection and Building Security, or any other requirement established by law or authority as it pertains to DOI aviation operations.
- The policies and procedures established herein are applicable to all BLM aviation facilities and aircraft owned or controlled by the DOI.
- Contractors are solely responsible for the security of their aircraft while under the control of the DOI. All DOI aviation contracts will include language describing the DOI aviation security policies applicable to contractor operations and require contractor compliance with those policies.

Definitions:
The term “aircraft operations area” (AOA) means the area within an aviation facility in which flight-capable aircraft are present for any purpose, including but not limited to the loading or unloading of cargo or passengers, refueling, maintenance, parking and storage.

The term “aviation facility” means any DOI owned or controlled real property used for aircraft landing and takeoff at which DOI owned or controlled aircraft are permanently based (352 DM5.4B)

The term “control” is used in two contexts.

- As it relates to aviation facilities, the term “control” refers to the condition existing when a BLM entity has authority to institute, modify or otherwise effect physical security changes at an aviation facility regardless of property ownership.
- As it relates to aircraft, the term “control” means “operational control” as defined in the Federal Aviation Regulations at 41 CFR 1.1: “Operational control with respect to a flight means the exercise of authority over initiating, conducting or terminating a flight.” This definition is independent of aircraft ownership.

The term “dual-lock method” means using a combination of two locking devices or methods to physically secure or disable a parked aircraft for the purpose of reducing the probability of aircraft theft and associated misuse by unauthorized persons.

The term “risk assessment” refers to the result of a combined threat and vulnerability assessment. It can generally be characterized as an analysis of the probability of serious impact or damage resulting from a known or postulated threat successfully exploiting on or more vulnerabilities.

Risk Assessment

A "risk assessment" will be conducted for each BLM aviation facility (see definition above). Each aviation facility risk assessment will be periodically reexamined and adjusted as necessary to ensure it accurately reflects current conditions. At a minimum, reexaminations shall be conducted and documented every 2 years.

Security Plans
Security plans will conform to the following conditions:

- The *"Field Reference Guide for Aviation Security for Airport or other Aviation Facilities" (AAF)* is intended to provide a standardized method of assessing aviation airport facilities. Each unit is encouraged to utilize this written document to identify the appropriate level of security planning needed. https://www.doi.gov/aviation/library/guides
- Individuals preparing aviation facility security plans can reference the TSA "*Security Guidelines for General Aviation Airports"* TSA Information Publication A-001, which is available on the TSA Website at www.tsa.gov
- The scope and depth of the aviation facility security plan should be commensurate with the size and operations complexity of the facility for which it is prepared.

Training
Employees (aircrew member minimum) involved in the control or use of aviation resources or facilities shall complete the appropriate level of aviation security training. A-116 General Awareness Security Training is available at www.iat.gov

BLM Specific Policy/Guidance:

BLM HSPD12 Policy: https://www.nifc.gov/aviation/av_BLMsecurity.html

Aviation Security Questionnaire: https://www.nifc.gov/aviation/av_BLMsecurity.html

8.1 BLM Montana/Dakotas Supplement: Aviation Security Policy

There are no State-wide policies or directives that are different or more restrictive than what is already stated in the BLM National Aviation Plan. If a District has any supplemental facility security procedures, those may be documented or referenced in the Unit Aviation Plan, or included in a SEAT or helitack base operating plan or other supplement.

8.2 USFS Facilities Security Assessments

Reserved

8.3 USFS Security Response Actions

Reserved

8.4 General Aviation Security Awareness Programs

The BLM utilizes the AOPA Airport Watch Program for Security Awareness:
http://www.aopa.org/airportwatch/

The Department of Homeland Security (DHS) TSA implemented a national toll free hotline that the general aviation (GA) community can use to report any "out-of-the-ordinary" event or activity at airports. The hotline is operated by the National Response Center and centralizes reporting to the appropriate local, state and federal agencies.

To report any suspicious activity at your airport- Call (866) *GA-SECURE* (866) 427-3287

8.5 Cooperators Aircraft Security

Military or government agency cooperator aircraft under DOI operational control shall adhere to their department-specific aircraft security policies.

8.6 Aircraft Physical Security Requirements

At any time an aircraft, controlled or owned by the DOI, is not directly attended by its assigned flight crew, ground crew, or government managers, it will be physically secured in a manner that disables the aircraft from being utilized.

Exceptions

- Military or government agency cooperator aircraft under DOI operational control. Such cooperator aircraft shall adhere to their department-specific aircraft security policies.
- Aircraft mechanically incapable of flight.

Security Devices: The DOI aircraft contracts specify the aircraft security measures and it is the contractors' responsibility for the aircraft security. Approved security devices require using a dual lock method consisting of any combination of anti-theft devices attached to the aircraft for the sole purpose of locking flight controls, aircraft power, or directional ground movement. Pilots and aircrews must be diligent in pre-flight procedures to prevent engine start up with security measures in place. These may include any combination of the following:

- Locking hanger doors
- Keyed Magneto, starter or master switch
- Hidden battery cut-off switches
- Throttle, mixture/fuel, fuel cut-off locks
- Control surface gust-locks; propeller locks (chain, cable, mechanical) - **(airplane only)**
- Locking wheel, chock or aircraft tie downs
- "Club-type" devices for control yoke

8.7 Aviation Facility Security Requirements

Security risk assessments will be performed on all BLM aviation facilities, temporary bases and aviation airport facilities (AAF) which meet the definition of "aviation facility", using the *DOI Field Security Guidelines for General Aviation*.

- Completed assessment should be housed within the unit's aviation plan as an appendix or chapter.

Aviation Facility Security – Suggested Enhancements
After completing the AAF Airport Characteristics Measurement tool and determining your facilities total score, reference the *Suggested Airport Security Enhancements template* included within the *Field Reference Guide for Aviation Security for Airport or other Aviation Facilities (AAF) pg. 6.*

- The total score obtained from the Airport Characteristics Measurement Tool is considered minimum mandatory security requirements.

For a more in depth list of suggested airport Security Enhancements reference TSA Information Publication A-001, *Security Guidelines for General Aviation Airports*, Appendix B: www.tsa.gov

Suggested area enhancement may include:

Signage

- Signage should be multi-lingual where appropriate.

Lighting

- Lighting type and illumination levels will comply with published Illuminating Engineering Society (IES) standards and will not supersede standard aviation guidelines governing runway lighting and nighttime flight requirements.

Fencing

- Install perimeter security fencing as needed to control access to the AOA and all other sensitive areas.
- Fence height and other characteristics will comply with standard FAA guidelines where appropriate. Where FAA guidelines are not available, minimum fencing characteristics will be sufficient to meet access control needs.

Access Control

- The number of access points should be minimized and their use and conditions regularly monitored.
- Any access point through a fence or other boundary should not only be able to control or prevent access, but also differentiate between an authorized and an unauthorized user.
- Anti-pass back, anti-piggyback and anti-tailgating systems or protocols should be implemented where appropriate.
- Gates when appropriate should be constructed and installed to the same or greater standard of security as any adjacent fencing in order to maintain the integrity of the area.
- Pedestrian/personnel gates can be constructed using a basic padlock or designed with an electrical or mechanical locks or keypad/card system.

8.7 BLM Montana/Dakotas Supplement: Facility Security

Unit Aviation Managers should review the Security Assessment for their respective District aviation base(s) of operation on an annual basis, as well as any local airport procedures. Local security procedures should be discussed with locally-based Contractor personnel and agency flight crews/ aircrews at the beginning of each season, and with the crews of any visiting air resources throughout the season during the initial air base or helibase orientation briefing. Employees in certain IAT positions are required to complete the IAT A-216 Aviation Security training module in accordance with OPM-4 and the IAT Guide. Newly developed air base facilities are required to complete the initial one-time assessment prior to becoming operational.

8.8 Exceptions

If facility ownership or control constraints preclude full implementation of the identified minimum mandatory security requirements, notification must be immediately given to the NAO in writing.

- Written notification will detail the minimum mandatory security requirements(s) which cannot be implemented and the circumstances preventing the implementation. A waiver of the requirements may be requested.
- Pending the response, the facility will comply with *352 DM 5.10*, "Aircraft Physical Security Requirements."

8.9 Transportation Security Administration (TSA)

BLM employees who are traveling on commercial airlines are personally responsible for compliance with TSA and DOT hazardous cargo regulations.

9.0 Aviation Facilities

9.1 General

All BLM aviation support facilities will be constructed, maintained, and operated in compliance to applicable regulations/direction of DOI, BLM, FAA, OSHA and lease agreements.

9.2 Aviation Facilities (Permanent and Temporary)

BLM has permanent and temporary airbases managed by the districts/field offices. Permanent air bases include heavy airtanker and SEAT retardant bases, and airplane and helibase/heliport facilities with permanent or temporary fixtures that are used on a continuous or seasonal basis. These aircraft bases of operations include government owned or leased aviation facilities on federal or non-federal land where BLM has primary responsibility for operations, maintenance and oversight. Facility base reviews shall be conducted in accordance with the *NWCG Standards for Helicopter Operations (NSHO), Appendix E;* NWCG Standards for Airtanker Base Operations (SABO) Appendix L; and *Interagency Standards for Fire and Fire Aviation Operations, Chapter 18,* as appropriate.

9.2 BLM Montana/Dakotas Supplement: Aviation Facilities

This chapter of the National Aviation Plan applies to the following aviation base facilities in BLM Montana/Dakotas.

- The Central Montana exclusive use helicopter crew operates from a government-owned building at Lewistown Municipal Airport (LWT) that is on leased airport property. The contract helicopter crew has a travel trailer to use as a flight crew and mechanic/driver rest facility and office. There is one helipad with room for additional aircraft on the nearby ramp.
- The Eastern Montana/Dakotas District helicopter crew and SEAT/retardant base operates from a leased facility at the Frank Wiley Airport, Miles City, MT (MLS). A portion of the offices are government owned others are leased. The leased property on which the base office building is located also includes ramp space for two SEATs, and an area for a 10,000 gallon liquid retardant tank, a mixing tank, pumps, loading hoses, etc.
- The Billings Airbase is a government owned facility on the City of Billings leased property. The facility houses the Airbase Manager, Air Services Officer, and Ramp Manager. Contractor personnel operate from the base as and have additional rest areas/office space in a travel trailer adjacent to the tanker base. A travel trailer is utilized by the retardant vendor as an office and as a rest facility.

9.3 Temporary Operations Bases

Temporary operations bases are those that are used to support short term projects and wildland fire. These bases can be located on federal, state, local government or private land. Permission to operate on the land should be obtained prior to use. Land use agreements may have to be set up describing payment terms, use limitations and land restoration measures. For wildland fire operations the NWCG *Interagency Incident Business Management Handbook* chapter 20 (24.2) describes procedures. Only procurement officials with warrant authority may enter into agreements. For non- wildland fire situations, the state/district procurement official is the point of contact for agreements.

BLM Smokejumper Bases: The BLM Smokejumpers primary operations bases are Fairbanks, Alaska, and Boise, Idaho. Each smokejumper base has multiple sub-bases that are established to support smokejumper operations on as-needed basis. Some sub-bases are located in BLM owned facilities and some are leased.

9.4 Safety

Aviation facilities must comply with safety regulations described in DOI manuals, guides and handbooks, and the Occupational Safety and Health Administration (OSHA). Buildings, equipment and aircraft operating surfaces (helibase, airplane parking and retardant base) will be inspected annually for safety and maintenance deficiencies, by the unit aviation manager and/or unit health and safety officers.

9.5 Permanent Facility Construction Planning/Funding and Maintenance

Reference *BLM Manual 9100 - Engineering*

FAA Form 7480-1 - Notice for Construction, Alteration and Deactivation of Airports: Title 14 Code of Federal Regulations Part 157 requires all persons to notify the FAA at least 90 days before construction, alteration, activation, deactivation, or change to the status or use of a civil or joint-use (civil/military) airport. (As used herein, the term “airport” means any Landing or Takeoff Area, e.g. Airport, Heliport, Vertiport, Gliderport, Seaplane Base, Ultralight Flightpark, or Balloonport.)

9.6 BLM Owned/Operated Airstrips

Reference the document titled *Recreational Airstrips on Public Lands* located at: https://www.nifc.gov/aviation/BLMlibrary/RecAirstipPublicLands.pdf

Appendix Contents

Appendix 1 - BLM National Aviation Organization Directory

Position	Name	Duty Station	E-Mail	Office Number	Cell Number
Division Chief, Aviation (FA-500)	Brad Gibbs	Boise, ID	bgibbs@blm.gov	(208) 387-5448	(208) 863-6219
Deputy Division Chief, Aviation	Glen Claypool	Boise, ID	gclaypoo@blm.gov	(208) 387-5160	(208) 859-7506
SEAT Program Manager	Vacant				
Flight Operations Manager, Bravo 8	Don Bell	Boise, ID	dbell@blm.gov	(208) 387-5185	(541) 604-1043
Helicopter Program Manager	Bryan Bitting	Boise, ID	bbitting@blm.gov	(208) 387-5173	(208) 407-6440
Aviation Safety/ Training Advisor	Kirk Rothwell	Boise, ID	mrothwell@blm.gov	(208) 387-5879	(208) 914-8483
UAS Program Manager	Gil Dustin	Boise, ID	gdustin@blm.gov	(208) 387-5181	(970) 210-6153
UAS Operator	Bobby Eisele	Boise, ID	beisele@blm.gov		(801) 814-1357
Air Tactical Pilot, Bravo 5	Andre Mascheroni	McCall, ID	amascheroni@blm.gov		(208) 501-4933
Air Tactical Pilot, Bravo 4	Paul Lenmark	Dillon, MT	plenmark@blm.gov		(406) 660-0257
Aviation Staff Assistant	Andrea Vigil	Boise, ID	avigil@blm.gov	(208) 387-5180	
Air Tactical Pilot, Bravo 9	Lisa Allen	Boise, ID	lmallen@blm.gov	(208) 387-5197	(208) 972-1677
Smokejumper Pilot	Scott Smyth	Boise, ID	ssmyth@blm.gov	(208) 387-5426	(208) 720-7660
Smokejumper Pilot	Craig Pearson	Boise, ID	cpearson@blm.gov	(208) 387-5426	(208) 616-5746
Developmental Pilot	Hans Germann	Boise, ID	hgermann@blm.gov		
Developmental Pilot	Chris Swisher	Fairbanks, AK	cswisher@blm.gov		
Air Tactical Program Manager	Steve Price	Boise, ID	sprice@blm.gov	(208) 387-5140	(208) 863-8946
SEAT Coordinator	Kristina Curtis	Boise, ID	kcurtis@blm.gov	(208) 387-5419	(208) 850-2780
Ramp Services Supervisor	Vacant				

Appendix 1A - BLM Montana/Dakotas Organization Directory

Position	Name	Duty Station	E-Mail	Office Number	Cell Number
State Aviation Manager	Bob Flesch	Billings, MT	bflesch@blm.gov	(406) 896-2912	(406) 208-0935
Western Montana District Aviation Manager	John Thompson	Butte, MT	J75thomp@blm.gov	(406) 533-7611	(406) 490-1123
Dillon Dispatch Center Aircraft Dispatch	Vacant	Dillon, MT		(406) 638-3992	
Eastern Montana/Dakotas Aviation Manager	Rick Lang	Miles City, MT	rlang@blm.gov	(406) 233-2909	(406) 853-1394
Eastern Montana/Dakotas Helicopter Crew Supervisor	Shannon Myers	Miles City, MT	swmyers@blm.gov	(406) 233-2947	(406) 853-0719
Eastern Montana/Dakotas Airbase Manager	Shelley Dunlap	Miles City, MT	sdunlap@blm.gov	(406) 234-7592	(406) 853-0285
Miles City Dispatch Center Aircraft Dispatch	Kelsey Pluhar	Miles City, MT	kpluhar@blm.gov	(406) 234-2908	(406) 853-2324
Central Montana Aviation Manager	Robert Smith	Lewistown, MT	rgsmith@blm.gov	(406) 538-1085	
Central Montana Helicopter Crew Supervisor	Bjorn Burgeson	Lewistown, MT		(406) 538-1071	
Lewistown Dispatch Center Aircraft Dispatch	Fonda Knox	Lewistown, MT	fknox@blm.gov	(406) 538-1077	(406) 350-0373
Billings Field Office Aviation Manager	Chad Cullum	Billings, MT	ccullum@blm.gov	(406) 896-2862	(406) 698-5332
Billings Field Office Airbase Manager	Vacant	Billings, MT		(406) 896-2962	
Billings Field Office Air Services Officer	Vacant	Billings, MT		(406) 896-2969	
Billings Dispatch Center Aircraft Dispatch	Laura Rasmussen	Billings, MT	lrasmuss@bllm.gov	(406) 896-2900	(406) 794-7374

Appendix 2 - SES Flight Scheduling Guide

These flights are typically requested through the SAM however some of the responsibilities may be delegated to UAMs (refer to applicable State Aviation Plan for specifics).

The OAS-110 will be utilized as the parent or cover document for additional pages of documentation. Additional information regarding SES flight scheduling to include *OPM-7* and OAS-110 Form is located at: https://www.doi.gov/aviation/library/opm

1. Gather information needed to develop the flight plan and OAS-110.
   - Determine the nature of flight. Is it-point-to-point, mission, special use, etc.?
   - Determine the proposed itinerary/schedule requirements.
   - Determine any special needs: security, dual-pilot crew, etc.
   - Assess and consider any travel schedule time limitations for SES employees and time needed to accomplish objectives.
   - Names, passenger and baggage weights, salaries. (If only annual salaries are available, multiply that number by 1.2 and divide by 2087 to derive the approximate hourly salary.)

