



FOREST SERVICE

C-23B+/SD3-60 Sherpa

**Change Management and Implementation
Plan (CMIP)
Version 4**

September 1, 2016



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U.S. Forest Service

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Change Management and Implementation Plan (CMIP)

Version 4

September 1, 2016

This change management plan was developed by the U.S. Forest Service C-23B+/SD3-60 Change Management Implementation Team and Union representatives from the Forest Service Council in response to a decision made by the Director, Fire and Aviation Management, for the deployment of the C-23B+/SD3-60 Sherpa Aircraft. It is a living document that will be reviewed and updated as the transition progresses. This plan was written by On Course Safety, LLC.

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Preparation, Review, and Approval (Signatures)

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Executive Summary

Fifteen C-23B+ Sherpa aircraft were transferred from the U.S. Army to the U.S. Forest Service in the National Defense Authorization Act (NDAA) of 2014. The U.S. Forest Service C-23B+/SD3-60 Sherpa Change Management and Implementation Plan (CMIP) describes how the agency intends to implement the Sherpa aircraft in support of the Wildland Fire Suppression Program. While the term “Sherpa” refers generically to a type of aircraft including the four C-23A model aircraft that the U.S. Forest Service currently owns and operates, the reference to the SD3-60 is specific to the C-23B+ models as these aircraft receive Civil Certification from the Federal Aviation Administration. The primary use of these aircraft will be to deliver smokejumpers and cargo to wildland fires.

The current smokejumper aircraft fleet consists of 12 aircraft which are a mix of six contractor-owned and six government-owned aircraft. The future fleet will consist primarily of the SD3-60s, plus Twin Otters owned and operated by the U.S. Forest Service, with the possibility of contract aircraft as needs dictate.

The future smokejumper aircraft fleet will be operated under a Government Owned/Mixed Operated (GOMO) concept. In this model, the aircraft are owned by the U.S. Forest Service and flown and maintained by a mix of Forest Service and contract pilots and maintenance specialists.

This CMIP provides guidance regarding the management of change associated with planning for and implementing these aircraft in the U.S. Forest Service.

The CMIP includes an analysis of the risks that could threaten the success of the change implementation and offers mitigations to lessen the consequence and/or frequency of these risks. Quality and Safety Assurance measures are identified to be used in implementing the aircraft. A Communications Plan has been developed for use during the implementation.

An Interim Operations Plan was approved on May 27, 2016.

Chapter 1 - Change Management Policy and Objectives

1.1 Change and Implementation Policy

In FSM 5700 the Forest Service adopted Safety Management Systems (SMS) as national direction. FSM 5700 cites and incorporates by reference the Safety Management Systems Guide of 2014. At point 3.2 the Safety Management Guide cites the Change Management and Implementation Guide of 2011 (CMIG). The CMIG is used as the primary reference document in the deliberations of the Change Management and Implementation Team (CMIT). The CMIG was updated in 2016.

1.1.1 Leader's Intent

The Leader's intent for this change is as follows:

1. Develop a Change Management and Implementation Plan (CMIP) specific to the evolution from current operations to the SD3-60 Sherpa aircraft.
2. The CMIP will include objectives, communication, data collection, risk management, promotion, safety assurance, transition management, documentation and recommendations for policy organization/management, and change implementation.
3. Oversight of the program will occur at National and Regional levels. Regions will be involved in the development and implementation of the CMIP.
4. Each Aviation Branch Chief will provide guidance and oversight of their respective area of expertise for the transition to future SD3-60 Sherpa operations.
5. Develop a concept of a government owned, mixed maintenance and operations (GOMO) fleet.
6. Uphold leadership expectations to operate the fleet at an efficient cost, improve effectiveness, mitigate known hazards, and standardize operations.

1.1.2 Background

The U.S. Forest Service (Forest Service) has seven smokejumper bases located in Regions 1, 4, 5, and 6. Satellite bases are staffed annually in multiple locations as needed. Forest Service smokejumper staffing averages about 300 personnel annually. Forest Service smokejumpers perform initial attack on numerous wildfires each year, often attacking some of the most intense and remote fires.

At the end of the 2015 fire season, the Forest Service owned one Basler BT-67 (turbine modification to DC3), four Short Brothers C-23A Sherpas, two De Havilland DHC-6 Twin Otters, and contracts for two Dornier DO228, two De Havilland DHC-6 Twin Otters, and one Casa 212, all used for smokejumper operations. See the table below for a summary of current smokejumper aircraft.

Table 1: Current Smokejumper Aircraft

Number of Aircraft	Type	Location	Timeframe for Replacement
4	C-23A Sherpas	Redding - 1 Missoula - 1 Redmond - 2	TBD
2	DHC-6 Twin Otter	McCall - 2	Indefinite/Retained
1	DC-3TP	Missoula - 1	Retired end of Fire Season 2015
6	Contract Aircraft	West Yellowstone – 1 Redding – 1 Winthrop – 1 Grangeville - 1 McCall – 1 Missoula – 1	TBD

Due to the aging smokejumper fleet, increased maintenance and repair costs, and aircraft performance issues, the U.S. Forest Service needs to update and increase the performance and sustainability of agency-owned aircraft. The agency-owned Twin Otter aircraft will be retained to capitalize on their unique short field/backcountry airport and high density altitude capabilities.

Transfer of the C-23B+ Sherpa aircraft was authorized in the National Defense Authorization Act (NDAA) of 2014. The Forest Service is achieving civil aviation certification and once this is fully accomplished they will be operated as Short Brothers SD3-60 Sherpas.

Refer to the Gantt Chart located on the SharePoint site for updated information on actions performed.