2. Notify solicitor of impending request (courtesy call) at least a week to ten days prior to the proposed flight.

3. Conduct research and document cost estimate for the elements in each of these three options.

   a. Scheduled commercial air carrier (not applicable for mission flights)
      - Use only contract travel agency quotes to determine airfare estimates.
      - Does itinerary meet time frame requirements?
      - Cost of airfare and booking fees
      - Cost of rental car from airport to meeting location
      - Additional lodging and per diem costs incurred if traveling by airline
      - Total employee salaries for time spent in travel status. (Add one hour of preflight airport time to the flight time, plus time spent driving rental car to location where fleet or charter aircraft would have otherwise flown to any locations not served by airlines.)

   b. Fleet Aircraft
      - Confirm if fleet aircraft are even available within reasonable distance.
      - Include ferry flight time and standby costs with passenger transport flight time estimate.
      - Document total salaries for employee's time spent flying on fleet aircraft.

   c. Charter Operators
      - Use only established contract vendors with carded pilots and aircraft capable of carrying the required passenger manifest and weight.
      - Compare two or more competing vendors using the AQD-91 form; maintain documentation in local files and use the best-value vendor in the OAS-110 cost analysis.
      - Include ferry flight costs, guaranteed time, and standby rates (if applicable) in cost estimate.

4. Determine the cost for each of the three options above and document on the OAS-110. Document and forward an explanation why any of the three options was not considered possible or reasonable. Examples:
   - Proposed flight is a reconnaissance mission that can't be performed by scheduled air carriers.
   - Scheduled airline service cannot meet SES employee time constraints or schedule, or would incur additional days in travel status. (Forward itinerary and additional salaries that would be incurred to illustrate infeasibility.)

5. Forward the completed OAS-110 and attached documentation to the Solicitor through the SAM, or with courtesy copy sent to the SAM (refer to specific State Aviation policy).

6. Be sure a qualified Flight Manager is assigned to tend to the safety requirements and administrative details associated with the flight.

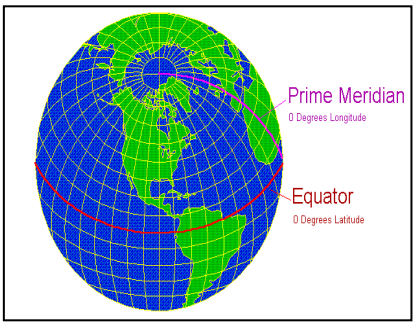
7. A Project Aviation Safety Plan (PASP) should be developed for all SES Mission Flights, even those deemed to be "one-time, non-complex." A 9400-1a (or equivalent) may be used as a supplemental manifest and flight tracking device on point-to-point flights.

8. The SAM will report any SES flight hours to the NAO twice each year (October 1 and April 1).

Appendix 3 – Latitude/ Longitude Information

If coordinates are wrong…

- Risk/danger/liability goes up
- Calculations become erroneous (weight/distance/fuel ratios)
- People can't find the "right" spot
- Data goes onto maps in the wrong place
- We look bad as an organization, a unit, an individual
- Contractors/pilots become angry/confused/frustrated and loss trust in our dispatching system.



Latitude

- Parallel east-west lines
- Measures 90º North and 90º South of equator

Longitude

- Lines run south to north.
- Measures east and west of the prime meridian
- Lines converge at North and South poles

Common Formats

Format	Example
Decimal Degrees (DDD.DDDDDº)	64.84052º N by 147.60437º W
Degrees and Decimal Minutes (DDDº MM.MMM')	64º 50.431' N by W 147º 36.262' W
Degrees, Minutes and Seconds (DDDº MM' SS.S")	64º 50' 25.5" N by W 147º 36' 15.5" W

Notation

Degrees	º
Minutes	'
Seconds	"
Decimal	.
Hemisphere	N, S, E, W or -

On-line Calculators for converting between Formats:
https://rechneronline.de/geo-coordinates/
http://www.calculatorcat.com/latitude_longitude.phtml

GPS Datums

- Datums define the origin and orientation of latitude/longitude lines
- Describing a place by lat/long is not good enough. The datum must also be stated.
- Changing the datum changes the lat/long of a point on the surface of the Earth
- There are hundreds of different Datums, agencies use different Datums.
- Referencing lat/long coordinates to the wrong datum can result in position errors of hundreds of meters

Know your agency's standard Format and Datum

- BLM Aviation (Degrees and Decimal Minutes, WGS84)
- BLM GIS (Various)
- TFRs (Degrees, Minutes and Seconds, WGS84). US NOTAM OFFICE FORMAT ddmmssN/dddmmssW
- BLM Fire (Degrees and Decimal Minutes, WGS84)

- FAA Temporary Flight Restrictions (Degrees, Minutes and Seconds). US NOTAM OFFICE FORMAT ddmmssN/dddmmssW

Remember…

- Use only ONE period/decimal point when writing a latitude or longitude in Decimal Degrees, or Degrees, Minutes and Seconds.
- Do NOT use periods/decimal points for degrees or minutes when writing a latitude or longitude in Degrees, Minutes and Seconds
- There can NEVER be more than 60 seconds in Degrees, Minutes and Seconds format
- Do NOT mix formats
- Know and use proper Datum

Appendix 4 - BLM SAFECOM Management Roles

POSITION	AUTHORITY	RESPONSIBILITIES	CRITICAL NOTES
Individual	Submission	Fills out the SAFECOM form, completing all required fields including initial determination of Operational Control. Completes the Original Text in both the Narrative and Corrective Action fields. Consults with mission personnel prior to submitting electronically to OAS and hardcopy to UAM.	Fill out completely and accurately. Report only the facts. Narratives should be brief and concise.
BLM UAM	Submission	If only a hardcopy has been submitted, submits electronically to OAS.	X
	E-Mail Notification	Receives e-mail notification of all initial, modified and completed SAFECOMs identifying their BLM Field Office as having operational control.	Provide feedback to person submitting (unless anonymous)
	Corrective Actions	Takes corrective action at the local level and describes these actions in the Public Text area of the Corrective Action field. Include your Job Title (do not enter personal information)	Must treat all corrective action descriptions as if they were public.
BLM State Aviation Manager	E-Mail Notification	Receives e-mail notification of all initial, corrective action, modified and completed SAFECOMs identifying BLM operational control within their State.	Coordinate with UAM.
	Corrective Actions	Review all information. May take and document additional corrective actions.	X
	Modify Actions	Authority to change all SAFECOM information (except for name of the submitter and the original narrative).	Coordinate with UAM. Verify and amend all info for accuracy.
	Operational Control	Make final determination of the Agency, State/Region and Field Unit that has Operational Control.	Determines who will receive e-mail notification.
	Category	Select the appropriate category to classify the SAFECOM.	Multiple categories possible.
	Make Public	Copies Original Text into the Public Text area for both the Narrative and Corrective Action fields. Sanitizes the Public Text. Makes the SAFECOM "Public" (if overly sensitive, consult with NAO before making public)	Ensures all Public Text is sanitized in Narrative & Corrective Action fields prior to making public.
BLM National Aviation Safety Advisor	E-Mail Notification	Receives e-mail notification of all initial, corrective action, modified and completed SAFECOMs nationwide that identify BLM operational control.	Coordinate with SAM.
	Corrective Actions	Takes additional corrective actions, if necessary, and documents on the SAFECOM.	Coordinate with SAM
	Modify Actions	Authority to change all SAFECOM information (except for name of submitter and the original narrative).	X
	Make Public	Has the authority to sanitize information and make the SAFECOM "public" (if not already done at the State level). Coordinates with OAS.	Ensures all Public Text is sanitized in Narrative & Corrective Action fields prior to making public.
	Completion	Has the authority to make the SAFECOM "complete".	X
	Distribution	Distributes all "Public" BLM SAFECOMs to BLM SAMs and Other Agencies.	Coordinates with OAS.
	Designates Users	Authority to identify all BLM users and their appropriate permission levels. Must notify OAS of additional users/changes/updates.	Coordinates with OAS.
	Out of Agency	Authorized to review other agency "Public" SAFECOMs. Read Only!	X
Elevated Safecoms	All Actions	OAS or NAO recommends SAFECOM be elevated. NAO-Safety retains control of Elevated SAFECOM and coordinates with SAM for proposed action. Coordination will take place with the SAM to gather detailed documentation.	Action may include lessons learned write up, safety alert etc. Important to follow up with Contracting Officer through the chain of command if aircraft or personnel are not meeting contract specifications.
	Make Public	NAO-Safety will make SAFECOM public with concurrence of SAM. Pictures, reports and sensitive material may or may not be made public but will be accessible to those with modify access.	Elevated SAFECOMs will not be made "Public" until investigation has been completed.

POSITION	AUTHORITY	RESPONSIBILITIES	CRITICAL NOTES

Appendix 5 - OAS Aviation Program Evaluation Schedule

2017 –New Mexico, Wyoming

2018 – Colorado, Nevada, California

2019 – Oregon/Washington, Utah, NAO

2020 – Idaho, Montana, Eastern States

2021 – Alaska, Arizona

2022 –New Mexico, Wyoming

2023 – Colorado, California

2024 – NAO, Nevada

2025 – Oregon/ Washington, Utah

2026 – Idaho, Montana, Eastern States

Appendix 6 - BLM Cargo Letdown Operations

1.1 Purpose

Cargo Letdown is a procedure used to lower cargo out of a hovering helicopter to the ground with the use of a lowering line and rappel anchor. This procedure is used by helitack programs to get needed equipment and supplies to the ground when conventional methods are not the most efficient option.

1.2 Approval

National BLM approval is required to host a cargo letdown program. Requests for approval are initiated by a state office to the National Aviation Office (NAO) with final approval from the Division Chief, Aviation.

NAO approval may allow for both internal and external (off the hook) cargo letdown operations. Initial approval will be based upon indicated need and limited to one field season. Subsequent conditional approval must be requested after the initial field season and validated based on proper utilization and justification of continued need. Approved cargo letdown programs will be re-evaluated in conjunction with new helicopter contract solicitations. Several administrative procedures need to be addressed as part of the request for approval:

- Initial justification to include nomination of Helicopter Cargo Letdown Spotter Trainee candidates (HCLS (T)).
- Request for Contract Modification from NAO to Contracting Officer (CO) in order to :
    - Provide for a contractor purchased cargo letdown anchor. Costs to the contractor would be recovered in an adjusted Daily Availability rate negotiated by the CO.
    - Add additional “Special Pilot Requirements for Cargo Letdown” language.
- Cargo Letdown Operations Plan. This plan is a supplement to the Helibase Operations Plan. The Cargo Letdown plan should describe all aspects of the letdown program to include:
    - Risk Management mitigation measures: CLD RA
    - Decision Matrix (under what parameters will this operation be conducted).
    - Detailed operational procedures.
    - Detailed equipment and configuration descriptions.
    - Equipment certification/inspection/retirement intervals and documentation.
    - Personnel training, experience and proficiency requirements and record-keeping
    - Letdown mission documentation and record-keeping.
    - Year-end statistical data on form “*BLM Annual Helitack Data*”. The form is available for download on the BLM NAO website.
    - Completed copies of the BLM Cargo Letdown Spotter Trainee Qualification Record will be sent to the BLM State Aviation Manager and BLM Helicopter Program Manager annually.

The NAO will provide assistance in arranging for Pilot and HCLS(T) certification as well as help with obtaining required equipment.

1.3 Cargo Letdown Spotter Eligibility

Eligibility for BLM Cargo Letdown Spotter is limited to qualified Helicopter Managers on Exclusive Use Helitack crews at the squad leader level or above. In addition CLD Spotters must meet the following requirements:

- Meet the prerequisite experience, training, and currency requirements outlined in the *Interagency Standards for Fire and Fire Aviation Operations* "Exclusive Use Fire Helicopter Position Requisites" for the position they encumber.
- Any deviation from these requirements must be approved in writing by the State Aviation Manager with a courtesy notification to the NAO Helicopter Program Manager.

1.3.1 Cargo Letdown Spotter Initial Training

Initial cargo letdown training shall be conducted by a DOI Office of Aviation Services (OAS) training specialist or a fully qualified Spotter (HERS/HCLS). The DOI OAS training specialist or cargo/rappel check Spotter is responsible for conducting the final initial check ride and certification of a HCLS(T).

When coordinating for and during training it is important that clear communications are maintained between the designee trainers (if utilized), the DOI OAS training specialist and the BLM Helicopter Program Manager.

Each component of training (tower, mock-up, and live helicopter) must allow sufficient time to satisfy the training requirements; this may vary based on the number of and progression of students. Requesting unit and trainees must be prepared to commit to the necessary time frames and associated expense when entering into agreement with Trainers.

This training is performance based and trainees will only move forward as specific training targets are met. It must be understood that there is the potential that a selected trainee may not be qualified due to inadequate performance.

Tower training (if utilized) can be generic. Mock-ups and live cargo letdown training shall be helicopter model specific to the aircraft utilized by the trainee and will follow the current model specific cargo letdown procedures in this appendix.

All trainees will utilize the attached "BLM Cargo Letdown Spotter Trainee Qualification Record" to ensure all aspects of training are complete. This record shall include further training recommendations and a clear picture of the trainee's current level of competence.

1.3.2 Cargo Letdown Spotter Refresher Training

Each year a Spotter must attend or instruct an annual helicopter cargo letdown training, as well as complete deployment of three loads of cargo from the helicopter to the satisfaction of the appropriate agency certifying official.

Subsequent re-qualification certification may be conducted by a qualified Spotter (USFS or DOI). Typical terrain shall be utilized for at least one of the three loads.

1.3.3 Cargo Letdown Spotter Proficiency

In order to maintain Spotter proficiency Individuals must make at least one cargo letdown spot every 14 days. If a helicopter letdown is not completed within 14 days, the Spotter may use a simulation. If a simulation is used to maintain proficiency during the 14 day period, an airborne deployment must be done in the following 14 day period.

1.4 Cargo Letdown Check Spotter

To be considered for approval as Helicopter Cargo Letdown Check Spotter (HCCS), the trainee must:

- Be nominated by the State Aviation Manager to the National Helicopter Program Manager.
- Be a current helitack supervisor or assistant on an exclusive use helitack crew.
- Must have been a qualified spotter for two (2) years
- Must have assisted in training of at least two (2) cargo letdown spotters
- Meet the prerequisite experience, training, and currency requirements outlined in the *Interagency Standards for Fire and Fire Aviation Operations* "Exclusive Use Fire Helicopter Position Requisites".
- Subsequent yearly self-certification is subject the HCCS completing annual recurrent training with State Aviation Manager concurrence.

Annual Check Spotter Currency

- Each Cargo Letdown check spotter must maintain currency and proficiency as a cargo letdown spotter

1.5 Pilot Experience, Training, and Currency Requirements

Pilots must meet all the following requirements:

- Meet the appropriate requirements of the procurement document to include having logged additional experience as pilot-in-command as follows:
    - 50 hours -- Total hours in make, model and series offered.
    - 25 hours -- Rappel, cargo letdown or long line requiring precision placement, last 12 months.
- Annually attend a cargo letdown training/refresher training session. This training must be conducted and documented by a qualified Spotter and will include:
    - Briefing and familiarization on letdown bracket and hard points for the specific model.
    - Seating arrangements for cargo and Spotters.
    - Cargo placement/location and deployment sequence and method.
    - Exit procedures and sequence.
    - Perform a minimum of six ground mockups in the aircraft model to be used, including rigging the aircraft for cargo letdown mission and deploying cargo.
    - Briefing on any peculiarities of the specific model.
    - Demonstrate ability to operate helicopter during three cargo letdown sequences.
    - Demonstrate ability to work with Spotter.

Upon meeting the above requirements, the pilot may be approved for helicopter cargo letdown operations by an OAS or USFS helicopter inspector pilot. The pilot must maintain currency in helicopter cargo letdown at the same frequency required of the Spotter (every 14 days). If currency is not maintained a mockup and proficiency flight must be completed prior to any actual operational mission.

The helicopter must meet the requirements of the departmental manual and the procurement document.

1.6 Cargo Letdown Equipment

Any equipment that a unit wishes to test or incorporate into cargo letdown must be reviewed by the BLM representative to the Interagency Helicopter Rappel Unit (i.e. use of rope, throw bag, and lowering device).

NOTE: Any equipment item with time life criteria of 10 years must be removed from service once it meets that time limitation. If manufacture date stamps for equipment become illegible, damaged, or lost, they will be replaced and then documented in the applicable equipment log.

Replacement tags must correspond with the original manufacture date in the equipment log. Any equipment with a time life limitation that cannot be age verified must be removed. Equipment removed from service will be disposed of in accordance with Bureau of Land Management Personal Property Management Manual 1520.

1.6.1 Gloves
The Sullivan PV or PVG, PMI GL2200x rappel glove, and the Metolius climbing ¾ finger glove are approved for cargo letdown operation. The Metolius glove shall only be used in conjunction with a flight glove.

1.6.2 Spotter Harness
Cargo Letdown Spotters will utilize a harness the meets the requirements of the ALSE Handbook that has a frontal attachment point (ie. Yates 388, or ARS 338 Heli Ops Harness) during all helicopter cargo letdown and tower operations. The harness shall be issued and tagged with a unique identifier that corresponds to an in-service date. Harness tags from the manufacturer may be used.

The Harness will be inspected in accordance with manufacturers requirements. In addition:

- The Spotter harness must be inspected by the user prior to operation.
- Inspect stitching and webbing for abrasion, wear or other damage.
- Check leg strap buckles, chest strap buckles, l D-rings and Cam Buckle adjusters for correct adjustment and function.
- Check connectors for correct function.

1.6.3 Adjustable Spotter Lanyard
The adjustable lanyard is the interface between the Spotter harness attachment point and approved helicopter hard point or anchor attachment point. Commercially produced adjustable lanyards must be utilized that are certified to National Fire Protection Association (NFPA) 1983, EN, or American National Standards Institute (ANSI Z359). Examples: Petzl® Grillon Plus, Petzl® Grillon International®, Yates® 571-DMM Rappel Master Adjustable Lanyard w/Shock Stop and DMM Captive Eye Carabiners.

The harness lanyard must adjust to prevent the attachment point from extending past the door plane of the helicopter. A connector is attached to the free end of the Spotter lanyard connecting to an STC or manufacturer approved helicopter hard point, tower hard point, or other approved tether attachment point.

When a lanyard is adjusted to allow access beyond the door plane, it is considered a reportable event. The SAFECOM system will be used for facilitated learning purposes.

Inspection:

- Lanyard is inspected with Spotter harness prior to operation.
- Inspect stitching and webbing for abrasion, wear or other damage.
- Metal hardware should be free from cracks, dings, or other damage.

1.6.4 Cargo Letdown Spotter Tether Attachment

Cargo Letdown Spotter Tether (Lanyard) Attachment(s) will be manufactured in accordance with drawing # MTDC-946, or the Air Rescue Systems® Primary Anchor. The Spotter tether attachment will secure the Spotter harness tether to the aircraft. The Spotter tether attachment will be installed in the aircraft according to model specific requirements.

Inspection:

- Inspected by a Spotter prior to each use.
- Inspect stitching and webbing for abrasion, wear or other damage.
- Metal adjusters and attachment ring should be free from cracks, dings, or other damage.
- Meets lifetime criteria In accordance with manufacturer's specifications.

1.6.5 Carabiners and Connectors

Carabiners and connectors used in cargo letdown operations will meet the requirements of National Fire Protection Association (NFPA) 1983 General Use, 2012 or most recent edition, or American National Standards Institute (ANSI) Z359.12 2009, or most recent edition.

Exception: Carabiners specifically identified by an FAA Supplemental Type Certificate (STC) for direct attachment to an anchor.

Inspection:

- Inspect in accordance with manufactures data sheet
- Inspect to be sure that gates and locking mechanism function properly. If gate becomes sticky, remove from service.
- Look for abrasion, burrs, or rough edges. If there is any visual indication that raises question, retire it.
- When using for cargo letdown operations make certain that gates are locked when in use and that tension is not on gate.
- Are not dropped on ground or hard surface. Rough handling is avoided.
- Kept clean.
- Inspected by a Spotter prior to each use.

1.6.6 Knife / Knife Sheaths

Spotters are required to have a hook knife, with lanyard, readily accessible for emergency use. The Raptor® knife or Gerber®Vital Zip with Seber Blade is required for use by cargo letdown Spotters. The Spotter Raptor® knife must be enclosed within the MTDC rappel Spotter Raptor® sheath (MTDC drawing # 1042) and attached to the Spotter harness in the manner shown in rappel bulletin 051005.

Certain STC's for rappel anchor installations require an additional Raptor knife be installed inside the aircraft.

Inspection:

- Knife sheaths are to be inspected with any harness inspection.
- Knives shall be inspected annually or prior to being installed on a harness. Ensure knives used for rappel have properly installed blades.
- Knife blades must be changed after any use.
- Handle/body of knife should be free from damage, screws should be tight.
- The sheath should be in good condition.
- Ensure the lanyard is stowed and attached correctly.
- Pull snap(s) should close/open with enough resistance to prevent inadvertent opening.

1.6.7 Rappel Plate Anchors

Rappel anchors are evaluated for use by OAS for DOI. Each helicopter model will be evaluated for anchor hard points and design to determine the proper rappel bracket or brackets that may be used.

Inspection:

- Rappel Anchor inspection will occur in accordance with the applicable STC, continuing airworthiness instructions, or manufacturers standards in the flight manual or maintenance manual. In addition an annual inspection shall also be conducted.
- The designer or manufacturer of the anchor is responsible for developing maintenance inspection criteria, which ensures the continued airworthiness of the anchor. The owner of the anchor is responsible for ensuring that the inspection(s) is conducted. Prior to each use, the rappel anchor will be visually inspected by the Spotter for general condition and documented on the daily diary.
- Additional information regarding existing rappel anchors is available from MTDC.

1.6.8 Figure 8 with ears

For BLM cargo letdown operations the steel or aluminum CMC rescue 8 with ears is the approved letdown device.

Inspection:

- Inspect in accordance with manufactures data sheet

- Inspect for grooves developing or flaking occurring in aluminum figure 8's. When a groove develops beyond the anodized surface of the aluminum figure 8, wear will rapidly occur. If the groove is beyond 1/16-inch deep, retire the figure 8.
- Inspect the figure 8 for aluminum flaking. This develops rough edges that could cause excessive wear on the line. If flaking is evident, remove the figure 8 from service. Although the acquisition cost is double, steel figure 8's have proven more durable and service life is considerably longer than aluminum, however, steel may cause heat damage more easily because it does not dissipate heat as readily as aluminum.
- Inspect for cracks or breaks. If cracks are evident, retire figure 8.
- Figure 8's must be inspected by a Spotter prior to each use.
- Take care to avoid rough handling; do not drag or drop on ground, and keep the device clean.

1.6.9 Cargo Letdown Line

To maintain even wear and maximize each lines useful life, line ends will be rotated after each use. To track equipment use, each end shall be marked A or B.

Let-down lines are available in lengths of 250ft or 300 ft. Both let-down lines shall conform to Mil-W-5625K Webbing, Textile, Nylon, Tubular, ¾". Webbing conforming to this standard has a minimum breaking strength of 2300lbs.

Let-down lines 250 feet in length will be of white tubular nylon webbing and conform to drawing #MTDC-983.
Let-down lines of 300 ft. will be of yellow tubular nylon webbing and conform to drawing #MTDC-983.

Accordion packs will be constructed as to easily identify a 250 .ft let-down line from a 300 ft. let-down line. Accordion packs for 250 ft. let-down lines will be constructed of white cotton duck cloth, and accordion packs for 300 ft. let-down lines will be made from white cotton duck cloth with yellow seam tape.

To further identify accordion packs, 1 inch stencils will be used to mark the outside surface of accordion packs with the length of let-down line to be used with each size accordion pack. 250 ft. Accordion Packs will conform to drawing #MTDC-974 and 300 ft Accordion Packs will conform to drawing number #MTDC-1037. Both lines will be packed in accordance with the Wildland Fire Helicopter Rappel Cargo Letdown Accordion Pack video produced by MTDC. Edge Protection may be necessary along helicopter door edge or helicopter skids to prevent abrasion of the line.

- **250 foot line:** White ¾" tubular nylon webbing, dyed appropriately, with stenciled accordion pack.
- **300 foot line:** Yellow ¾' tubular nylon webbing, dyed appropriately, with stenciled accordion pack

Inspection:

- Let-down lines will be inspected for wear and burns after cargo deployment, and ends reversed for the next let-down sequence.

- Inspect stitching and webbing for abrasion, wear, cuts, chemical contamination or other damage.

Marking:

- A twenty five foot section from each end of the let-down lines shall be clearly marked in red and a ten foot section in the center of the line should be marked with a contrasting color.
- Use only Rit dye to mark lines.

1.6.10 Let-Down Containers

Bags are to be manufactured with high strength abrasion-resistant materials. The attachment points on the bag must be reinforced to ensure there is not a failure during deployment. Sources for approved cargo letdown containers are also listed on the USFS rappel website. Maximum allowable suspended weight per internal cargo let down container shall be 125 lbs. Approved cargo let down containers shall pass a static strength test with no failure or ruptured stitches when loaded to a minimum weight of 468.75 lbs. (safety factor of 3.75 to 1).

Internal cargo letdown containers shall consist of the following:

- Cardboard box with harness, the cardboard box shall consist of double wall construction and shall be certified by manufacturer as having passed Edge Crush Test of 71 pounds (71-ECT). Cargo boxes must be girded with an approved box harness for deployment.
- The box harness and attachment hardware shall have a minimum tensile strength of 1125 lbs.
- Metolius style haul bag.
- Large Klamath Bag.
- Small Klamath Bag.

External cargo letdown containers shall consist of the following**:**

- Tuna Net (NFES #000795).
- Metolius style haul bag.
- Large Klamath Bag.
- Small Klamath Bag.

The maximum weight and the minimum weight for the large and small Klamath bags will be stenciled on the container with 3 inch letters in a high contrast color.
The limitations will be illustrated on opposing sides of the container.
Maximum weight and minimum weight for external cargo deployment containers.

- Large Klamath Bag
  - Maximum Weight: 300 lbs.
  - Minimum Weight: 150 lbs.
- Small Klamath Bag
  - Maximum Weight: 300 lbs.
  - Minimum Weight: 80 lbs.
- Tuna Net
  - Maximum Weight: 300 lbs.
  - Minimum Weight: 40 lbs.

Bags and other containers should be frequently inspected and not used if damaged.
During flight testing of external containers, loads became unstable above 60 knots indicated airspeed. External load operations shall be conducted at an airspeed that ensures the load remain stable.

1.6.11 External Cargo Deployment (Break-away strap and Cargo Strap)

For external cargo deployment the break-away strap which is the connecting line between the external load or cargo strap and cargo let down line shall conform to Mil-W-5625K and be 1" tubular nylon. The minimum breaking strength of 1" tubular is 4000 lbs. External cargo operations shall use the model specific Break Away and Cargo Straps manufactured in accordance with drawing # MTDC 980 Helicopter Rappel External Cargo Break Away strap and drawing # MTDC 982 Helicopter Rappel External Cargo Strap.

Inspection:

- Equipment will be inspected prior to use by a qualified Spotter.
- Inspect stitching and webbing for abrasion, wear, cuts, chemical contamination or other damage.

1.6.12 Figure 8 Extender

Relocates the Figure 8 away from an aircraft hardpoint. Figure 8 extender conforms to MTDC Drawing # 1040.

Inspection:

- Equipment will be inspected prior to use by a qualified Spotter.
- Inspect stitching and webbing for abrasion, wear, cuts, chemical contamination or other damage.

1.6.13 External Cargo Swivel

All external cargo-letdown loads must be attached to the helicopter with an approved swivel.
The Petzl P58 S, P58 L and swivels approved for cargo in the ISHO are the approved swivels for external cargo letdown operations.

Inspection:

- Inspect in accordance with manufactures data sheet,
- Equipment will be inspected prior to use by a qualified Spotter.
- Spinning action of the swivel,
- Physical damage
- Inspection criteria as outlined in chapter 9 of NSHO approved equipment.

1.7 Cargo Letdown Documentation

For fire operations, copies of certifying and recertifying documentation will be maintained in individual permanent records and forwarded to the Incident Qualifications Certification Systems (IQCS) Account Manager. All documentation logs are official documents and will be kept electronically or in hard copy format.

1.7.1 Cargo Letdown Spotter

The Helicopter Cargo Letdown Spotter Qualification Record will document each individual step in the training. Competency at each level of the training must be demonstrated by the trainee before the Spotter will permit advancement to the next step. Each Spotter will maintain a record of training, proficiency and operational cargo letdowns in a unit log or other format.

1.7.2 Equipment Logs
All equipment requiring documentation will be assigned a unique identification number. The number will be retired with the piece of equipment. The following equipment must have a log assigned:

1.7.3 Spotter Harness
Harness will be inspected annually and recorded. Any deficiencies during pre-use inspections and/or repairs or component replacement will be noted on the harness log or the electronic equivalent.

1.7.4 Cargo Letdown Line
All cargo letdown line use must be documented. After inspection, any irregularities will be noted. Use the Letdown Line Log or electronic equivalent.

1.7.5 Rappel Tower Anchor
Use and inspection of rappel tower anchors must be documented. The forms will provide at a minimum the information listed below.

- Date put in service
- ID number
- Remarks/problems
- Inspector's name/date inspected

1.8 Internal Cargo Deployment Procedures

All training and actual deployment missions will use the following steps and procedures. The intent is to standardize and maintain continuity between units.

1.8.1 Pre-Flight Duties for Cargo Only Missions

- Prior to departure, the pilot(s) and involved personnel shall receive a briefing on mission objectives, communications, known hazards, and emergency procedures.
- Load calculations and manifests complete and posted.
- Spotter puts on harness, ensures raptor knife is attached to harness.
- Spotter completes necessary pre-flight inspections.

1.8.2 Equipment Check of Spotter
Prior to flight, the Spotter must receive a Spotter equipment check. When ground personnel are unavailable, the Spotter shall have the pilot perform this check. Positive communication between the Spotter and pilot must occur to ensure Spotter has attached their tether to an approved hard point.

- Flight Helmet
    - Good Condition - no cracks or damage, avionics in place
    - Eye protection
    - Chin strap secured, adjusted to fit snuggly, with no loose ends
- Nomex Shirt/Flight Suit
    - Good condition, shirt tucked in collar up, buttoned to the top, flight suit fully zipped up

    - Sleeves rolled down covering arms (no holes, clean & tight at wrist)
- Gloves
    - Gloves in good condition, fastened with no loose ends, and free of pitch or contaminants
- Harness – Front Side
    - Risers
        - Visible webbing & stitching in good condition
        - No twists, buckles secured with no cracks, keepers in place
    - Chest Strap
        - Positioned mid-chest
        - Buckled & snuggly fit
    - Leg Straps
        - Buckles attached, no fabric caught
        - Visible webbing & stitching in good condition
        - No twists, snug fit, loose ends secured, keepers in place
    - Raptor Knife
        - Secured in sheath on left riser
        - Horn facing to left side
        - Lanyard stowed
- Nomex & Boots
    - Nomex pants/flight suit in good condition, no Velcro showing
    - Pant cuffs over approved boots

Indicate Spotter to turn around with a tap on the left shoulder

- Spotter's Back Side
    - Helmet in good condition
    - Collar up
    - Harness - visible webbing & stitching in good condition with no twists
    - Spotter tether attached to dorsal O-Ring through double pass adjustor and tacked when using Miller Harness and MTDC specified tethers. Extendable tether stowed, all snaps in place, or; Spotter tether attached to front or waist O-ring when utilizing a Yates 388 or ARS 338 Heli Ops Harness front or waist attachment
    - Ensure carabiner or connector is in place at end of tether
    - Buckles & loose ends secured
    - Nomex shirt, pants or flight suit in good condition, no Velcro showing
    - Pant cuffs over approved boots

Tap on shoulder to indicate Spotter to turn around.

- Exchange thumbs-up - "YOU ARE O.K., I AGREE"

1.8.3 Rigging and Loading Cargo

- Spotter will configure helicopter to meet the needs of the specific cargo mission.
- Rig cargo with carabiners and secure in helicopter. Cargo should be secured in accordance with model specific configurations in Appendix B

- Check cargo delivery equipment to ensure proper number of letdown lines, extra carabiners, and figure 8 are available and secured in accessible location.
- Spotter visually inspects anchor. (See Chapter 3, Rappel Anchor Inspection)
- Spotter boards aircraft, connects tether, plugs into avionics, and secures seatbelt.
- Spotter tells pilot, “Tether attached OK to depart,”
- Pilot Responds “Tether attached, departing.”

1.8.4 Pre-Cargo Delivery Sequence

- Pilot(s) flies a reconnaissance of the area to look for hazards and works with Spotter to select an appropriate cargo delivery site.
- Contact appropriate flight following authority (ATGS, HLCO, dispatch, etc.) prior to commencing the cargo operation. Spotter communicates with flight following authority & pilot regarding number of loads to be deployed.
- Inform ground personnel to stay clear of cargo during deployment.
- Adjust radios as needed to ensure pilot and Spotter communication will not be compromised by excessive radio chatter. Radios must remain on and dialed to the appropriate flight following frequency.
- Where possible helicopter should maintain at least 50 ft. clearance above any obstacles before starting a cargo operation.
- If this is not possible and helicopter must descend below the canopy, helicopter will operate within an opening no less than 1 1/2 times the main rotor diameter (e.g. an aircraft with a 36 ft. main rotor diameter would require a 54 ft. diameter opening).
- Before starting cargo operations, A HOGE Power assurance check is accomplished at an altitude comparable to the cargo site or greater. A positive rate of climb must be established without exceeding aircraft limitations. Pilot states “hover established, positive rate of climb, power is good.”
- Spotter responds “Power is good”
- Spotter activates hot mic if not done already
- If not performed on the ground, Spotter rigs Figure 8 with cargo letdown line and attaches figure 8
    - If using overhead bracket on a type III helicopter connect two (2) carabiners in anchor bracket, barrel down, gate facing inboard. Connect one (1) carabiner to the upper carabiners, barrel down, gate facing aft.
    - If using floor bracket connect one (1) carabiner in anchor bracket, (barrel inboard, gate facing aft) with extender strap and one (1) additional carabiner attached to figure 8.
- Cargo letdown pack must be connected to a hard point.
- Spotter removes restraining straps from cargo, ensure remaining cargo is secure, and positions cargo in doorway. Spotter relays to pilot when rigging is complete.
- Aircraft with sliding doors in the closed position will follow the procedures in the following three (3) bullets
    - Pilot states to Spotter “Clear to open door(s)”.
    - Spotter states to pilot, “opening aircraft door(s)”. Once Spotter has opened aircraft door, Spotter states to pilot “door open and locked”.

- Spotter finalizes proper position over cargo site. Using pilot's perspective (left, right, forward, back, and up or down relative to altitude above the ground.)