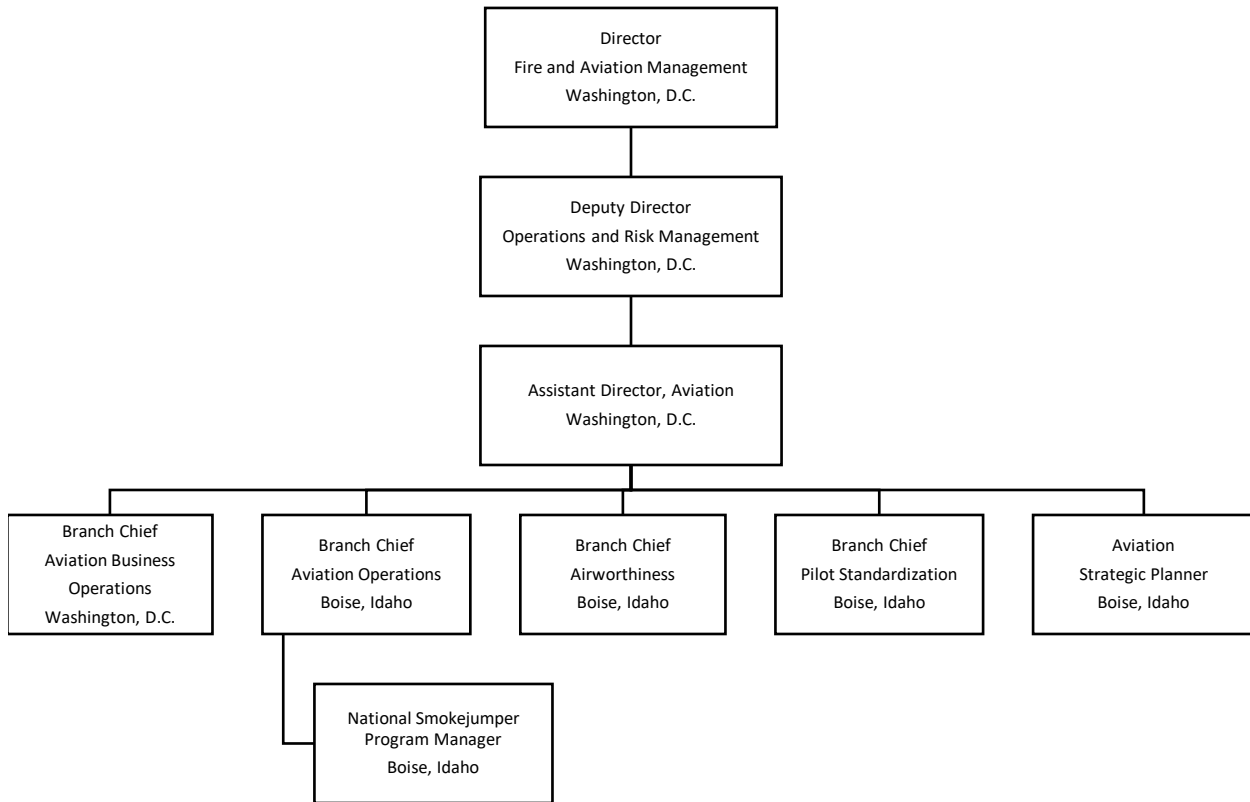
1.1.3 Goal of the Change

The goal of the change is to enhance effectiveness of the smokejumper program while maintaining the highest safety outcomes in a very challenging environment. By achieving civil aircraft certification, these newer, standard category aircraft will be used for the smokejumper mission and other Forest Service wildfire suppression missions. Incorporating the SD3-60 Sherpas will lower the average age of the aircraft in the smokejumper fleet by approximately 10 years each. With the majority of the future smokejumper aircraft fleet being SD3-60 Sherpa aircraft, efficiencies will be achieved through fleet standardization.

1.1.4 C-23B+/SD3-60 Sherpa Program Leadership and Management

The current organization is highly decentralized with national coordination occurring at the Washington Office’s detached unit at Boise, Idaho. The figure below summarizes aviation management organizational structure at the Washington Office Headquarters and Washington Office Boise.

Figure 1: Aviation Management Organization Chart



The overall organizational model chosen for this project is to perform most of the work within this current organizational structure, with the National Smokejumper Program Manager as the project coordinator. The Branch Chiefs perform their designated roles for Operations, Maintenance and Airworthiness, and Pilot Standardization. The National Smokejumper Program Manager provides national program leadership, coordination, and interagency cooperation in the smokejumper program, and is the program advisor to Contracting, Fire and Aviation Headquarters staff, and Regions in the development and implementation of policies, programs, and standard practices for smokejumper fixed-wing aircraft and programs.

Management of the Action Tracker¹ will be a key duty of the National Aviation Program Integrator. All contracts regarding smokejumper aircraft are issued by the Acquisition Management, AQM, Incident Support Branch (ISB) at Boise, Idaho.

1.1.5 C-23B+/SD3-60 Sherpa Change Management and Implementation Team

The CMIT Charter was approved on June 26, 2014. A letter designating CMIT members and establishing Leader’s Intent was approved on August 15, 2016. The co-chairs for the CMIT are Regional Aviation Officer, Maggie Doherty, Northern Region; and Smokejumper Program

1 Contact Aviation Management Specialist, Aimee Mautone for the current version of the Action Tracker.

Manager, Roger Staats. The purpose of the CMIT is described as follows:

The CMIT is chartered to develop and recommend a Change Management and Implementation Plan for the safe and effective transition to the C-23B+/SD3-60 Sherpa aircraft. This plan will include change management policy, objectives, organization, data collection and planning, risk management processes, change implementation, change management promotion, safety assurance, transition management, and documentation.