1.8.5 Cargo Deployment Sequence

- Spotter will communicate with pilot regarding adequate main and tail rotor clearance, power assessments, and cargo spot status throughout the cargo operation. Using pilot's perspective (left, right, forward, back, and up or down relative to altitude above the ground)
- Spotter states to pilot, "Cargo ready. How is the power?"
- Pilot "powers good send cargo".
- Spotter states to pilot, "Sending Cargo" then eases cargo out the door, over the flight step and skid (Bell 206L4 cargo goes between skids).
- Begin lowering cargo with positive control of letdown line; do not allow un-arrested descent of cargo. Keep pilot informed of actions and progress of cargo descent:
    - "Cargo out the door"
    - "Cargo halfway down"
    - "Cargo on the ground"
- When cargo is on the ground, unhook figure 8 from carabiner/Anchor and remove letdown line. Hold slack in line to prevent billowing and unhook letdown line bag from hard point. Wrap excess letdown line around bag and throw clear of aircraft.
- Inform pilot if more cargo is to be lowered. Pilot/Spotter will determine whether to hold hover or orbit area until cargo is ready for subsequent deployment.
- When cargo deployment is complete Spotter states to pilot, "Lines are away, clear to depart."
- Pilot responds "lines away, clear to depart".
- Spotter closes doors (if necessary), returns to seat and fastens seatbelt.
- Radio returned to normal operational mode and flight following authority is informed that cargo operation has been completed.

1.9 External Cargo Deployment Procedures

All training and actual deployment missions will use the following steps and procedures. The intent is to standardize and maintain continuity between units.

1.9.1 Pre-Flight Duties for Cargo Only Missions

- Prior to departure, the pilot(s) and involved personnel shall receive a briefing on mission objectives, communications, known hazards, and emergency procedures.
- Load calculations and manifests complete and posted.
- Spotter puts on harness, ensures safety knife is attached to harness.
- Spotter completes necessary pre-flight inspections.
- Prior to flight, the Spotter must receive a Spotter equipment check (see Internal Cargo Deployment Procedures above). When ground personnel are unavailable, the Spotter shall have the pilot perform this check. Positive communication between the Spotter and pilot must occur to ensure Spotter has attached their tether to an approved hard point.

1.9.2 Rigging and Loading Cargo

- Loaded cargo container is set up in the front of the helicopter.
- Attach one end of the cargo strap to the cargo container and the other end to the swivel
    - External cargo must be attached to the belly hook, utilizing approved equipment.
- Spotter performs all appropriate hook checks, attaches single hard loop end of breakaway strap to the top end of the swivel hardware, and then connects swivel system and cargo to helicopter cargo hook.
- Rig letdown line through figure 8 and attach a carabiner to the hard loop on the free end of the line.
- Anchor
    - Overhead Anchor: Attach the rigged figure 8 to the overhead anchor carabiners with a third carabiner barrel down, gate facing aft. Once complete, pull the free end of the line and carabiner down to the floor and attach to the Velcro® loop on the breakaway strap. Spotter must secure the breakaway strap attached to the carabiner during flight. (Add drawing or a photo)
    - Floor anchor: Attach the rigged figure 8 with extender strap to the forward attach point on of the floor anchor, typically the opposite side of the pilot. Attach locking carabiner on rigged letdown line to the Velcro® loop on the breakaway strap.
- Lock off letdown line on figure 8.
- Cargo letdown pack must be connected to an appropriate hard point.
- Spotter connects tether, plugs into avionics, completes necessary external cargo checks, boards aircraft, and secures seatbelt.
- Spotter tells pilot, “Tether attached, load on the hook, OK to depart,”
- Pilot Responds “Tether attached, load on the hook, departing.”

1.9.3 Pre-Cargo Delivery Sequence

- Pilot(s) flies a reconnaissance of the area to look for hazards and works with Spotter to select an appropriate cargo delivery site.
- Contact appropriate flight following authority (ATGS, HLCO, dispatch, etc.) prior to commencing the cargo operation. Spotter communicates with flight following authority & pilot regarding number of loads to be deployed.
- Inform ground personnel to stay clear of cargo during deployment.
- Adjust radios as needed to ensure pilot and Spotter communication will not be compromised by excessive radio chatter. Radios must remain on and dialed to the appropriate flight following frequency.
- Where possible helicopter should maintain at least 50ft. clearance above any obstacles before starting a cargo operation.
- If this is not possible and helicopter must descend below the canopy, helicopter will operate within an opening no less than 1 1/2 times the main rotor diameter (e.g. an aircraft with a 36 ft. main rotor diameter would require a 54 ft. diameter opening).
- Before starting cargo operations, A HOGE Power check is accomplished at an altitude comparable to the cargo site or greater. A Positive rate of climb must be established without

exceeding aircraft limitations. Pilot states “hover established, positive rate of climb, power is good.”

- Spotter responds ”Power is good”
- Spotter activates hot mic if not done already
- Spotter states to pilot “removing seatbelt” and “moving into position”.(Some Spotters may elect to remain in the seat with seatbelt fastened).
- Spotter attaches hard loop on the breakaway strap and ensures carabiner is locked. Spotter states to pilot “Hard Loop Connected” Pilot confirms “Hard Loop Connected.”
- Spotter unlocks the figure 8 and ensures the carabiner is clear of the skid.
- Spotter finalizes proper position over cargo site. Using pilot’s perspective (left, right, forward, back, and up or down relative to altitude above the ground.)

1.9.4 Cargo Delivery Sequence

- Spotter will communicate with pilot regarding adequate main and tail rotor clearance, power assessments, and cargo spot status throughout the cargo operation. Using pilot’s perspective (left, right, forward, back, and up or down relative to altitude above the ground).
- Spotter states to pilot, “Cargo is ready for deployment on your count.”
- Pilot gives a three (3) count and releases cargo from belly hook.
- Spotter begins lowering cargo with positive control of letdown line; do not allow un-arrested descent of cargo. Keep pilot informed of actions and progress of cargo descent:
    - “Cargo away”
    - “Cargo halfway down”
    - “Cargo on the ground”
- When cargo is on the ground, unhook figure 8 from carabiner/anchor and remove letdown line. Hold slack in line to prevent billowing and unhook letdown line bag from hard point. Wrap excess letdown line around bag and throw clear of aircraft.
- When cargo deployment is complete Spotter states to pilot, “Lines are away, clear to depart.”
- Pilot responds “lines away, clear to depart”.
- Spotter closes doors (if necessary), returns to seat and fastens seatbelt.
- Radio returned to normal operational mode and flight following authority is informed that cargo operation has been completed

1.10 Cargo Letdown Emergency Procedures

There are many circumstances that can constitute an in-flight emergency. Pilots and Spotters must understand that the consequences of an emergency change significantly once cargo has been deployed. It is extremely important for a pilot and Spotter to have a firm understanding of the situation and discuss up front as many circumstances as possible prior to operations. “Emergency procedures” are defined as the standard established procedures used to respond to a situation, serious in nature, developing suddenly or unexpectedly, and demanding immediate action. In the cargo delivery environment, clear and concise communication culminating in a coordinated response between the Spotter and pilot is critical to a successful outcome. There are two (2) basic categories of emergencies:

1. Those that require an immediate response:

There are a limited number of emergencies that fall into this category. In the cargo delivery environment these emergencies are characterized by a need to depart the hover without delay. In this type of emergency, the possibility of affecting a positive outcome will be impacted by the ability to jettison lines quickly.

Examples of possible emergencies that require an immediate response:

- Engine Failure
- Tail Rotor Failure
- Hard over of controls
- Engine over speed/driveshaft failure
- Compressor Stall (Single engine)
- Governor Failure Low Side (Twin Engine)
- Governor Failure (Single Engine)

2. Those that permit a delayed response**:**

There are any numbers of events, typically mechanical or environmental, that fall into this category. In the cargo delivery environment, these events are characterized by an ability to delay the departure from the hover. In events of this nature there is typically time to complete a cargo sequence prior to departing the hover.

Caution: These procedures may not require immediate action and responses can vary in time from seconds to minutes. Examples of possible events that may permit a delayed response:

- Transmission/Engine/Tail Rotor Gear Box Chip Light
- Hydraulic Failure
- Oil temp/Oil pressure light
- Hydraulic temp or pressure light
- Unknown Master Caution
- Fire light (require pilot check of controls and for fire on board)
- Stuck pedal
- Fuel control or governor failure high side (Twin Engine)
- Electrical failure
- Fuel/air filter clog
- Fuel pump failure
- Decrease in rotor RPM
- Compressor Stall (twin engine)
- Severe up or down drafts

1.10.1 Cargo Letdown Emergency Procedures: Internal Cargo

Challenge/Response Communications - Immediate Response Emergency

Pilot States “Abort, Abort”

- Spotter:
    - If cargo is still secure:
        - Spotter states “Clear”
        - Immediately take seat and fasten seatbelt
        - Aircraft will depart immediately and pilot will comply with Rotorcraft Flight Manual direction.
    - If the cargo process has begun and the cargo has been unsecured:
        - Spotter states “Clearing cargo” and:
    - If cargo is still in the aircraft:
        - Re-secure cargo or Cut line directly above cargo container and Jettison cargo out open door.
        - Spotter states “Clear”
        - Take seat and buckle-up.
    - If cargo has been delivered outside the aircraft:
        - Cut line
        - Spotter states “Clear” when the cargo container has cleared the aircraft
        - Take seat and buckle-up.

NOTE: The “Abort, Abort …” and the subsequent actions taken by the pilot and Spotter will occur almost simultaneously. Pilot, will attempt to gain forward flight, if possible, which will require that the Spotter clear the cargo without hesitation. The pilot is not expected to wait for the “Clear” from the Spotter before taking action to appropriately respond to the emergency. Any failure to immediately clear the aircraft of cargo and line may pose a threat to the aircraft and personnel onboard.

Challenge and Response Communications - Delayed Response Emergency

When experiencing this type of emergency, “EXPEDITE, EXPEDITE” is intended as the initial alert for the crew communicating that the cargo deployment must be curtailed due to an aircraft malfunction or environmental condition. Communication shall not be limited and pilot should advise the crew of the status of the aircraft and the intended duration of the flight.

Unnecessary delays should be avoided due to the critical nature of the flight profile. The only time there should be any delay is during the cargo deployment sequence. If there is to be a delay, the Spotter should advise the pilot as to the amount of time needed to get the cargo on the ground and cut line.

Events of a mechanical nature require termination of the cargo mission until such problem(s) can be resolved. An event of this nature requires that the pilot announce the problem, describe the problem and inform the Spotter of the actions required to address the event. The ensuing discussion between pilot and Spotter will determine a course of action and the time available.

Pilot states “Expedite, Expedite.”

- Spotter

- If cargo is still secure:
  - Spotter states “Clear”
  - Immediately take seat and buckle-up.
  - Aircraft will depart immediately and pilot will comply with Rotorcraft Flight Manual direction.
- If cargo has been unsecured but not delivered outside the aircraft:
  - Spotter states “Clear”
  - Secure the cargo as quickly as possible
  - Take seat and buckle seatbelt.
- If you are in mid sequence (cargo has been delivered past the skids)
  - Continuation of the cargo delivery may be permissible if circumstances warrant.
  - Once cargo is on the ground the Spotter will cut the line freeing the aircraft for immediate departure and compliance with RFM direction

Events of an environmental nature may be resolved by waiting for the event to subside or relocating to an alternate cargo site. An event of this nature requires that the pilot inform the Spotter of the actions required to address the event. The ensuing discussion between pilot and Spotter will determine a course of action and whether relocation is necessary.

- If relocation is not required:
  - Once the pilot and Spotter concur that the event is no longer of concern cargo operations can resume.
- If relocation is required: Pilot states “Expedite, Expedite.”
  - If cargo is still secure:
    - Spotter states “Clear”
    - Immediately take seat and buckle-up.
    - Aircraft will depart immediately and pilot will comply with Rotorcraft Flight Manual direction.
  - If cargo has been unsecured but not delivered outside the aircraft:
    - Spotter states “Clear”
    - Secure the cargo as a quickly as possible
    - Take seat and buckle seatbelt.
    - If you are in mid sequence (cargo has been delivered past the skids)
  - Continuation of the cargo delivery may be permissible if circumstances warrant.
  - Once cargo is on the ground the Spotter will cut the line freeing the aircraft for immediate departure and compliance with Rotorcraft Flight Manual direction.

1.10.2 Cargo Letdown Emergency Procedures: External Cargo

Challenge/Response Communications - Immediate Response Emergency

Pilot states “Abort, Abort”

- Cargo still secure on the belly hook and cargo process has not yet commenced while aircraft is in a hover or in forward flight with breakaway strap hooked “Soft”.

    - Pilot jettisons external cargo from the aircraft
    - Spotter states “Clear” and;
    - Immediately take seat and fasten seatbelt
- If cargo process has started, break away strap is hooked “hard” w/ figure 8 locked off and cargo is still on the hook.
    - Spotter states “Cutting Line”
    - Spotter cuts line below the figure 8
    - Spotter states “Clear- Jettison Load” and;
    - Immediately take seat and fasten seatbelt
- If cargo process has started break away strap is hooked “hard” w/ figure 8 unlocked and cargo still on the belly hook
    - Spotter states “Cutting Line”
    - Spotter cuts line below the figure 8
    - Spotter states “Clear- Jettison Load” and;
    - Immediately take seat and fastens seatbelt
- If the cargo process has begun and the cargo has been released off the belly hook.
    - Spotter states “Cutting Line”
    - Spotter cuts line below the figure 8
    - Spotter state “Clear” when the letdown line has cleared the aircraft and;
    - Immediately take seat and buckle-up.

NOTE: The “Abort, Abort …” and the subsequent actions taken by the pilot and Spotter will occur almost simultaneously. Pilot, will attempt to gain forward flight, if possible, which will require that the Spotter clear the cargo without hesitation. The pilot is not expected to wait for the “Clear” from the Spotter before taking action to appropriately respond to the emergency. Any failure to immediately clear the aircraft of cargo and line may pose a threat to the aircraft and personnel onboard.

Challenge/Response Communications - Delayed Response Emergency

When experiencing this type of emergency, “Expedite, Expedite” is intended as the initial alert for the crew communicating that the cargo deployment must be curtailed due to an aircraft malfunction or environmental condition. Communication shall not be limited and pilot should advise the crew of the status of the aircraft and the intended duration of the flight.
Unnecessary delays should be avoided due to the critical nature of the flight profile. The only time there should be any delay is during the cargo deployment sequence. If there is to be a delay, the Spotter should advise the pilot as to the amount of time needed to get the cargo on the ground and cut line.
Events of a mechanical nature require termination of the cargo mission until such problem(s) can be resolved. An event of this nature requires that the pilot announce the problem, describe the problem and inform the Spotter of the actions required to address the event. The ensuing discussion between pilot and Spotter will determine a course of action and the time available.

Pilot states: “Expedite, Expedite.”

- If cargo is still secure on the belly hook and cargo process has not yet commenced while aircraft is in a hover or in forward flight with breakaway strap hooked “Soft”.
    - Spotter states “Clear” Cargo can be jettisoned at pilot discretion
    - Spotter immediately takes seat and fastens seat belt.
    - Aircraft will depart immediately and pilot will comply with Rotorcraft Flight Manual direction.
- If cargo process has started, break away strap is hooked “hard” w/ figure 8 locked off and cargo is still on the hook.
    - Spotter states “Going to soft loop”
    - Spotter disconnects breakaway strap from carabiner and connects carabiner to soft loop. Spotter states “Clear- to Jettison Load” at pilot discretion
    - Spotter immediately takes seat and fastens seatbelt.
- If cargo process has started break away strap is hooked “hard” w/ figure 8 unlocked and cargo still on the belly hook
    - Spotter states “Clearing Breakaway Strap”
    - Spotter disconnects Breakaway strap from carabineer or cuts letdown line below the figure 8
    - Spotter states “Clear to Jettison Load” at pilot discretion
    - Spotter immediately takes seat and fastens seatbelt
- If the cargo process has begun and the cargo has been released off the belly hook.
    - Continuation of the cargo delivery may be permissible if circumstances warrant.
    - Once cargo is on the ground the Spotter will cut the line below the figure 8 freeing the aircraft for immediate departure and compliance with RFM direction.
    - Spotter states “Clear” when the letdown line has cleared the aircraft
    - Spotter immediately takes seat and buckles up.

Events of an environmental nature may be resolved by waiting for the event to subside or relocating to an alternate cargo site. An event of this nature requires that the pilot inform the Spotter of the actions required to address the event. The ensuing discussion between pilot and Spotter will determine a course of action and whether relocation is necessary.

- If relocation is not required:
    - Once the pilot and Spotter concur that the event is no longer of concern cargo operations can resume.
- If relocation is required **Pilot states “Expedite, Expedite”.**
    - Cargo still secure on the belly hook and cargo process has not yet commenced while aircraft is in a hover or in forward flight with breakaway strap hooked “Soft”.
        - Spotter states “Clear” Cargo can be jettisoned at pilot discretion
        - Spotter immediately takes seat and fastens seatbelt.
        - Aircraft will depart immediately and pilot will comply with Rotorcraft Flight Manual direction.
    - If cargo process has started, break away strap is hooked “hard” w/ figure 8 locked off and cargo is still on the hook.
        - Spotter states “Going to soft loop”

        - Spotter disconnects breakaway strap from carabiner and connects carabiner to soft loop. Spotter states “Clear- to Jettison Load” at pilot discretion
        - Spotter immediately takes seat and fastens seatbelt.
    - If cargo process has started break away strap is hooked “hard” w/ figure 8 unlocked and cargo still on the belly hook
        - Spotter states “Clearing Breakaway Strap”
        - Spotter disconnects Breakaway strap from carabineer or cuts letdown line below the figure 8
        - Spotter states “Clear to Jettison Load” at pilot discretion
        - Spotter immediately takes seat and fastens seatbelt.
    - If the cargo process has begun and the cargo has been released off the belly hook.
        - Continuation of the cargo delivery may be permissible if circumstances warrant.
        - Once cargo is on the ground the Spotter will cut the line below the figure 8 freeing the aircraft for immediate departure and compliance with Rotorcraft Flight Manual direction.
        - Spotter states “Clear” when the letdown line has cleared the aircraft
        - Spotter immediately takes seat and fastens seatbelt.

1.11 Cargo Letdown Activities in Support of Extended Attack or Large Fire Operations

Integration of cargo letdown activities into complex airspace associated with extended attack and large fire operations necessitates risk assessment and operational planning in order to ensure the safety of aircraft and ground personnel.

While working on extended attack and large fire incidents where cargo letdown operations are planned (medical response, IA within the incident response zone, division requests, line resupply, proficiency, etc.), the following conditions should be met;

- Identified in the Incident Action Plan in the ICS-220 and the ICS-204 for the location where the cargo letdown operation is planned to occur.
- Reviewed by the highest level aviation position assigned.
- Completed operational risk assessment and briefing.
- Coordinated with the helibase manager prior to conducting operations at the helibase.

Costs associated with routine proficiency operations and/or cargo letdown will be the responsibility of the agency contracting the helicopter.

1.12 Cargo Letdown Training

Objectives

- Describe the function of all cargo letdown equipment
- Demonstrate proper cargo letdown configuration
- Demonstrate proper cargo letdown procedures without error
- Demonstrate effective communications with pilot

Key Points

- Gather cargo letdown equipment
- Reference procedures, Challenge and Response in *IHRG*, Appendix B
- Pilot should be present during this phase of the training
- Utilize BLM Cargo Letdown Trainee Qualification Record

Lesson Outline

Ground Training

- Review cargo letdown procedures
    - Familiarize trainee with equipment
    - Review applicable portions of IHRG
- Familiarize trainee with Spotter equipment checks and Spotter "buddy check."
    - Stress that the Spotter is responsible to ensure all equipment is in good condition and properly fitted
- Cargo letdown training should be accomplished utilizing a Cargo Letdown tower in addition to helicopter mock-ups, but utilizing helicopter mock-ups as the sole means of ground training is acceptable.
- Demonstrate anchor inspection.
- Demonstrate placement and securing of cargo.
- Demonstrate pre-flight checks, e.g., Spotter equipment check, hook checks, etc.
- Demonstrate cargo configuration procedures.
- Demonstrate cargo letdown procedures, including Spotter and pilot communications, and emergency procedures.
- Trainee will perform the following until instructor deems competency is accomplished (minimum of three (3) complete cycles without procedural error):
    - Anchor inspection
    - Secure of cargo
    - Cargo letdown procedures
    - Spotter and pilot communications
    - Emergency procedures

Helicopter Deployment

- Under the supervision of a qualified Spotter, trainee will inspect equipment, prepare cargo load, configure the helicopter and deploy a minimum of ten cargo letdown cycles, without procedural error, at low, medium, and high heights. Five (5) of these deployments will be in typical terrain. Final evaluation will be completed by a Check Spotter.
- Should at any point during live cargo deployment the trainee makes repetitive procedural errors, the instructor will return the trainee to ground training for additional training.

BLM Cargo Letdown Trainee Qualification Record

INSTRUCTIONS FOR COMPLETING QUALIFICATION RECORDS

Each requirement or task for each qualification record shall be completed under the direct supervision of a qualified HERS/HCLS and signed and dated by the evaluating Spotter Trainer. Comments should be included in the space provided to ensure appropriate documentation of performance and to provide feedback to trainees. The number of evaluations of each task is not limited to the number of signature lines provided within the Evaluator/Date column.

CARGO LETDOWN TRAINEE:

TRAINEE'S NAME	DUTY STATION	PHONE NUMBER

TRAINEE RECOMMENDED BY:

NAME	TITLE	PHONE NUMBER

QUALIFICATION RECORD INITINATED BY:

NAME	TITLE	PHONE NUMBER

Helicopter Make/Model:
Notes:

SIGNATURE DATE

Position: CARGO LETDOWN SPOTTER **Trainee**:

TASK: CARGO LETDOWN GROUND TRAINING		**Evaluator**	**Date**	**Comments**
1	Review IHRG Chapters 3,4,7, and Appendix B			
2	Equipment inspections procedures			
3	Documentation of equipment			
4	Discuss model specific procedures			
5	Review Go-No Go checklist & Discuss mission specific Risk Mgt.			
6	Discuss CRM and Spotter directions with pilot			
7	Discuss emergency procedures with pilot present			
TASK: CARGO LETDOWN SIMULATOR (optional)		**Evaluator**	**Date**	**Comments**
1	Tower, simulator briefing			
2	Cabin configuration and rigging (model specific)			
3	Challenge and Response with pilot			
4	Proper equipment checks			
5.	Cargo configuration			
6	Cargo equipment orientation			
7	Rigging and deploying cargo			
8	Maintain visual on cargo			
9	Emergency procedures			
TASK: CARGO LETDOWN MOCK-UPS		**Evaluator**	**Date**	**Comments**
1	Proper Briefing crew /pilot			
2	Proper rigging /model specific			
3	Verbalization with pilot			

4	Proper equipment checks			
5	Cargo configuration			
6	Cargo equipment orientation			
7	Maintain control during deployment			
8	Maintain focus and control of mission			
9	Emergency procedures			
TASK: CARGO LETDOWN INITIAL LIVE HELICOPTER		**Evaluator**	**Date**	**Comments**
1	Proper rigging /model specific			
2	Proper Briefing crew /pilot			
3	Proper Equipment Checks			
4	Proper Verbalization			
5	Ensure power check completed			
6	Select adequate cargo letdown site and alternate sites and notify ground resources of mission (Stay Clear)			
7	Maintain aircraft and rotor clearance throughout sequence			
8	Maintain visual on cargo letdown line and cargo			
9	Maintain controlled decent of load to the ground			
10	Maintain focus and control of mission			
TASK: CARGO LETDOWN CHECKRIDE		**Evaluator**	**Date**	**Comments**
1	Configure helicopter with proper Cargo rigging and perform appropriate equipment checks			
2	Maintain communication with appropriate flight following authority			
3	Identify flight hazards			
4	Identity adequate cargo letdown and alternate emergency sites			
5	Assess helicopter performance capabilities at local temp. and altitude, perform power check			

6	Assist pilot to position helicopter over cargo letdown site			
7	Deploy cargo using appropriate verbiage with pilot			
8	Maintain clearance of cargo from all obstacles			
9	Maintain aircraft and rotor clearance throughout cargo sequence			
10	Deploy cargo maintaining controlled decent at all times			
11	Establish communication with firefighters on the ground. Report to appropriate flight following authority			
12	Debrief with HERS/HCCS			
TASK: ASSIST IN INSTRUCTION OF CARGO LETDOWN TRAINING		**Evaluator**	**Date**	**Comments**
BASE NAME:				
1				
2				
3				
TASK: CHECKRIDE PROCEDURAL ERROR FREE CYCLES		**Evaluator**	**Date**	**Comments**
1	Low < 75’ AGL			
2	Low < 75’ AGL			
3	Medium 75’ to 150’ AGL			
4	Medium 75’ to 150’ AGL			
5	High Above 150” AGL			
6	Low - Typical Terrain			
7	Medium - Typical Terrain			
8	Medium - Typical Terrain			
9	High - Typical Terrain			
10	High - Typical Terrain			

CARGO LETDOWN SPOTTER TRAINEE APPROVAL RECOMMENDATION

Additional Cargo Letdown Training Recommended			
	No	Yes	Date

Recommendation:

Spotter Trainer Name	Signature	Date

Successful Completion of Cargo Letdown Training			
	No	Yes	Date

Annual Recertification		
Annual Recertification		
Annual Recertification		
Annual Recertification		
	Date	Certifying Official

Comments:		

Mission Conditions	Yes	No
Is this CLD mission necessary? (pilot and Spotter in agreement)		
Is this a time critical mission?		
Site Conditions		
Does vegetation exceed limitations?		
Is there a helispot location nearby that could be utilized instead?		
Do the main and tail rotors have adequate clearance from terrain and trees?		
Is terrain conducive to receiving cargo? (Too steep? Etc.)		
Aircraft/Pilot		
Are pilot and aircraft approved for the mission?		
Pilot completed pre-flight checks?		
Intercom and radio communications set and checked?		
Load calculation completed for the CLD deployment site?		
Remove or secure all loose items within the aircraft?		
Pilot briefed for the intended mission and communication procedures?		
Weather/Time		
Are winds within an acceptable range to perform a CLD operation?		
Is there enough time to complete the operation before sunset (pumpkin time)?		
Spotter		
Is the Spotter qualified and proficient to perform this operation?		
Preflight walk around check of helicopter performed by Spotter?		
Spotter checks completed?		
Spotter harness and tether in working order and installed correctly?		
Spotter PPE utilized?		
Completed a pre-deployment briefing to all parties involved?		
Completed an emergency procedures briefing with the pilot?		
Equipment		
Is all CLD equipment approved and in good working order?		
Internal cargo rigged and checked by Spotter?		
Operations		
All personnel briefed for the operation, emergency plan in place?		
Ground personnel briefed? (Remain away from site)		
Communication with pilot is good?		
High hover power check is good, positive rate of climb established. Power is Good?		
Completed By:		
CLD Operation Approved By:		

Check Spotter Name **Signature** **Date**

BLM Cargo Letdown GAR Risk Model

Operation:	Scheduled Date:	
Objective(s):		
Supervision	**Circle the number as appropriate**	
Supervisor has perfect knowledge about the mission, personnel, capabilities and limitations, and is able to apply the appropriate control to minimize risk	<1 2 3 4 5 6 7 8 9 10>	Supervisor has little knowledge about the mission, personnel, capabilities and limitations, and lacks skill, knowledge or ability to apply the appropriate control to minimize risk.
Planning		
There is a well-designed plan that is reviewed and revised as needed to meet the demands for safety and efficiency and to account for adaptation. Time is well managed.	<1 2 3 4 5 6 7 8 9 10>	There is no plan or the plan doesn't address many current adaptations made in response of demands for efficiency. Time constraints have a strong effect on ability to plan.
Contingency Resources		
Reliable alternative equipment and personnel are available, easily accessed and informed about the mission requirements	<1 2 3 4 5 6 7 8 9 10>	The outcome depends on the equipment and personnel assigned completing the mission perfectly. Failure is not an option
Communication		
Interpersonal communications are clear and there is a high level of trust in the organization. Adequate personnel and technology are available to relay information accurately to those who make the decisions	<1 2 3 4 5 6 7 8 9 10>	There is low trust in the organization or the personnel/communication equipment is unreliable based on the expected needs for the mission.
Team Selection		
Multiple personnel with skill, knowledge and ability are available to fulfill the requirements of the mission. Selection and preparation are done well in advance so there is plenty of time for personnel to	<1 2 3 4 5 6 7 8 9 10>	Only one person is available and the success of the mission depends on that person juggling many responsibilities to squeeze this mission into the work schedule. Additional time will be donated to keep up with the workload

Operation:		Scheduled Date:
get personal and job related demands addressed.		
Team Fitness		
Personnel are trained, proficient, healthy, and rested prior to starting the mission. Personal issues are addressed and little external stress is being exerted.	<1 2 3 4 5 6 7 8 9 10>	Personnel lack one or more critical component in their training. These persons have been squeezing in many additional duties as assigned distracting them from their proficiency or personal life.
Environment		
Weather and visibility are conducive to the best possible chance for success in the mission. Operational tempo is appropriate for the mission	<1 2 3 4 5 6 7 8 9 10>	Winds are unpredictable, temperature is extreme, low ceilings and visibilities, precipitation, sun angle creates strong shadows, etc. Mission tempo is too low or high.
Mission Complexity		
A single agency is involved with personnel from the same unit who regularly work together. Mission is straight forward and covered by standard operating procedures.	<1 2 3 4 5 6 7 8 9 10>	Multiple agencies are involved in a mission that defies definition or has ever been attempted. Personnel are new to each other and come from different cultures. Many leaders are emerging and working toward different objectives.
Mission Total		
Benefit Statement:		
GAR Assessment Completed by:		
Operation Approved by:	**Title:** **Date:**	
GREEN ZONE(1-35)	*AMBER ZONE(36-60)*	*RED ZONE(61-80)*

BLM Risk Assessment for Cargo Letdown

BLM RISK ASSESSMENT MATRIX FOR CARGO LETDOWN			**HAZARD PROBABILITY**				
			Frequent	Probable	Occasional	Remote	Improbable
			A	B	C	D	E
EFFECT	Catastrophic	I	High				Medium
	Critical	II			Serious	Medium	
	Marginal	III	Serious		Medium(2)		
	Negligible	IV	Medium			Low(1)	

Assignment: Internal Cargo Let-Down Date: 2009

Pre-Mitigation hazards rate out as: Medium (2)

Describe Hazard:	Probability (A-E)	Effect (I-IV)	Risk Level
1. Aircraft Performance, allowable weight limits	E	I	Med (2)
2. Unsecured items	E	I	Med (2)
3. Mechanical failure	E	I	Med (2)
4. Equipment malfunction	E	I	Med (2)
5. Environmental-hot, high, gusty winds	C	II	Serious (3)
6. Unqualified personnel	E	II	Low (1)
Mitigation Controls: **Post-Mitigation hazards rate out as: Low (1)**	Probability (A-E)	Effect (I-IV)	Risk Level
1. Aircraft Performance – use HOGE performance charts, proper fuel load, c/g calculation, load calc complete, manifest complete/correct	E	II	Low (1)
2. Unsecured items—secure loose items, clear aircraft of unnecessary items, double check	E	II	Low (1)
3. Mechanical failure—power checks complete, emergency procedures known and followed, follow IHRG, qualified mechanic	E	II	Low (1)
4. Equipment malfunction—complete log book as per IHRG, inspect equip as per IHRG complete Spotter checks	E	II	Low (1)
5. Environmental—OGE power check, check weather forecast, identify/utilize alternate sites	D	III	Low (1)
6. Unqualified personnel—check pilot card, CLD Spotter carded and proficient	E	III	Low (1)
Operation Approved by: Title: Date:			

BLM Cargo Letdown Carabiner Log

ID#:_____ Date Put Into Service:_____ Date Retired:_____

Inspection/Use Date:	Inspector Signature	Remarks/Problems

BLM Cargo Letdown Harness Log

CLD Spotter Issued To:_____

ID#:_____ **Date Put Into Service:**_____ **Date Retired:**_____

Inspection/Use Date:	Inspector Signature	Remarks/Problems

BLM Cargo Letdown Line Log

ID#:_____ Date Put Into Service:_____ Date Retired:_____

Date	Spotter	Height	End	Inspection Date	Inspector Signature	Remarks/Problems

Number of Prior Uses:_____

BLM Cargo Letdown Mission Log

Date	Operator	Mission	Cargo type/ weight	# of Letdowns	Carabiner	Let down Line	Harness	Figure 8	Notes

Appendix 7 - BLM Fleet Aircraft Standard Operations Procedures

The Bureau of Land Management currently operates seven fleet aircraft, N49SJ, N190PE, N700FW, N618, N162GC, N437CC and N32PX. The following procedures will be utilized for all BLM fleet aircraft.

Administration

Aircraft
N49SJ, N190PE, N32PX, N700FW, N618, N162GC, and N437CC are DOI owned aircraft operated by the BLM. N49SJ, N618, N162GC and N190PE are Boise based and maintenance is managed through OAS Headquarters in Boise ID. N32PX, N700FW and N437CC are Alaska based and maintenance is managed through Alaska Region OAS in Anchorage.

N49SJ – DE Havilland DHC-6-300 Twin Otter
BLM NAO maintains overall management responsibility. The aircraft is assigned to the Boise Smokejumpers.

N618 and N162GC – Beechcraft Super King Air B200
BLM NAO maintains overall management responsibility. The aircraft is assigned to the National Aviation Office.

N190PE – Pilatus PC-12
BLM NAO maintains overall management responsibility. The aircraft is assigned to Alaska Fire Service a portion of the year and Boise NAO the balance of that year.

- N190PE core use period will be mid-April through mid-September as dictated by conditions.
- The Aircraft will transition to Alaska as negotiated with AFS and the BLM National Flight Operations Manager. That will usually occur on or around mid-April depending upon anticipated needs.
- The Aircraft will transition to Boise from Alaska when negotiated by AFS and the NAO Flight Operations Manager.
- Funding for the transition to Boise will be done under a resource order or as designated by the NAO Flight Operations Manager.

N700FW – Quest Kodiak K-100
BLM NAO maintains overall management responsibility. The aircraft is assigned to Alaska Fire Service a portion of the year and Boise NAO the balance of that year.

- N700FW core use period will be mid-April through mid-September as dictated by conditions.
- The Aircraft will transition to Alaska as negotiated with AFS and the BLM National Flight Operations Manager. That will usually occur on or around mid-April depending upon anticipated needs.
- The Aircraft will transition to Boise from Alaska when negotiated by AFS and the NAO Flight Operations Manager.

Funding for the transition to Boise will be done under a resource order or as designated by the NAO Flight Operations Manager.

N32PX – Cessna U206F
The BLM Alaska-Office of Law Enforcement and Security will have primary use of the aircraft through the calendar year flown by OAS carded BLM-AK law enforcement pilots. The management of the

aircraft will fall under the State Aviation Office with mission management under ADO and Anchorage Interagency Dispatch Center.

N437CC – Cub Crafters CC-18-180
The BLM Alaska-Office of Law Enforcement and Security will have primary use of the aircraft through the calendar year flown by OAS carded BLM-AK law enforcement pilots. The management of the aircraft will fall under the State Aviation Office with mission management under FDO and Anchorage Interagency Dispatch Center.