The CMIT, through the Aviation Operations Branch Chief, provides guidance and oversight for the transition of the certified SD3-360 Sherpa aircraft into current operations (smokejumper, paracargo and firefighter transport) and aircraft mix (agency owned and contractor owned). The CMIT will recommend and develop alterations to current policy, guides, and plans affected by the change.

The implementation of the C-23B+/SD3-60 Sherpa aircraft will occur nationally and be coordinated and implemented with the affected regions. Oversight will occur at the National and Regional levels. A Government Owned/Mixed Operation model (GOMO) will be utilized. Regions will be involved in the development and implementation of the plan. As per the CMIT charter, if a CMIT member is unable to attend a meeting, they must designate a proxy to represent them.

1.1.6 C-23B+/SD3-60 Sherpa CMIP Organization, Roles, Responsibility and Accountability

At this time, employees at all organizational levels are managing and supporting the NDAA Sherpas by performing their normal organizational roles. Here are specific assignments:

- Aimee Mautone, WO -- NDAA Sherpa Conference Call.
- Gil Elmy, WO -- Civil Certification of the prototype C-23B+ Sherpa aircraft.
- John Flemmer, WO -- Avionics considerations.
- Brett Terning, WO, and John Kovalicky, MTDC -- Development of the Supplemental Type Certificate (STC) for smokejumper equipment.
- Abe Fandrich (R1), Eric Shilling (R6), Shane Bak (R1) -- Aircraft performance documentation, and pilot training and development plan.

1.2 Change and Implementation Objectives

1.2.1 National Objectives

Objectives for the change and implementation are:

1. Develop a Change Management and Implementation Plan (CMIP) V1 by July 31, 2014 (accomplished).
2. Develop a Change Management and Implementation Plan (CMIP) V2 by October 1, 2014 (accomplished).
3. Complete a Change Management and Implementation Plan (CMIP) V3 by December 19, 2014 (accomplished and forwarded for approval).
4. Complete a Change Management and Implementation Plan (CMIP) V4 by 1st Quarter 2017.
5. Complete an Interim Operations Plan (IOP) for the SD3-60 Sherpa aircraft by 3rd Quarter 2016 (accomplished May 27, 2016).

6. Implement the actions and assigned tasks described in the CMIP V4 and IOP by dates established in the Action Tracker.

1.2.2 Regional Objectives

Regional input to the CMIP is summarized in Appendix 3.2A.

1.2.3 Measurement of Progress

The processes and actions that will result in measurement of progress will be developed by the CMIT. This may include trigger points, phases, and major milestones. In any event, these measurements will be sufficient to identify critical points and to currently recognize the status of the change and transition.

The measurement of progress will use an Action Tracker² to track efforts scheduled as part of the CMIP and the Operations Plan. It will also ensure that the multiple efforts needed are on schedule and trigger points are developed that result in action when scheduled activities are not being accomplished on time.

² Contact Aviation Management Specialist, Aimee Mautone for the current version of the Action Tracker.

Chapter 2 - Transition Management

This chapter focuses on the effect of change on individuals in the organization. It addresses the change at a personal level for the workforce. It designs and schedules events, actions and processes that move the people through the transition phases. Transition is the result of incorporating change into the system which then impacts the people within that particular system, program, or organization.

It is important to understand the Phases of Transition. Phase I is the *Ending*, Phase II is the *Neutral Zone*, and Phase III is the *New Beginning*. These phases are defined in Section 3.2 of the *Change Management and Implementation Guide* (Revised 2016) and also in the Glossary of this document.

With the NDAA Sherpas, the awareness of this possible change by those who may be impacted or involved in such a change has been circulating for some time. Awareness and uncertainty are the result of information flow, whether or not the information has been accurate. Addressing each phase of transition will help raise awareness, alleviate uncertainty, and move people forward during the change.

2.1 The Transition Period

The Transition Period began when people started to recognize this change coming and ends when the change has been made and everyone is working comfortably again in their positions. It is the time and process by which this change plan strives to move the smokejumper and smokejumper aircraft communities through the other side of the change process in a positive and successful fashion. Informative and positive communication throughout this period is critical to the success of the transition period.

2.1.1 Assessing Transition Readiness

The intent of the assessment is to gain a sense of the readiness of the smokejumper and smokejumper aircraft community, maintenance personnel, and other support personnel to handle this change.

The CMIT has accomplished this through a Transition Readiness Feedback process conducted through an electronic format. It has helped determine:

1. The capability of the workforce to handle the change both nationally and regionally.
2. Variations in the transition process between areas less capable and areas more capable of handling the transition.
3. Feedback from the entire community. (The feedback form was distributed on July 28, 2014 by the Forest Service. Complete results of the C-23B+/SD3-60 Sherpa Change Readiness Assessment were included in Version 3 of the CMIP and are available from the Sherpa CMIT Co-Chairs upon request.)
4. Other data gathering processes or devices to provide for continuous anonymous feedback from the community (see CMIP, Chapter 2, Transition Monitoring Team).

2.1.2 Planning the Transition

Transition planning starts where the smokejumper community, pilot community, maintenance personnel, support personnel and others currently are, and works forward to where the organization wants them to be. This information is also contained within the Communications Plan.

1. Sharing the purpose of the change helps:
 - a. Prepare people for the transition.
 - b. Prepare other significant personnel (i.e., line officers, contractors, family members, etc.) for the transition.
2. The NDAA Sherpas will be operated as a Government Owned/Mixed Operated (GOMO) fleet. The mixed operation will be comprised of a mix of contract maintenance services, and of U.S. Forest Service and contract pilots. The desired documentation will be assembled as determined in the CMIP, Chapter 4, Change Planning and Data Collection.
3. Educate all involved (national leadership, regional leadership, smokejumper leadership, smokejumpers, pilots, committee members, Aerial Delivered Firefighter (ADFF) Steering Committee) about the differences between change and transition.
 - a. *Change* – Change involves developing a means of placing something new into a current system or program to address a given problem.
 - i. The change is placing a new aircraft fleet to “increase performance, safety, and operational capabilities” into a current program that has a multiple model and aging aircraft fleet.
 - b. *Transition* – Transition is the result of incorporating change into a system which then impacts the people within that particular program.
 - i. The transition primarily impacts pilots and maintenance (both government and contractor), smokejumpers, smokejumper base leadership, fire management “customers,” contractors, and other support personnel.
 - c. *Implementation* – Implementation means to carry out, put into action, perform, complete, satisfy, or fulfill. Aircraft will be phased in over several years beginning in 2017 and continuing through 2019.
4. The CMIT will establish a team lead for the Transition Monitoring Team (TMT) and establish team members. The team will receive progress reports from the field, track how the change is progressing and how the community is responding (this is defined in the CMIP, Chapter 4, Change Planning and Data Collection).
 - a. Designate a Transition Monitoring Team (TMT) consisting of a smokejumper, pilot, airworthiness personnel, and Regional Aviation Officer (RAO).

- b. Determine the capability of the intranet site developed in the Communications Plan as an avenue for anonymous reporting and feedback from the field. Develop other methods as necessary for anonymous reporting.
 - c. As aircraft are implemented at a base, identify one person who can receive concerns from personnel and who can effectively provide feedback to and from the TMT.
 - d. Develop trigger points (a particular circumstance or situation that causes an event to occur) for reporting.
 - i. The CMIT will track what helps and what hinders the organization and related personnel as they go through the process.
 - e. Provide a means of feeding that information back into the change plan.
 - f. Provide a means of feedback for the organizational change management plan for continuous improvement purposes.
 - g. Incorporate TMT feedback in the Operations Plan as necessary.
5. The CMIT will give as many people (personnel) as reasonable a role in the transition and change.
- a. People become invested.
 - b. Helps align people with leadership.
 - a. People's knowledge and skills become available to the decision-makers.
 - b. It gives people a role to play and brings their energy to the table, and they begin to move forward, rather than sitting back and waiting to be told what's next.

2.2 Transition Monitoring Team

The function of the Transition Monitoring Team (TMT) is to provide awareness to the CMIT in foreseeing the effects of the change and reactions to it. They can provide unfiltered communication to the CMIT, review effectiveness of the communication to different communities, counter misinformation and rumors, and catch concerns before they get out of hand.

Develop a Transition Monitoring Team to identify and communicate what their purpose is, who is on the team, and how they will communicate with the CMIT and those in the field. This team does not have management responsibilities; they are just a means of communication and process monitoring.

The TMT is to provide communication to the CMIT, which is then able to report to senior leadership on how the transition is progressing.

The TMT is not meant to be a Q & A team, just a team to observe how the transition is going, share information about the transition, and collect informal feedback related to the transition. They are a known entity--by those in the field, regions, and on the CMIT. They provide feedback to and from all of these groups on successes, challenges, information, and misinformation

related to the transition.

2.3 Cultural Aspects of the Program

Transition Monitoring Team (TMT) feedback will address aviation and smokejumper community readiness for accepting these changes to their programs. The TMT will monitor the smokejumper, pilot, and aviation program culture from the beginning of the change through the New Beginning Phase.

Chapter 3 - Change Implementation Process

3.1 The National Strategy

The National Strategy is to maintain current smokejumper operation missions, with opportunities to broaden capabilities for future smokejumper and other missions. The smokejumper aircraft fleet will consist of NDAA transferred Sherpas and the *current* agency-owned and contracted DHC-6 Twin Otters, under a Government Owned/Mixed Operations (GOMO) model.

As the NDAA Sherpas are evaluated through the Smokejumper Aircraft Screening and Evaluation Subcommittee (SASES) process, further information will be developed about their ability to successfully perform with the desired mission payload at McCall, Grangeville, and West Yellowstone. To ensure Smokejumper mission support at high density altitude airports, there may be a need to retain the performance characteristics of one or more currently contracted smokejumper aircraft. As of the third quarter 2016, 10 SD3-60s are planned to be used as smokejumper aircraft. One of these aircraft will be a program spare. Four aircraft will be kept at the Aerospace Maintenance and Regeneration Group (AMARG), and one C-23B+ aircraft will be utilized for parts.

3.1.1 Major Elements Supporting this Strategy

1. Complete FAA civil certification on all aircraft to be operated.
2. Complete the SASES evaluation of certificated aircraft.
3. Use aircraft to develop pilot familiarity and training.
4. Remaining aircraft are in storage at AMARG in Tucson, Arizona.
5. Progressively certify and configure all aircraft for their future mission(s). The anticipated production should be completed within a four-year timeframe.
6. Commitment is to use agency pilots, but to utilize contract pilots as necessary when gaps arise. Regions will at a minimum maintain current smokejumper pilot staffing, and contracts will fill what the regions are unable to support, such as contract aircraft that will be replaced with agency owned aircraft.
7. Leverage the skills of current maintenance supervisors in overseeing contract aircraft maintenance.
8. Leverage the existing facilities that support smokejumper aircraft.
9. Develop requirements and a business case for other missions and capabilities.
10. Take advantage of contracts currently in place.
11. Identify a contingency or back-up plan (see Chapter 4).
12. Continue to maintain smokejumper aircraft capability throughout and following the integration of the SD3-60 Sherpa aircraft.