Pilots
Pilots seeking to be qualified in BLM aircraft will be approved through the NAO and must attend an approved simulator training course in that aircraft type. If no simulator training is available, a training plan will be developed to meet the training needs of the Pilot and approved by the NAO.

Staffing
BLM aircraft are staffed to meet the appropriate mission as denoted below.

Lower 48 Staffing
- N49SJ: Primary staffing will be provided by FA-500. During the fire season the goal is that the aircraft is staffed 7 days a week.
- N190PE, N700FW: Primary staffing will be provided by BLM Alaska during the core operational use.
- N618 and N162GC: Primary staffing will be provided by the BLM NAO.
- N437CC: N/A
- N32PX: N/A
- The Temporary Duty Assignment for the Alaska pilot while in the L48 will allow travel to the domicile or equivalent at the end of a 27 day period.
- Outside of the core use period the NAO Flight Operations Manager will prescribe staffing levels with available pilots.

Alaska Staffing
- N190PE, N700FW: The aircraft will be staffed on a 12 on, 2 off schedule during the Alaska use period. Days off will be established so as to not coincide with the scheduled days off of other logistics aircraft.
- N32PX: The aircraft will be staffed to meet the needs of the Anchorage Field Office.
- N437CC: The aircraft will be staffed to meet the needs of the Fairbanks Field Office.

Fleet Aircraft Use Report Manager (AURM)
The AURM is used within DOI for government owned “Fleet” aircraft billing to create aircraft use report data files which are emailed to OASfleetmanager@ios.doi.gov for uploading into the FBMS system. Download the latest version of the AURM from the OAS website. OAS Technical Services has also developed a "next generation" Aircraft Use Report Manager application for iPads. Because the **AURMA** is not released to the public, it is not available on the iTunes app store. Instead, contact Sherry Lambert (208-433-5084, shery_lambert@ios.doi.gov)

Fuel

Lower 48
When utilizing either the Government Multiservice Aircard or the OAS MasterCard, fleet aircraft will attempt to purchase fuel at a DOD Vendor.

- Record flight time under the pay item code “FW” (Wet Rate) on the OASAURM when receiving fuel from these locations.
- Receipts for fuel purchased through the Government Aircard Multiservice program will be mailed directly to OAS Fleet Activities Specialist (Andrea Peckham) weekly.
- Fuel or other items (oil, maintenance, etc.) purchased with the OAS MasterCard will follow OAS requirements, and signed statements with receipts will be provided in the requisite time and format to the appropriate authority.
- Both fleet aircraft may purchase fuel through the NIFC ramp and no charge code is required. Fuel is part of the flight rate on both fleet aircraft.
- NIFC ramp fuel receipts must be submitted in the same manner as the Government Aircard program, IE weekly to OAS Fleet Activities Specialist.

Alaska
Alaska Fire Service has fueling contracts for Fort Wainwright and Galena. Record flight time under the pay item code “DF” (Dry Rate) on the OAS AURM when receiving fuel from these locations. Fuel received at these locations will be recorded on an OAS-59 provided to the pilot by the fueler.

Navigation/Charting data base updates
The data bases will be purchased by the BLM Aviation Office through the aircraft account. Those services (electronic and paper) will be updated by the pilot currently assigned to the aircraft in the requisite time intervals specified.

Aircraft Mission

N49SJ
Primary mission is as a Smokejumper aircraft.
- During fire season the aircraft is staffed 7 days a week.
- Outside of fire season this aircraft is staffed during normal business hours.
- While this aircraft is not in fire season aircraft maintenance is sought during normal business hours.
- During fire season maintenance support is encouraged to use extraordinary measures (overtime, AOG parts, charter aircraft to transport maintenance personnel and/or parts, etc…) to keep the aircraft in flight status per the maintenance procedures that follow.

N190PE
- Primary mission as a multi-role utility, Air Attack and logistics aircraft.
- During the core use period this aircraft is staffed at single pilot duty requirements. 12 on 2 off or 6 on and 1 off with a maximum of 14 hour duty days.
- During the non-core use period the aircraft is staffed as the NAO Flight Operations Manager requires.
- During all operations maintenance support is sought during normal business hours as determined by the maintenance procedures that follow.
- There is currently no provision for a relief pilot in the core use period.
- The in-flight opening door is approved for use for photogrammetry.
- Special Use (<500” AGL) require an ALSE approved flight helmet.

N700FW
- Primary mission as a multi-role utility, Air Attack and logistics aircraft.
- During the core use period this aircraft is staffed at single pilot duty requirements which are 12 on 2 off or 6 on and 1 off with a maximum of 14 hour duty days.

- During the non-core use period the aircraft is staffed as the NAO Flight Operations Manager requires.
- During all operations maintenance support is sought during normal business hours as determined by the maintenance procedures that follow.
- There is currently no provision for a relief pilot in the core use period.
- Special Use (<500" AGL) require an ALSE approved flight helmet.

N618 and N162GC

- Primary mission as an ASM/Leadplane aircraft.
- During the core use period these aircraft is staffed at single pilot duty requirements which are 12 on 2 off or 6 on and 1 off with a maximum of 14 hour duty days.
- During the non-core use period these aircraft is staffed as the NAO Flight Operations Manager requires.
- While these aircraft are not in fire season aircraft maintenance is sought during normal business hours.
- During fire season maintenance support is encouraged to use extraordinary measures (overtime, AOG parts, charter aircraft to transport maintenance personnel and/or parts, etc…) to keep the aircraft in flight status per the maintenance procedures that follow.
- N618 and N162GC meet all the requirements to perform ASM and Leadplane missions; Air Tactical missions must be conducted only with qualified ATP/LPIL/AITS.
- There is currently no provision for a relief pilot in the core use period.
- The in-flight opening door is not approved for use at this time.

N32PX

- Primary mission to support the BLM's Law Enforcement program.
- Enhanced patrol and investigative coverage to lands and resources that were previously unpatrolled for their remoteness and distance from Anchorage and the state's road system.

N437CC

- Primary mission to support the BLM's Law Enforcement program.
- Enhanced patrol and investigative coverage to lands and resources that were previously unpatrolled for their remoteness and distance from Fairbanks and the state's road system.

Single Engine Operations

351 DM 1.3 provides authorization for DOI aircraft to perform night and IFR operations in Single Engine aircraft.

United States Forest Service FSM 5716 provides authorization for the Forest Service to perform night and IFR operations in Single Engine aircraft.

Aircraft Scheduling

N49SJ
Scheduled through the Boise Smokejumpers.

N190PE
Scheduled by Alaska Interagency Coordination Center (AICC), Aircraft Desk while in Alaska or the National Interagency Coordination Center (NICC) while in the Lower 48. During the non-core use period the NAO Flight Operations Manager will schedule the aircraft.

N618 and N162GC
Scheduled through NAO Flight Operations Manager/Boise Interagency Dispatch Center.

N700FW
Scheduled by Upper Yukon Dispatch Center, Aircraft Desk while in Alaska or the National Interagency Coordination Center (NICC) while in the Lower 48. During the non-core use period the NAO Flight Operations Manager will schedule the aircraft.

N32PX
Scheduled by Anchorage Interagency Dispatch Center.

N437CC
Scheduled by Anchorage Interagency Dispatch Center.

Maintenance
Use of a government contract requires the permission of the appropriate Contracting Officer. For unscheduled maintenance or scheduled maintenance from other than the Boise contractor, a list of government contract maintenance facilities is included in each airplane. Flight Crew members will contact OAS to assure the proper payment schedule is in place (i.e. credit cards or purchase order) and that the facility has the pertinent expertise, manuals, tools, and parts to perform the work. Flight crewmembers will need to assure that the repair facility understands the BLM discrepancy reporting and sign-off procedures.

- If a maintenance issues arises in the field, the Flight Crew Member on duty will contact the OAS Aircraft Maintenance Specialist as soon as possible.
- In the event that they are not available, you may then contact the appropriate maintenance facility directly. For minor unscheduled maintenance, Flight crewmembers may contact the vendors directly. The OAS Aircraft Maintenance Specialist shall be contacted as soon as possible.

Appendix 8 – Acting vs Point of Contact

State Aviation Manager (SAM) and Unit Aviation Manager (UAM) "Acting" vs "Point of Contact" Definitions and Expectations

Acting: Authority by position to make and implement decisions directly related to aviation operations

- Signs documents at the appropriate level.
- Clear direction is given during in-brief on COR roles, if qualified to perform COR duties or as a PI as delegated by the COR.
- Will be provided copies/access to State/Unit Aviation Plans, contacts and related documents.
- Brief aviation crews and Incident Management Teams as applicable.
- Must receive a briefing from SAM or UAM.
- Working knowledge of Aviation Policy and operations.

Longer Term Detail:

- Must have "Manage" access to edit Safecoms and make public for their state
- Letter of Delegation as per state aviation plan on Project Aviation Safety Plan (PASP) signature levels

Qualifications: At a minimum meets currency for **Aviation Manager** (OPM-04) and COR or PI roles if applicable.

Point of Contact (POC): aka "Messenger"

Forwards/refers aviation information and questions to a qualified UAM, SAM or Duty Officer as per chain-of command. Does not give direction, sign or authorize flight or Project Aviation Safety Plans (PASPs).

Ultimately, the POC "messages" information to the identified next in chain-of-command (AFMO, FMO, Duty Officer, Dispatch) who has the authority and qualifications to make aviation decisions.

- Will be provided a copy/access to State/Unit Aviation Plans and related aviation documents.
- Must receive a briefing from SAM or UAM.
- General working knowledge of Aviation Policy and operations.

Qualifications: At a minimum, have at least **one aviation related red-card qualification** (HECM, HMGB, SEMG, ATGS etc.) or **IAT aircrew member currency** or a **Duty Officer.**

SAM & UAM responsibilities Reference BLM NAP 2.5 BLM State/District/Field Office Organizations

Appendix 9 - Acronyms

310-1	Wildland Fire Incident Management System
9400-1a	BLM Flight Request Form
AAF	Aviation Airport Facilities
ABC	BLM Airbase Committee
ABOD	Aviation Board of Directors
ABS	Forest Service Aviation Business System
ACETA	Aerial Capture Eradication and Tagging of Animals
ACMIS	Acquisition Career Management Information System
ACOR	Alternate COR
AD	Administratively Determined
AFF	Automated Flight Following
AFS	BLM Alaska Fire Service
AGL	Above Ground Level
AIRS	Aviation Information Reporting Support
ALSE	Aviation Life Support Equipment Handbook
AMD-23E	Aircraft Use Report Form
AMG	BLM Aviation Management Group
AMOC	Air Marine Operations Center - US Border Patrol
AMS	IBC Aviation Management Systems
AOA	Aircraft Operations Area (AOA)
AQD	Acquisition Services Directorate
AQD-13	Request for Contract Services
AQD-16	Contract Award/Renewal Recommendation and Funding Availability Certification
AQD-19	Notice to Proceed
AQD-20	Request for Rental Services
AQD-91	Flight Services Request Form
ARA	Aircraft Rental Agreement
ARTCC	Air Route Traffic Control
ASAT	Aviation Safety Assistance Team
ASM	Aerial Supervision Module
ATC	Air Traffic Control
ATGS	Air Tactical Group Supervisor
ATP	Air Tactical Pilot
AITS	Air Tactical Supervisor
AURM	Aircraft Use Report Manager (Fleet)
AV	Exclusive Use Contract Availability
BLM	Bureau of Land Management
BPA	Blanket Purchase Agreement
BVC	Best Value Comparison (Part of AQD-91)
CO	Contracting Officer
COA	Certificate of Authorizations
COR	Contracting Officer’s Representative
COTR	Contracting Officer Technical Representative
CFA	Controlled Firing Areas
CWN	Call When Needed
DHS	Department of Homeland Security
DINS	Internet NOTAM Service - DOD

DM	Departmental Manual
DOD	Department Of Defense
DOI	Department of the Interior
EAB	Executive Aviation Board
EAC	Executive Aviation Committee
EAS	Executive Aviation Sub-Committee
EATPL	Emergency Air Traffic Priority List
ESCAT	Emergency Security Control of Air Traffic
ETA	Estimated Time of Arrival
FAA	Federal Aviation Administration
FAIRS	Federal Aviation for Interactive Reporting System
FAO	Forest Aviation Officer
FAR	Federal Acquisition Regulations
FAR	Federal Aviation Regulations
FBMS	Financial and Business Management System
FLT	BLM Fire Leadership Team
FMO	Fire Management Officer
FOR	Fixed Operating Rate
FPMR	Federal Property Management Regulations
FTA	Fire Traffic Area
FWFM	Fixed Wing Flight Managers
GA	General Aviation
GACC	Geographical Area Coordination Centers
GTR	Government Transportation Request
HB	Handbooks
HOGE	Hover Out of Ground Effect
IAA	Interagency Agreement
IASC	Interagency Airspace Subcommittee
FWFM	Fixed Wing Flight Managers
IASG	Interagency Aerial Supervision Guide
IASS	Interagency Aerial Supervision Subcommittee
IAT	Interagency Aviation Training
IATS	Interagency Aviation Training Subcommittee
IBC	Interior Business Center
IC	Incident Commander
IES	Illuminating Engineering Society
IFR	Instrument Flight Rules
SHO	Interagency Helicopter Operations Guide
IHOpS	Interagency Helicopters Operations Subcommittee
IHRG	Interagency Helicopter Rappel Guide
IIC	OAS Safety Investigator-In-Charge
IPAC	Intra-Governmental Payment and Collection
IPP	Internet Payment Platform
ISPOG	Interagency Smokejumper Pilots Operations Guide
IWP	Incident With Potential
LAT	Large Airtanker
LATN	Low Altitude Tactical Navigation Areas
LE	Law Enforcement Operations
LPIL	Leadplane Pilot
LOA	Letter of Authorization

M3	Aviation Management for Supervisors training course
M-410	Facilitative Instructor
MAC	Multi-Agency Coordination
MACAP	Mid Air Collision Avoidance Program
MAP	Mandatory Availability Period
MAFFS	Modular Airborne Fire Fighting System
MOU	Memorandum of Understanding
SDS	Safety Data Sheet
NAO	BLM National Aviation Office
NAP	BLM National Aviation Plan
NIAC	National Interagency Aviation Committee
NIAIS	National Interagency Airspace Information System
NICC	National Interagency Coordination Center
NM	Nautical Mile
NMAC	National Multi-Agency Coordinating Group
NORAD	North American Aerospace Defense Command
NOTAM	Notice to Airmen
NTSB	National Transportation Safety Board
NWCG	National Wildfire Coordinating Group
OAS	Office of Aviation Services
OAS-2	Fleet Use Report
OPM	Operational Procedures Memorandums
OSHA	Occupational Safety and Health Administration
PASP	Project Aviation Safety Plan
PI	Project Inspector
PPE	Personal Protective Equipment
PRISM	Procurement Information System for Management
QPL	Qualified Products List
RADS	Rope Assisted Deployment
Redbook	Interagency Standards for Fire and Fire Aviation Operations
RMP	Resource Management Plans
ROSS	Resource Ordering and Status System
SAM	BLM State Aviation Manager
SAP	FBMS related Systems, Applications, and Products data processing software
SAR	Search and Rescue
SASES	Smokejumper Aircraft Screening Equipment & Evaluation Subcommittee
SDS	Safety Data Sheets
SEAT	Single Engine Airtanker
SECO	SEAT Coordinator
SEMG	Single Engine Airtanker Manager
SES	Senior Executive Service
SFMO	State Fire Management Officer
SGI	Special Government Interest Waiver
SME	Subject Matter Expert
SMS	Safety Management System
SR’s	Slow Routes
SUA	Special Use Airspace
TFR	Temporary Flight Restriction
TSA	Transportation Security Administration
UAM	Unit Aviation Manager

UAO	Unit Aviation Officer
UAS	Unmanned Aircraft Systems
USDA	United States Department of Agriculture
USFS	United States Forest Service
VFR	Visual Flight Rules
VLAT	Very Large Airtanker
WFCS	Wildland Fire Chemical Systems
WH&B	Wild Horse and Burro

Aviation Supplement

Unmanned Aircraft Systems

Montana/Dakotas BLM

This document has been designed as an easy to read reference guide for Unmanned Aircraft Systems users in the Montana/Dakotas Bureau of Land Management who have the need to operate UAS for the purposes of currency and training.

An attempt has been made to structure the flow of information in a logical way. Other references are incorporated into each chapter to minimize having to refer to policy from other documents (i.e., OPM-11, National Aviation Plan, etc.) that provide specific information to support a policy referenced.

This revision incorporates:

Departmental Manual, Parts 350-354 (dated – 27 July 2011 – Current)

FAA 14 CFR Part 107: Advisory Circular 107-2 (dated – 21 June 2016 – Current)

DOI Operational Procedures Memorandum (OPM) -11 (dated - 15 March 2017 – Current)

BLM NAP (dated – 2019 – Current)

Montana/Dakotas SAP (dated – 2019 – Current)

Certificate of Waiver or Authorization (dated – 10 April 2017 – Current)

Unmanned Aircraft Systems (UAS) Supplement: Table of Contents

1.0 Unmanned Aircraft Systems (UAS) Supplement

1.1 Introduction

The Bureau of Land Management (BLM) Office of Fire and Aviation supports Montana/Dakotas BLM resources management within the Montana/Dakotas and provides guidance for aviation activities that occur on BLM lands. Due to the nature of UAS operations, lead time for project planning often is not sufficient to meet traditional aviation project planning and approval standards as described in the Montana/Dakotas State Aviation Plan. Typically, these situations occur when UAS are utilized by emergency personnel on wildland fires, search and rescue, or time critical resource flights. This supplement will provide operational direction that meets with Department of Interior (DOI) and BLM National policy when utilizing UAS for unplanned events. This supplement will also serve as an operational guide for qualified remote pilots to maintain currency and complete training.