3.1.2 Stages of Development

Progress in completing work tasks related to implementation of the NDAA Sherpas will be documented in the Action Tracker³. Groupings of these work tasks can be defined as stages. For example:

1. Includes paint, certification, Original Equipment Manufacturer (OEM) support, Smokejumper Aircraft Screening and Evaluation Subcommittee (SASES) evaluation, and Avionics.
2. Includes developing a project coordination tracking chart for each aircraft, validating the number of aircraft needed to implement the strategy, and module upgrades.
3. In 2016 logistical operational flights are occurring with one SD3-60 Sherpa on limited mission capability.

3.1.3 Airworthiness and Maintenance Considerations

1. The maintenance model is a national model with regional day-to-day implementation and oversight.
2. FAA and Original Equipment Manufacturer (OEM) maintenance standards will be used.
3. Complete a maintenance and facilities analysis to understand the facility needs to support the NDAA Sherpas.

3.1.4 Pilot Staffing Considerations

1. The GOMO Model is the management model and is linked to bringing the aircraft online. Through the change, there will be no reduction in U.S. Forest Service Smokejumper Pilot positions. Any future needs will be addressed by adding agency pilot positions and/or contract pilots. Regional input and responses will determine actual mix.
2. An analysis is needed to project how long it will take agency, contract, and mixed crew pilots to become fully mission qualified.

3.1.5 Financial Considerations and Contract Model

1. Financial projections need to be based on achievable assumptions regarding flight time, including predicted use and other potential missions.
2. The Pilot and Maintenance Contracts will be based on national contracts with regional day-to-day implementation and oversight.
3. Currently national resources funding for smokejumper pilots and aircraft is allocated to the regions. The U.S. Forest Service will use this model going into implementation while incorporating a more nationally standardized approach.

³ Contact Aviation Management Specialist, Aimee Mautone for the current version of the Action Tracker.

3.1.6 Mission Considerations

1. The MTDC evaluation will document the capabilities of the NDAA Sherpas for both smokejumping and paracargo missions for SASES approval.
2. An analysis is needed of the “other missions” proposed for the NDAA Sherpas such as FAA requirements for passenger transportation.
3. We intend to emphasize opportunities for new paracargo capabilities to help promote optimism and enthusiasm for positive and effective change.

3.1.7 NDAA Sherpa Aircraft Placement Considerations

1. Incorporate the SD3-60 models for the currently used C-23A models where possible.

Points supporting this approach:

- a. It provides newer aircraft with increased capability.
- b. Current agency pilot staff has years of experience with the aircraft.
- c. Pilot training is nearly identical to current training, including simulators.
- d. Fills the void of the DC-3s that were retired and sold.

Drawbacks to this approach:

- e. Some contracted aircraft may be replaced. We have awarded new contracts for one year and three one-year options.
 - f. SD3-60 Sherpa implementation timelines not being met would result in additional contracts to continue to support the smokejumper program in addition to the cost of the SD3-60 Sherpas.
2. Elements of this strategy that need to be resolved to make it achievable are:
 - a. Continue to refine the replacement schedule for existing aircraft.
 - b. Current projections are that final aircraft completion will occur in 2019.
 3. Observations that had at least some support in the CMIT:
 - a. Having one or more aircraft “limited mission capable” in 2016 is a significant accomplishment.
 - b. Replacing some contract aircraft in 2017 may be possible if all four C-23A currently used are kept in use through at least that year.
 - c. Explore opportunities for an overall management contract providing pilots and maintenance that could produce economy of scale benefits.
 - d. Could contracted co-pilots be paired with Forest Service Smokejumper Captains to enhance flight crew capabilities?

- e. Should agency policies regarding contractors serving as check airmen be reconsidered?
 - f. Contracts for avionics are in place.
 - g. Contracts for maintenance services are in place.
 - h. Requests for Information (RFI) regarding pilot services will be needed.
 - i. A national maintenance tracking system will be needed.
 - j. A national aircraft parts tracking system will be needed.
4. The current aircraft fleet replacement are displayed below in Table 2. This table may change over time due to unforeseen requirements.

Table 2: Fleet Replacement Summary

Base	Current Aircraft	Agency-Owned (AO) or Contract (C)	Average # SMJs per Load	Replacement Aircraft	SD3-60 Sherpa In Service Year	Average # SMJs per Load
Missoula	C-23A Sherpa	AO	10	SD3-60 Sherpa	2018	10
Missoula	DC-3T	AO, Sold in 2016	16	SD3-60 Sherpa	2017	10
		AO or C		Twin Otter or SD3-60 Sherpa pending SD3-60 performance at WYS	2018	10
Redding	C-23A Sherpa	AO	10	SD3-60 Sherpa	2018	10
Redding	Dornier	C	8	SD3-60 Sherpa	2018	10
Redmond	C-23A Sherpa	AO	10	SD3-60 Sherpa	2018	10
Redmond	C-23A Sherpa	AO	10	SD3-60 Sherpa	2017	10
McCall	Twin Otter	AO	8	No Change	N/A	8
McCall	Twin Otter	AO	8	No Change	N/A	8
McCall	DC-3T	AO, Sold in 2013	16	SD3-60 Sherpa	2017	10
McCall	Twin Otter	C	8	Discontinue Contract	N/A	8
West Yellowstone	Dornier	AO or C	8	Twin Otter or SD3-60 Sherpa pending SD3-60 performance	N/A	8
Grangeville	Twin Otter	C	8	No Change	N/A	8
North Cascades	CASA 212	C	8	SD3-60 Sherpa	2018	10
Ogden	N/A			SD3-60 Sherpa	2017	10

3.1.8 Human Resource Considerations

The GOMO Model is the vision for pilot staffing in support of the NDAA Sherpas. There will be no reduction in U.S. Forest Service smokejumper pilot positions as a result of this change.

3.2 Regional Information and Data Collection

Information and data collection was requested from the Northern Region (1), the Intermountain Region (4), the Pacific Southwest Region (5), and the Pacific Northwest Region (6). Other Regions were requested to respond at their option. The Regions were requested to address the following items:

1. Numbers of NDAA Sherpas needed by date of availability and by location.
2. Projected ability of the Regions to provide agency pilot staffing for NDAA Sherpas.
3. Projected ability of the Region to provide oversight for contract maintenance for NDAA Sherpas.
4. Describe current facilities and any additional facility needs to support NDAA Sherpa aircraft.
5. Non-smokejumper aircraft missions that the NDAA Sherpas could perform once certificated as civil aircraft. Identify the missions and anticipated number of annual flight hours.

Regional input related to these items is summarized in Appendix 3.2A.

Chapter 4 - Change Planning and Data Collection

4.1 Collecting Data during Change

Documentation related to implementation of the NDAA Sherpas is and will continue to be gathered, including future aircraft strategy, the National Defense Authorization Act, the Aviation Business Case C-23B+ Sherpa, the Forest Service C-23B+/SD3-60 Sherpa Change Management and Implementation Team Charter, the aircraft transfer process, performance and analysis, alternatives and any other pertinent information. The Change Management and Implementation Team (CMIT) will continue to gather as much supporting information as is available and organize a documentation process. Documents from all previous activities are then the supporting information for the Sherpa fleet implementation. The current document housing site is a SharePoint site for the Sherpa Change Management process. The SharePoint site is intended for CMIT members. An intranet site with information on the implementation of the NDAA Sherpas can be accessed at <http://fsweb.wo.fs.fed.us/fire/fam/aviation/sherpa/>.

4.1.1 Required Resources

1. Sources of information for the documentation described above include the Smokejumper/Large Fixed-Wing Program Manager, Branch Chief Airworthiness and Quality Assurance, Branch Chief Aviation Operations and Quality Assurance, Branch Chief Aviation Business Operations, Aviation Safety Inspectors, Aviation Maintenance Technicians, Contracting Officers, Smokejumper Base Managers, Smokejumper Pilots, and any others with pertinent information.
2. The leadership structure, responsibilities and accountabilities for this project have been identified in writing.
3. A schedule will be established for information gathering, planning, implementation, and transition.

4.1.2 Documentation Process

The documentation process includes all the elements of the Change Management and Implementation Plan and provides a storehouse for change management activities and any adjustments to the plan that may be required during the implementation process. It also provides an archive for historical data in order to capture the starting point and continuous improvements along the way.

The documentation process includes but is not limited to:

1. The purpose for the integration of the Sherpa Fleet.
2. Sherpa Fleet change management policies, objectives, and Leader's intent.
3. Sherpa Fleet change management processes and procedures.
4. The Forest Service C-23B+/SD3-60 Sherpa Change Management and Implementation Team Charter.

5. Change management risk assessment and mitigation documents.
 - a. Results of a risk assessment on the implementation of the NDAA Sherpa fleet.
 - b. Mitigation measures.
6. Change quality and safety assurance documents.
 - a. Action Tracker⁴.
 - b. Measurement of success, including benchmarks and milestones.
 - c. Identification of emerging hazards through After Action Review (AAR) documents and reporting systems.
 - d. Improvement measures for effectiveness of the plan.
 - e. Assurance processes to measure effectiveness of mitigations.
7. Communication Plan and outputs.
8. Training programs and outputs.
9. Transition management strategy and outputs.
10. Other outputs from the change management processes
 - a. Airworthiness/Maintenance.
 - b. Training.
 - c. Equipment.
 - d. Facilities.
 - e. Others.
11. Documents to be centrally located include the following:
 - a. Sherpa Fleet Implementation Feedback Form.
 - b. Sherpa Fleet Implementation Feedback Form with response results and analysis.
 - c. Pertinent airworthiness change implementation documents.
 - d. National Operations Report.
 - e. National and Regional readiness reviews.
 - f. Aviation Safety Communiqué (SAFECOM) Reports.

⁴ Contact Aviation Management Specialist, Aimee Mautone for the current version of the Action Tracker.

- g. Lessons learned.
- h. After Action Reviews.
- i. Readiness assessments.
- j. Gap analysis checklists.
- k. Survey, survey results, survey analysis reports.
- l. Risk assessments.
- m. Risk assessment action plans.
- n. Others.

4.1.3 Change Management and Implementation Gap Analysis

The gap analysis will help determine what policies, procedures, guides, manuals, training, and other arrangements are already in place and might readily receive the new NDAA Sherpa fleet into the current system. It should also help determine vulnerabilities that arise as a consequence of the introduction, interaction between people, and the specific features of the change. The gaps identified by the regions for capacity and policy will be an important aspect of the CMIP.

The CMIT will design a gap analysis checklist by augmenting the readiness assessment to meet gap analysis intent and the NDAA Sherpa fleet's unique needs as a program.