1.2 Purpose

The purpose of this document is to enhance the safety of Montana/Dakotas BLM UAS remote pilots and to set up operational procedures that improve the efficiency of project planning, approval, and field operations while ensuring compliance with DOI, BLM, and Federal Aviation Administration (FAA) policy.

The objectives of this supplement are to provide direction for Montana/Dakotas BLM employees regarding the UAS program and activities. This supplement will serve as the Project Aviation Safety Plan (PASP) in combination with the Montana/Dakotas BLM UAS Mission Plan (Flight by Notification) for routine low complexity UAS operations conducted under 14 CFR Part 107.

UAS operations covered by this supplement are limited to:

- Training, Currency, and Proficiency Flights
- Low complexity, single day; single location projects
- An UAS Mission Plan form may be used in conjunction with this supplement for projects that occur periodically over a season or fiscal year. The Montana/Dakotas BLM UAS Mission Plan form is required for each flight. Approval decisions should be made at the lowest appropriate level and no additional signatures are required.

This supplement is similar to BLM Fire and Aviation base operating plans (i.e. Helitack, Air Tanker Base) that allow those functions to conduct identified routine field operations without the formal PASP development and approval process. However, in place of the PASP a Montana/Dakotas BLM UAS Mission Plan (Flight by Notification) must be completed (See pg. 4).

2.0 UAS Organizations

2.1 Management Positions

State Director - The State Director (SD) has overall responsibility for the aviation program, which is delegated to the State Fire Management Officer (SFMO).

State Aviation Manager - The State Aviation Manager (SAM) serves as the focal point for the aviation program and provides technical and management expertise regarding the use of aviation resources.

District Manager - The District Manager (DM) has overall responsibility for aviation activities conducted within the district. Aviation management and operational authorities and responsibilities may be delegated to the District FMO, Unit Aviation Manager and Dispatch Center Manager.

Unit Aviation Manager (UAM) - The District UAM serves as the focal point for the District/Field Office aviation program.

2.2 Aviation Position Definitions

Remote Pilot in Command (PIC) - A person who holds a remote pilot certificate with a sUAS rating and has the final authority and responsibility for the operation and safety of a sUAS operation.

Visual Observer (VO) **-** A person acting as a flight crew member who assists the sUAS remote PIC to see and avoid other air traffic or objects aloft or on the ground.

3.0 UAS Operations

As a bureau, we are often challenged with working in high-risk and dynamic environments that are not always predictable. It is the responsibility of each employee, cooperator, and contractor to conduct aviation operations that have been planned properly and approved by management. It is important to utilize the correct equipment and properly trained and qualified personnel to minimize risk.

3.1 UAS Operations

Personnel involved in any UAS operation will adhere to FAA, DOI, and bureau aviation policy. The Unit Aviation Manager (UAM), State Aviation Manager (SAM) and appropriate dispatch center should be notified prior to all planned UAS flights. Line officers shall be informed of UAS activities within their area of responsibility by the Pilot in Command (PIC).

3.2 Emergency Exception to Policy

Federal employees who are involved in an event in which there clearly exists an imminent threat to human life, and there is insufficient time to utilize approved methods, may deviate from policy to the extent necessary to preserve life. The following provisions and follow-up actions apply:

- Personnel involved are expected to use good judgment.
- Personnel involved in the decision making associated with deviating from policy must weigh the risks verses benefit.
- Any deviations shall be documented on a SAFECOM.

3.3 Flight Following

Aircraft will remain within visual (eye sight) range of the pilot or observer at all times. Pilots and Observers will maintain communications with each other during flight operations.

3.3.1 *Communications*

Corresponding dispatch centers will be notified before flight operations commence, and again when flight operations cease. Appropriate radio frequencies must be monitored at all times during UAS operations to ensure that UAS users can be contacted by dispatch, other aircraft, etc.

3.3.2 *Visual Observer*

A visual observer may be utilized to supplement situational awareness and maintain visual line of sight (VLOS). A visual observer may NOT be used to extend the range of the PIC.

3.4 Search and Rescue (SAR) Flights

The use of BLM aircraft and aviation personnel for SAR operations are not considered normally planned BLM operations. SAR is typically the responsibility of the Sheriff's Office. BLM does not budget for SAR operations. However, each situation and request is different and will be authorized based on the specific details and need for each event. It is important to obtain approval at the appropriate level prior to using BLM UAS for SAR operations. Federal employees who are involved in

an event in which there clearly exists an imminent threat to human life, and there is insufficient time to utilize approved methods, may deviate from policy to the extent necessary to preserve life (ref. NAP 5.6 and 350 DM 1.3.B).

3.5 Wildland Fire Flights

Guidance for DOI Remote Pilots and DOI UAS used in support of wildland fire management comes from the BLM National Aviation Office. Protocols have been established to promote safe and effective use of agency UAS on interagency wildland fire incidents.

3.5.1 *Operational Requirements*

- Remote pilots shall be certified by the FAA in accordance with 14 CFR Part 107
- Remote pilots will be trained and certified in accordance with interagency policy
- The Advanced UAS Workshop is required to operate UAS in support of wildland fire management.
- Remote pilots must possess a Red Card for fire line operations.
- Interagency certification cards are required to be in the possession of remote pilots while on an incident.
- UAS aircraft will be certified in accordance with interagency policy. FAA registration cards are required to be with the aircraft while on an incident.
- UAS Remote Pilots will:
    1. Obtain approval from the agency administrator or designee and the incident commander or designee prior to conducting incident assignments/missions.
    2. Obtain the appropriate level of airspace authorization prior to conducting incident missions (Part 107, ECOA, etc.).
    3. Confirm airspace de-confliction with dispatch or the TFR controlling authority (when applicable) prior to conducting incident missions.
    4. Coordinate and receive clearance for mission flights with aerial supervisors when they are on scene (ATGS, ASM, HLCO, LEAD) prior to conducting incident missions.
    5. Coordinate mission flights with participating aircraft when aerial supervision is not on scene.
    6. Make a blind call on the assigned air to ground frequency when no aircraft are reported to be on scene.
    7. Respond to blind radio calls from incoming aircraft when the UAS is the only aircraft on scene.
    8. Give way to all manned aircraft.
- Have the capability of setting an altimeter and meeting operational altitude requirements.
- Monitor assigned AM/FM frequencies.
- Ensure that landowner notifications are attempted prior to flights over private land.
- Coordinate missions and attend briefings with multiple incident management team (IMT) positions (ATGS, AOBD, etc.) depending on complexity.

3.5.2 *Call Signs*

UAS remote pilots will follow established incident communications protocols and will make radio calls with the following information:

- ***Unmanned Aircraft***
- ***Configuration (fixed or rotor-wing)***

- ***Type***
- ***Incident placeholder (x of # UAS assigned to incident)***
    - ***Example: Unmanned R42 (Rotor Wing, Type 4, 2nd UAS assigned to incident)***

See Interagency Fire Unmanned Aircraft Systems Operations Guide for additional direction.

3.6 Resource Flights

Resource project flights can be conducted under the provisions of this supplement if:

- UAS operations conducted under 14 CFR Part 107 and;
- Flight by Notification form has been completed and;
- Proper notifications have been made and;
- Proper authorization have been given and;
- Project is defined by 3.6.1 or 3.6.2

3.6.1 Flight by Notification

Low complexity projects conducted under 14 CFR Part 107 may utilize the UAS Mission Plan (or other approved documents) in place of a formal PASP when used in conjunction with this supplement. This form will document the necessary components of an aviation safety plan (Attachment 3: BLM UAS Mission Plan - Flight by Notification).

3.6.2 *Flight by Notification in conjunction with a Blanket PASP*

UAS Mission Plan forms may be used in conjunction with a PASP for moderate and high complexity projects. In this situation a PASP is prepared to cover all similar flights in a given time period. The UAS Mission Plan form will be required for each subsequent flight associated with that one time PASP. When using the form in conjunction with a PASP, approval decisions should be made at the lowest appropriate level and no additional signatures are required.

3.6.3 *BLM UAS Mission Plan form elements:*

- Crew Leader
- Flight Dates
- Flight Type
- Associated PASP name
- Latitude/Longitude
- Pilots Name and Phone Number
- Visual Observers
- UAS Tail Number
- UAS Make and Model
- PIC and UAS Carded
- Checked B4UFLY App
- Airspace Authorization
- Hazards Identified and Mitigated
- Dispatch Center Information
- Notifications and Approvals

All complex or multiple location (more than one location reported to Dispatch) projects require completing a PASP for approval.

3.7 Training and Currency Flights

All training, proficiency, and currency flights conducted under this supplement will:

- Adhere to all policies established by 14 CFR Part 107.
- Complete a Flight by Notification form.
- Make all notifications before flight operations commence.
- Notify dispatch before flight operations commence and when they cease.

A courtesy call should be made to dispatch, UAM, and Line Officer at least 24 in advance in the event that you expect to do a training, currency, or proficiency flight.

3.8 Cooperator Flights

All UAS operated under DOI operational control, including cooperator/affiliate aircraft, must have a current OAS-36U DOI UAS Data Card or letter of authorization issued by OAS. A list of the currently approved UAS is posted on the OAS website.

Cooperator/Affiliate Missions (DOI Operational Control): Requests for approval of cooperator/Affiliate UAS under the operational control of DOI should follow the process outlined in 351 DM 4. UAS Cooperator approval letters will be issued by the OAS UAS Division Chief.

Any other federal agency operating UAS within BLM jurisdiction will coordinate with the Line Officer and UAM prior to project commencement/UAS flight. The Line Officer will determine the need for a land use permit.

3.9 End Product

End Product Contracts are not aircraft flight service contracts. They are used to acquire a product for the Department (i.e., per-acre, per-unit or per-area, or per-head basis). The intent of this type of procurement is for the contractor to supply all personnel and equipment in order to provide a “service” or “end-result.” Many contractors utilize aircraft (including UAS) to meet the performance objectives of End Product contracts for activities such as: animal capture, seeding, spraying, survey, photography, etc. Since these are not flight services contracts, the AQD does not perform any acquisition service. End Product contracts are administered by the bureau procurement units.

These contracts must be conducted in accordance with *OPM-35*. *OPM-35* aids in determining whether an operation is being conducted as either “end-product” or “flight service” and supplements existing DOI policy regarding End Product contracts found in *353 DM 1.2A (3)*. If the provisions of *353 DM 1.2A (3)* and *OPM-35* are met, the aircraft will be operated as a civil aircraft and the aviation management principles normally required for aircraft under DOI operational control do not apply.

For further guidance on End Product Contracts see *NAP section 3.9*

3.10 Commercial Flights

These operations are permitted with the following authorizations:

- The operator has a current FAA Part 107 certificate.
- The operator obtains a land use permit approved by the Line Officer.
- The UAS program manager should be notified of all commercial UAS operations or end product contracts which utilize UAS.

3.11 Media/University/Etc.

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4.0 UAS Safety

The BLM Aviation Safety program is modeled after the aviation industry and FAA Safety Management Systems (SMS). Each BLM employee and contractor involved with aviation has the responsibility to plan missions thoroughly, conduct missions with a conservative attitude, and respect for the aircraft and environment in which the missions operate. Both employees and contractors have the responsibility to speak up when unsafe operations are observed.

4.1 Aviation Life Support Equipment (ALSE)

All personnel engaged in aviation activities must wear appropriate Personal Protective Equipment (PPE), depending on the mission. The ALSE Handbook is policy and must be followed unless a waiver is authorized. All waivers will be in writing, specific, and signed by authorized authority.

4.1.1 *Personal Protective Equipment (PPE)*

UAS crew members will utilize PPE required by their crew position.

4.2 Project Aviation Safety Planning

All UAS flights require project planning prior to implementation. The level of planning and approval depends on complexity, scale of the project, and level of associated risk.

4.2.1 *Project Aviation Safety Plan (PASP)*

A PASP is required prior to all moderate and high complexity UAS flights. For templates and guidance on completing a PASP, contact the SAM or UAM on the district that the flight will occur. The following components must be included in the plan:

- Project name and objectives
- Justification
- Project date
- Location
- Projected cost of aviation resources
- Aircraft
- Pilot
- Flight manager, aircrew, passengers, participants
- Communication Plan, Flight following, and emergency search and rescue plan
- Aerial Hazard Analysis (w/ attached map)
- Protective clothing and equipment
- Weight and Balance / Load Calculations
- Risk assessment utilizing appropriate format
- Unit Aviation Managers review/signature
- Supervisory approval signature (at appropriate level)

4.2.2 *BLM UAS Mission Plan Form (Flight by Notification)*

Low complexity flight projects, training, currency, and proficiency flights may utilize the Montana/Dakotas BLM UAS Mission Plan form in place of a formal PASP when used in conjunction with this supplement. This form will document the necessary components of an aviation safety plan.

Additionally, the Montana/Dakotas BLM UAS Mission Plan form may be used in conjunction with a PASP for projects that occur periodically over a season or fiscal year. In this situation a PASP is prepared to cover all similar flights in a given time period. The Montana/Dakotas BLM UAS Mission Plan form will be required for each periodic flight associated with that one time PASP. When using the form in conjunction with a PASP, approval decisions should be made at the lowest appropriate level and no additional signatures are required.

The Montana/Dakotas BLM UAS Mission Plan form is equivalent to form 9400-1a and provides the same functions.

4.3 DOI UAS Operations in the National Airspace System (NAS)

DOI has the authority to conduct operations in the NAS under the requirements of OPM-11 and 14 CFR Part 107. When operating UAS under the provisions of this supplement, flights outside of 14 CFR Part 107 rules are not authorized; with the exception of Beyond Visual Line of Sight (BVLOS) flights when conducted under an emergency COA (ECOA) and within a Temporary Flight Restriction (TFR).

- Under the terms of the FAA/DOI MOA regarding Beyond Visual Line of Sight operations of UAS in support of emergency assistance within an active TFR.

4.3.1 *Airspace Planning*

- Flights must be conducted in Class G airspace as defined by 14 CFR Part 107 (unless operating within a TFR).
- Flights conducted under 14 CFR Part 107 do not require a NOTAM.
- Beyond Visual Line Of Sight (BVLOS) must be conducted with an FAA Part 107 waiver or under the terms of the DOI/FAA MOA for flights within a TFR.
- Flights within a TFR must be conducted under the direction of the official in charge of the on-scene emergency response activity.
- Flights will be planned to avoid sustained/repeated overflight of heavily trafficked roads or highways but may briefly cross over active roads as necessary.
- B4UFLY app (or equivalent) will be utilized to check airspace, nearby airports, NOTAMs, etc. for possible conflicts.
- Dispatch will be notified before every flight so appropriate deconflictions can be made if necessary,

5.0 UAS Training

Aviation training is essential to ensure that BLM maintains a safe and efficient aviation operation in pursuit of the bureaus mission. Aviation users, supervisors, and managers need to make certain that they and their employees are knowledgeable of the inherent hazards of aviation operations and have been provided the necessary skills and training to be successful conducting aviation operations.

5.1 Interagency Aviation Training (IAT)

The Office of Aviation Services (OAS) is responsible for all DOI aviation training. Training is conducted and managed through the use of a web based online system (https://www.iat.gov). All aviation users and their supervisors should have an account on this system. Required training for employees is based on aviation roles and is as follows:

5.1.1 *Supervisor*

DOI personnel that supervise employees who use aircraft to accomplish bureau programs must complete aviation training. It is the responsibility of the supervisor to ensure that employees who use aircraft are doing so in a safe and appropriate manner. Supervisors must attend the following training and maintain currency per DOI Policy (OPM-04):

- *M-3 Aviation Management for Supervisors (every 3 years)*
- *A-200 Mishap Review (every 3 years)*

5.1.2 *Line Managers*

Knowledge required includes familiarization with the DOI aviation management program, policies, and related requirements and responsibilities. Line managers must complete the M-3 Aviation Management for Supervisors or complete the M-2 Aviation Management Line Managers Briefing course every 3 years.

5.1.3 *Aircrew Member*

Employee working in and around aircraft and is essential to ensuring the safety and successful outcome of the mission. Aircrew members must complete the following training and maintain currency per DOI Policy (OPM-04):

- *A-100 Basic Aviation Safety (every 3 years)*
- *A-200 Mishap Review (every 3 years)*

5.1.4 DOI Remote Pilot

A person who holds a remote pilot certificate with a sUAS rating and has the final authority and responsibility for the operation and safety of a sUAS operation**.**

Qualification for this position requires:

- *Must possess a current FAA remote pilot certificate.*
- *Must possess a DOI remote pilot certificate*

- *Must meet training requirements for Aircrew Member as outlined in OPM-4*

Individuals holding a current qualification under IQCS are also qualified to perform equivalent non-fire aviation positions under IAT guidelines. (See next section)

5.2 Additional Aviation Training

Fire and Aviation training is conducted under the authority of the National Wildfire Coordination Group (NWCG) and is tracked in the Incident Qualification and Certification System (IQCS). Many aviation qualifications under this system are recognized as equivalent training and qualification to DOI IAT requirements. For a complete list of equivalent qualifications and training, you can reference those in the Interagency Aviation Training Guide under the position and training crosswalk matrixes.

5.2.1 *Advanced UAS Workshop*

This workshop is designed for qualified pilots who desire knowledge and skill using UAS for fire operations or complex resource projects. Attendees will learn the skills required to capture and preprocess (geotag) data and coordinate with incident personnel/aircraft.

- The Advanced Workshop is required before a DOI Remote UAS pilot can operate UAS on a wildland fire.

5.3 Currency and Refresher Training

5.3.1 Currency Requirements

Remote pilots must demonstrate three takeoffs (launch) and landings (recovery) with the UAS they are approved to operate within the preceding 90 days. If currency is lost prior to a mission, the Remote Pilot must regain currency by:

- *Performing the flight maneuvers and emergency procedures for the specific make and model, either in the simulator or during a proficiency flight or conduct their mission flight under the observation of a current UAS pilot.*
- *Remote pilots are required to fly each of the aircraft for which they are carded at least once every 12 months. Remote Pilots failing to meet this requirement shall fly under the supervision of a carded and current Remote Pilot and perform the flight maneuvers and emergency procedures for that aircraft.*

5.3.2 DOI UAS Refresher Training

DOI Remote Pilots must complete UAS refresher training (A-452R) or approved equivalent every 24 months following the issuance of their OAS-30U. Current DOI Remote pilots participating in either A-450 or A-452R, as a student or instructor, will receive credit for refresher training. This training can be completed 30 days in advance or 30 days after the date of expiration on the OAS-30U. Remote Pilots operating the low complexity UAS will be able to complete this requirement via distance learning opportunities. Pilots operating more complex aircraft may be required to attend a refresher in person.

6.0 UAS Procurement

All purchases of commercially available systems by DOI personnel shall be routed through OAS and the Interior Business Center, Acquisitions Services Directorate (IBC-AQD). Specifications for UAS used by DOI will be developed collaboratively between the bureaus and OAS. Acquisition activities including requests for information, quotation, or proposal will be coordinated through the National Aviation Managers (NAM).

UAS purchase requests (OAS-13U) are routed to the UAS Program Manager via the SAMs. State leadership should be notified of UAS purchases. The Program Manager will consolidate all requests and forward them to the OAS fleet manager.

- All Montana/Dakotas BLM procurement requests, including camera payloads, must be submitted to the Montana/Dakotas BLM UAS Coordinator and SAM.
- All IT Hardware and Software purchases for the purpose of supporting UAS operations must be coordinated with the Montana/Dakotas State Office IT Liaison and UAS Coordinator, and approved prior to purchase by the DSD Support Services.

6.1 Documentation

6.1.1 Fleet Aircraft

- *Record UAS flight time using the OAS-2U form. Remote Pilots shall submit an OAS-2U daily or when geographic location of flight changes.*
- *A Remote Pilot In Command (PIC) must be designated for each flight and recorded on the form OAS-2U.*
- *DOI Remote Pilots must record malfunctions, damage or repairs to UAS, or component replacement on the OAS-2U form. Repair of damage beyond normal wear shall be coordinated with the DOI UAS Fleet Manager.*
- *Remote Pilots are responsible for ensuring their equipment has been inspected within the timeframe (annually) specified on the aircraft data card (OAS-36U). The annual inspection form can be found at: https://docs.google.com/a/blm.gov/forms/d/e/1FAIpQLSfjAhKTJClLzfkCQB19zoHK_tyDXiCWyysH3SrpB1CGxB9ClQ/viewform?c=0&w=1*

6.1.2 Fleet Service Contracts

- *Flight use reporting will follow the reporting process outlined in the contract.*

Appendix 1: References

FAA AC 107-2: https://www.faa.gov/uas/media/AC_107-2_AFS-1_Signed.pdf
OPM – 11: https://www.doi.gov/sites/doi.gov/files/uploads/opm-11.pdf
OPM-4: https://www.doi.gov/sites/doi.gov/files/uploads/opm-04.pdf
National Aviation Plan: https://www.nifc.gov/aviation/av_BLMlibrary.html
State Aviation Plan: https://www.nifc.gov/aviation/av_BLMlibrary.htm

Appendix 2: Risk Assessment

Risk Assessment and Mitigation of Unmanned Aircraft Systems (UAS)											
UAS		**Flight Operations**									
		Pre Mitigation				**Post Mitigation**					
Sub-system	**Hazards**	**Likelihood**	**Severity**	**Outcome**	**Mitigation**	**Likelihood**	**Severity**	**Outcome**	**Mitigation Achieved ?**	**Additional Local Mitigation**	**Post Mitigation Value**
In Flight Emergencies	UAS mechanical failure resulting in loss of power or control	Occasional	Catastrophic	High	Follow emergency procedures in the aircraft flight manual. Addressing the failure with changes to equipment or procedures. Do not overfly people unless essential to the mission	Improbable	Catastrophic	Medium			
	Bird strike resulting in UAS uncontrollability	Remote	Critical	Medium	Follow emergency procedures in the aircraft flight manual. Discuss bird avoidance techniques with operators.	Improbable	Marginal	Medium			

	Loss of link between ground control station and UAV	Occasional	Marginal	Medium	Ensure that you have set the lost link procedures correctly according to the aircraft flight manual.	Remote	Negligible	Low		Check NOTAMs for possible GPS jamming in area of operation.	Low
	Non-participating aircraft enters flight operations area	Remote	Critical	Medium	Ensure NOTAMS have been filed. Be vigilant of scanning operations airspace. Practive see and avoid. Utilize a VHF radio.	Occasional	Critical	Medium			
Flight & Duty	Crew exceeds flight and duty limitations	Remote	Marginal	Medium	Understand flight and duty limitations before starting the operational period. Suspend flight and duty of crew if policy will be violated. Manage crew to optimize duty by briefing optimum data gathering hours and days.	Improbable	Marginal	Medium			
Airspace	Mix of agency manned and unmanned aircraft in the same airspace resulting in a mid air collision	Occasional	Catastrophic	High	UAS Operations will be made known to all participating aircraft. Follow established aircraft separation procedures. Ensure positive communication between all aircraft.	Improbable	Catastrophic	Medium			
	UAS flight plan and aircraft flight parameters are programmed incorrectly	Occasional	Critical	Serious	Follow aircraft flight manual, double check flight plans before launch.	Remote	Marginal	Medium			

Incorrect altitude flown while operating in the FTA	Remote	Catastrophic	Serious	Ensure UAS operator has thorough knowledge of FTA policy. Follow established aircraft separation procedures.	Improbable	Catastrophic	Medium			
Incorrect altimeter setting	Remote	Catastrophic	Serious	Ensure correct altimeter setting is established through communication with aerial supervisor.	Improbable	Catastrophic	Medium			
UAS Pilot has loses situational awareness	Occasional	Catastrophic	High	Only approved pilots will be used to fly UAS. Adhere to established work/rest guidelines. Land as soon as practical. Use the return to launch function if needed. Stay in contact with incident aircraft and personnel.	Improbable	Catastrophic	Medium			
Operators lose visual contact with UAS (if required)	Probable	Catastrophic	High	Use observers to maintain visual contract with aircraft. Move Ground Control Station (GCS) closer to area of interest.	Improbable	Catastrophic	Medium			
Stationary aerial hazards (wires, trees, towers, vegetation, rock outcroppings)	Probable	Critical	High	Utilize local aerial hazard map for reference. Perform site survey prior to flying. Utilize personnel familiar with the geographic area to share knowledge of known hazards.	Remote	Critical	Medium			
Low level flight profile-below 500', Special Use, animal herding	Frequent	Catastrophic	High	Thorough PASP completed to include risk assessment/performance planning is completed and signed at the appropriate level. Ensure load calculations are completed. Minimize exposure time. Ensure that the appropriate PPE/ALSE is used and that the flight is limited to essential flight crew members. Ensure aircraft and pilot are carded for the mission. Conduct high level recon prior to working below 500' AGL.	Occasional	Critical	Serious			

UAS sharing same flight path/route with other participating aircraft from same departure and arrival points.	Probable	Critical	High	Ensure separation of aircraft by establishing routes and patterns for all participant aircraft. Separate by establishing horizontal and vertical flight paths. Schedule flight times, routes and altitudes to avoid conflict during heavy use periods. Include CRM Training.	Improbable	Catastrophic	Medium			
Multiple initial attack incidents in same area cause confusion.	Occasional	Catastrophic	High	Follow established protocols for use of UAS on fires. Maintain visual line of sight of UAS. Consider landing UAS immediately if an aircraft enters the area.	Improbable	Catastrophic	Medium			
Flight is planned in Special Use Airspace, Military Training Route, etc.	Occasional	Critical	Serious	Contact Dispatch and initiate deconfliction procedures for flight.	Remote	Critical	Medium			
Flights over non-participating personnel	Remote	Critical	Medium	Avoid flights over non-participating personnel unless authorized or necessary for emergency response.	Improbable	Critical	Medium			
Mistaken identification of UAS when multiple UAS operations are occurring simultaneously	Remote	Critical	Medium	Have UAS painted with high visibility paint scheme and identifiable markings. Install conspicuity lighting if applicable per UAS flight manual. Communication between UAS pilots must be established. Follow established aircraft separation procedures.	Improbable	Critical	Medium			

Environmental	Poor visibility due to smoke/inversion	Occasional	Critical	Serious	Ensure line of sight operations comply with established visibility regulations. Ensure beyond visual line of sight operations comply with established policy. Follow established aircraft separations procedures. Wait for visibility to improve before flight.	Remote	Critical	Medium			
	High density altitude (DA), decreased performance	Probable	Marginal	Serious	Ensure aircraft performance is reviewed as a part of preflight planning. Monitor DA throughout the day. Fly within aircraft performance capabilities.	Occasional	Marginal	Medium			
	Strong winds, thunderstorms, change in weather	Probable	Critical	High	As part of preflight planning and Operational Risk Management (ORM) check and monitor weather, be cognizant of time of day and diurnal wind patterns. Operate within aircraft capabilities and manufacturers recommendations. Move mission to alternate environment or defer until conditions improve.	Remote	Critical	Medium			
	Lost or destroyed aircraft over water operations	Remote	Critical	Medium	Avoid overflying large bodies of water unless necessary for the mission.	Remote	Marginal	Medium			

UAS		Training									
		Pre Mitigation				Post Mitigation					
Sub-system	Hazards	Likelihood	Severity	Outcome	Mitigation	Likelihood	Severity	Outcome	Mitigation Achieved?	Additional Local Mitigation	Post Mitigation Value
Training	Training compromised for time and/or money constraints	Occasional	Critical	Serious	Management approval in advance identifying training as part of the program. Operations does not take place without qualified personnel. Provide adequate resources to ensure qualified personnel to meet mission.	Occasional	Marginal	Medium			
	Basic Training program does not include adequate mission experience for agency operations	Probable	Critical	High	Follow policy requirements for training qualification and currency.	Remote	Critical	Medium			

	UAS not properly assembled due to inadequate training	Occasional	Critical	Serious	Ensure personnel are trained to manufactures procedures.	Occasional	Marginal	Medium			
	UAS improperly maintained due to lack of training	Occasional	Critical	Serious	Incorporate appropriate maintenance procedures into approved training.	Remote	Critical	Medium			
	Unqualified personnel operating UAS	Remote	Critical	Medium	All personnel operating UAS will be qualified in accordance with policy.	Improbable	Critical	Medium			
	Not conducting post maintenance flight checks	Occasional	Critical	Serious	Require post maintenance test flights in contract and fleet policy. Include as part of student training curriculum.	Remote	Critical	Medium			
UAS					**Aircraft**						
		Pre Mitigation				**Post Mitigation**					
Sub-system	**Hazards**	**Likelihood**	**Severity**	**Outcome**	**Mitigation**	**Likelihood**	**Severity**	**Outcome**	**Mitigation Achieved?**	**Additional Local Mitigation**	**Post Mitigation Value**

Payload	Mounted/installed equipment negatively effects UAS performance	Occasional	Critical	Serious	Only use approved aircraft and payload configurations.	Improbable	Critical	Medium			
	Aircraft out of Weight & balance	Occasional	Critical	Serious	Follow the weight and balance procedures outlined in the aircraft flight manual.	Remote	Critical	Medium			

UAS	**Flight Ops - Spectrum, Communication, Avionics**										
		Pre Mitigation				**Post Mitigation**					
Sub-system	**Hazards**	**Likelihood**	**Severity**	**Outcome**	**Mitigation**	**Likelihood**	**Severity**	**Outcome**	**Mitigation Achieved?**	**Additional Local Mitigation**	**Post Mitigation Value**

UAS C2	Loss of link due to terrain	Remote	Critical	Medium	Ensure UAS has auto-return or auto-land capability. Ensure PIC has an unobstructed area with good visibility of UAS operations area. Restrict UAS operations to pre-planned UAS flight area. Post observer with radio. Train for loss of link procedure.	Improbable	Critical	Medium			
	Loss of link due to hardware failure	Occasional	Critical	Serious	Follow UAS manufacturer's operation and maintenance procedures. Preflight UAS.	Improbable	Critical	Medium			
	Loss of link due to distance between UAS and control transmitter	Occasional	Critical	Serious	Preflight/preplan mission operating area to maintain adequate UAS link margin. Review transmitter range limitations. Ensure optimal antenna locations on the ground stations.	Improbable	Critical	Medium			
	Loss of link due to software failure	Remote	Critical	Serious	Load all software updates that the manufacturer issues and test UAS before flight. Maintain a current log of all software updates for the UAS.	Improbable	Critical	Medium			
Equipment Power	Non-COTS payload interferes with UAS (e.g. a repeater)	Occasional	Critical	Serious	Use only approved and flight tested aircraft and payloads.	Improbable	Critical	Medium			

Transponder or ADSB	Manned aircraft cannot electronically detect UAS	Frequent	Catastrophic	High	Require large UAS to have a transponder. Have a visual observer constantly monitor operating area when no other known aircraft are in the UAS operation area. Contract language states a mode C transponder must be installed.	Improbable	Critical	Medium			

UAS	Maintenance										
		Pre Mitigation				Post Mitigation					
Sub-system	Hazards	Likelihood	Severity	Outcome	Mitigation	Likelihood	Severity	Outcome	Mitigation Achieved?	Additional Local Mitigation	Post Mitigation Value
Aging Aircraft	No recommended TBO for any UAS components	Occasional	Critical	Serious	Follow manufacturer's recommendations and create a tracking system to document failures.	Remote	Critical	Medium			
Inspection Compliance	Inspections not complied with at proper intervals	Occasional	Critical	Serious	Follow flight manual recommendations for inspection and maintenance. Ensure aircraft has current agency approved card.	Remote	Critical	Medium			
Major repair or alteration	Lack of policy for what constitutes a major repair or alteration on a UAS	Occasional	Critical	Serious	Follow contract requirement or policy for reporting damage and/or repairs. Develop a list of	Remote	Critical	Medium			

					what constitutes a major repair for filed operators.						
Final Assessment Value:					**Prepared By:**					**Date:**	
Operation Approved by:								**Title:**		**Date:**	

Appendix 3: BLM UAS Mission Plan - Flight by Notification

The purpose of the UAS Mission plan is to provide UAS remote pilots with the capability of safely completing recurring UAS missions under the national UAS risk assessment for UAS operations. Remote pilots are required to complete this document and Go/No Go checklist, and make the required notifications as identified in this document. **All DOI and BLM UAS policies apply.**

Date		Location	
Land Status			
Latitude		Longitude	
Data Objective			

Crew (Current FAA and DOI Remote Pilots Required)	
Crew Leader	
Remote Pilot	
Remote Pilot	

Observer	
Other	

Aircraft (Current DOI and FAA Registration Required)			
Make		Model	
System Name/Call Sign		FAA Registration	

Airspace Authorization			
FAA Airspace Authorization (Y/N)		TFR Entry Clearance (Y/N/NA)	

Hazard Mitigation (hazards unique to this site)	
Observed Hazards	Mitigations

Notification/Approval			
Supervisor (Name)		Approved (Y/N)	
Aviation Manager (Name)		Notified (Y/N)	
Dispatch Center (Name)		Notified (Y/N)	

Land Owner (Name)		Notified (Y/N/NA)	
Other			

UAS Mission Go/No Go Checklist			
Is the chain of command, individual roles and responsibilities are identified to all participants?	Yes	No	NA
Is the Project Aviation Safety/ Plan or Operations Plan is approved /signed at the appropriate levels?	Yes	No	NA
Are all elements in place to track the UAS at all times?	Yes	No	NA
Can terrain, altitude, temperature or weather that could have an adverse effect be mitigated?	Yes	No	NA
Are all aerial hazards identified and known to all participants?	Yes	No	NA
Have ground operations hazards and safety been identified to all participants?	Yes	No	NA
Have mitigating measures been taken to avoid conflicts with military or civilian aircraft?	Yes	No	NA
Have adequate landing areas been identified?	Yes	No	NA
Are all agency personnel qualified for the mission?	Yes	No	NA
Are there enough (qualified) personnel to accomplish the mission safely?	Yes	No	NA
Are the pilots carded and experienced for the mission to be conducted?	Yes	No	NA
Have briefings been conducted prior to flight with all participants?	Yes	No	NA
Is the aircraft capable of performing the mission with a margin of safety?	Yes	No	NA
Does the aircraft have the capability to perform the mission based on current and predicted weather conditions?	Yes	No	NA
Is the aircraft properly carded?	Yes	No	NA
Do all personnel have the required PPE?	Yes	No	NA

Is communication established with dispatch and all participants?	Yes	No	NA
Are pilot flight and duty times compromised?	Yes	No	NA
Is there an alternative method that would accomplish the mission more safely?	Yes	No	NA
Have the proper approvals/authorizations been given by FAA?	Yes	No	NA
If flying in Restricted Airspace or a TFR, has coordination occurred with the controlling authority prior to launching sUAS?	Yes	No	NA
Is there a NOTAM on file?	Yes	No	NA
Has the Aerial Hazard Map been reviewed?	Yes	No	NA
Notes:			
UAS Crew Leader/RPIC Signature: Date:			