1. Sources have been identified to help provide detailed information for items that may be appropriate to augment the readiness assessment checklist and meet the intent of the gap analysis. Sources include Fire and Aviation Safety Management System Office for Quality Assurance Audit checklist, Federal Aviation Administration (FAA) gap analysis checklist, current smokejumper aircraft and base readiness assessment checklists, regional specifics for readiness reviews, and other sources.
 - a. Complete current work being performed including airworthiness and maintenance, training, facilities, funding, support personnel, smokejumper specific training for a new aircraft, cargo, and other pertinent information.
 - b. Examine the Interagency Smokejumper Pilot's Operations Guide (ISPOG) for gaps.
 - c. Examine the Interagency Smokejumper Operations Guide (ISMOG) for gaps.
 - d. Examine the U.S. Forest Service National Smokejumper Training Guide for gaps.
 - e. Identify U.S. Forest Service smokejumper pilot or aircraft program gaps. These gaps should include difference in avionics between smokejumper aircraft and other agency aircraft.
 - f. Examine the Administrative Use of Aircraft Desk Reference for gaps.
 - g. Other.

Once the Gap Analysis is complete, it will provide the Change Management and Implementation Plan a national snapshot of the readiness of the smokejumper aircraft program as a whole and where to fill the gaps. It will also provide each region with a snapshot of its readiness, as well as where the gaps are that need to be addressed to help ensure successful implementation.

4.1.4 Contingency Plan for a Critical Event during Implementation

Events may occur which require rapid assessment and possible course correction during implementation. Examples of this type of event could be: (a) a systemic problem with the Sherpa aircraft, (b) a significant mishap, or (c) a default by a primary contractor. Should an event of this type occur, the Assistant Director, Aviation and staff will need to rapidly assess the situation, incorporate the CMIT into the analysis of the situation, and determine the pathway forward. Depending on the type of event, and the timing and duration of the problem, alternatives ranging from short-term pause to much more drastic action could be implemented. A key to success in this effort will be to have viable alternatives available throughout the implementation process. This plan is to be developed by the CMIT.

Chapter 5 - Change Risk Management Processes

5.1. Change Risk Management

The change risk management process is specifically designed to manage *the risks related to and introduced by the changes* implemented into and impacting the smokejumper program, maintenance program, training, etc. Specifically, hazards must be identified, and then mitigation measures identified, defined, and rated for their efficacy and cost benefit.

The change risk management process is twofold, including separate assessments related to (1) the CMIP and (2) operational safety impacts.

The Sherpa CMIP Risk Assessment has been in development since October 2014. The currently identified hazards and mitigation measures are described in Appendix 5.1, Sherpa CMIP Risk Assessment Hazards and Mitigation Measures. The mitigation measures are rated and evaluated in Appendix 5.2, Sherpa CMIP Risk Assessment Rating and Evaluation.

The second risk assessment addresses operational safety impacts related to the operation of the C-23B+/SD3-60 Sherpas and will incorporate applicable risks from previous risk assessments and safety impact analyses (SIA). This information will be detailed in the Operations Plan incorporating the 2013 Safety Impact Analysis for Smokejumper Operations and Smokejumper Aircraft Operations.

5.1.1 Risk Management Considerations and Analysis

The NDAA Sherpa Change Management and Implementation Plan Risk Assessment (2016) identified known hazards related to the NDAA Sherpa fleet implementation and future. This Change Management and Implementation Plan provides a means to monitor the mitigation measures defined and anticipated during the change implementation of the fleet. The plan also utilizes current and newly identified processes to ensure a means of capturing, mitigating and documenting newly identified hazards.

Chapter 6 - Change Quality and Safety Assurance Process

This is a performance monitoring and data analysis activity that provides feedback regarding controls and hazard mitigation measures identified in the change risk management and other risk assessment documents pertinent to the smokejumper aircraft program. It is the primary source for evaluating effectiveness of controls as they are put into action in the field.

The change quality and safety assurance process is specifically designed to ensure mitigations are effective for both the NDAA Sherpa Change Management and Implementation Plan Risk Assessment (October 2014) and the mitigation measures addressed in the 2013 Safety Impact Analysis for Smokejumper Operations and Smokejumper Aircraft Operations.

The change quality and safety assurance process accomplishes several assurance processes. The NDAA Sherpa Change Management and Implementation Plan Risk Assessment (October 2014) mitigation measures that have been implemented will be reviewed to ensure they are meeting the intent of the plan and the risk assessment. This is being done as soon as the assessment is accomplished and mitigations are implemented.

A second change quality and safety assurance process will evaluate the effectiveness of the operational risk assessment in the Operations Plan. Following the implementation of these mitigation measures, this process will determine the effectiveness of those mitigations for the program.

6.1 Change Safety/Quality Assurance

6.1.1 Assign Responsibilities

1. Activities and actions will be accomplished as assigned in the Action Tracker⁵ by the Change Management and Implementation Team (CMIT).
2. Ongoing safety/quality assurance processes will be assigned in the Action Tracker by the CMIT.
3. An assigned safety assurance team member will be responsible for
 - a. Collecting and analyzing information within the data information archives.
 - b. Determining how After Action Reviews (AAR) will be captured, documented, and reviewed.
 - c. Ensuring results and feedback is timely to the Change Management and Implementation Team.
 - d. Determining how to capture emerging hazards and trends and how to communicate and mitigate them expeditiously back into the Change Management and Implementation Plan (CMIP).

⁵ Contact Aviation Management Specialist, Aimee Mautone for the current version of the Action Tracker.

Document the sources of these emerging hazards and trends, and ensure they are deposited into the data information managed by a position to be designated.

Designate a pilot and a spotter in each region to make field notes on how the change is going and submit a monthly progress report to the CMIT (concerns, success stories, etc.)

6.1.2 Data Monitoring and Analysis of Change Activities and Methods

Schedule analysis reviews that look at documented activities to ensure trends and emerging hazards are not slipping through the implementation unnoticed. Schedule these to allow for a broad look over extended periods of time (monthly, semiannually, annually, etc.).

1. Reporting systems.
2. Change Readiness Assessment results (Survey Monkey).
3. Gap Analysis results.
4. Action Tracker⁶ progress and timeline achievements.
5. Risk assessments.
6. Continuous improvement opportunities.
7. Develop a process for equipment and procedures to document change.
8. Feed data back to SASES.

6.1.3 Evaluate the Performance of the Change Implementation

A primary finding for Change Safety Assurance is whether or not the change implementation is meeting the objectives defined in Chapter 1: Change Policy, Leader's Intent. If benchmarks or milestones intended to keep the change implementation on track are not being met, feedback through the system via the Transition Monitoring Team, safety officer position, reporting system or any other means should trigger modification activities in order to meet the objectives.

1. Measurement of success through accomplishment of timeline or activity targets and benchmarks.
2. Ensure Action Tracker items are being addressed.
3. Validate effectiveness of safety elements, training processes, maintenance procedures, facilities with documentation of reviews.
4. Eliminate or modify risk controls that have unintended consequences or have run their course and no longer make sense.
5. Through the Communication Plan, the Transition Monitoring Team (TMT) will have a built-in feedback system to provide for positive communication to the Change Management and

⁶ Contact Aviation Management Specialist, Aimee Mautone for the current version of the Action Tracker.

- Implementation Team, management, and the aviation and smokejumper communities.
6. Verify the risk assessment process through observations and other methods as it is being used in the field or workforce.
 7. Consider receiving the assistance of a RASM for many of these evaluation processes on an annual review basis.

6.1.4 Identify Emerging Hazards and Change Implementation

This is the opportunity to assess risk to hazards that have been identified during observations and implementation activities. This is also a time to identify changes that are taking place that weren't anticipated.

1. Hazards identified during change implementation are fed back into the risk management process and mitigated.
 - a. Ensure these mitigation measures are implemented.
2. Capture change processes that begin to work for the program and update the Change Management and Implementation Plan with the more effective and efficient actions. Continuously work to improve the plan.

Chapter 7 - Change Management Promotion Process

Change management promotion processes provide a means of continuous, effective, and targeted communication to ensure the correct information is being provided to the intended audience.

7.1. Communication Plan and Processes

A Communication Plan is developed and will be continually reviewed and modified. It is a “living” document and will incorporate additional information as it becomes available and as the implementation and transition continue. The Change Readiness Assessment (Survey Monkey) results have been reviewed and are addressed in the Communications Plan.

The Communication Plan will be held outside of this document by the Forest Service NIFC Public Affairs Specialist. The CMIT will review the plan periodically. The most recent update was in 2016.

7.2. Program Direction and Training Materials

Existing training and program direction documents will be examined as part of the Gap Analysis. The results of the Gap Analysis will indicate where changes need to occur to address considerations regarding the NDAA Sherpas. Existing training and program direction documents include:

- Interagency Smokejumper Operations Guide (2016).
- Interagency Smokejumper Pilot’s Operations Guide (2010).
- Forest Service Smokejumper Training Guide (2016).
- Administrative Use of Aircraft Desk Reference.

Appendices – Chapter 1

Appendix 1.1: Change Management and Implementation Team (CMIT) Members and Leader’s Intent, USDA Forest Service, 5710 Memo, August 15, 2016.

Appendix 1.2: Change Management and Implementation Team (CMIT) Charter, USDA Forest Service, Decision Memo, June 26, 2014.

Appendix 1.1: CMIT Members and Leader's Intent

File Code: 5710

Date: August 15, 2016

Route To:

Subject: USDA Forest Service Modification of Appointment Letter for the C-23B+/SD3-60 Change Management and Implementation Team dated July 17, 2014

To: C23B+/SD3-60 Change Management and Implementation Team Members

The Forest Service (FS) has chartered a working group authorized to develop the change management and implementation plan (CMIP) for the retrofitting and deployment of 10 C-23B+ aircraft. This letter updates and assigns the personnel identified below to the Forest Service C-23B+/SD3-60 Change Management and Implementation Team.

The Team members are:

- Chair, National Smokejumper/Large Fixed Wing Program Manager – Roger Staats
- Co-Chair, Regional Aviation Officer – Margaret Doherty
- Regional Aviation Safety Manager – Robert Roth
- Pilot Representative – Eric Shilling/Abe Fandrich
- Avionics Specialist – Jim Reed
- Airworthiness Inspector – Gil Elmy
- Contracting Officer – Mike McFarlane
- NFFE Advisor (non-voting) – Jeff Ebner

The primary intent of the C-23B+/SD3-60 Implementation project is as follows:

- Update and continue to develop a Change Management and Implementation Plan (CMIP) specific to the evolution from current operations to the SD3-60 aircraft. The CMIP is anticipated to be completed by October 1, 2016 and an Operations Plan by April 1, 2017.
- CMIP will include: objectives, communication, data collection, risk management, promotion, safety assurance, transition management, documentation, and recommendations for policy, organization/management and change implementation.
- Oversight of the program will occur at National and Regional levels. Regions will be involved in development, updating, and implementation of the CMIP.
- Each Aviation Branch Chief provides guidance and oversight of their respective area of expertise for the transition to future SD3-60 operations.
- Develop the concept of a government owned/mixed operations fleet (GO/MO).

Uphold leadership expectations to operate the fleet at an efficient cost, improve effectiveness, mitigate known hazards and standardize operations.

/s/ Art Hinaman

ARTHUR HINAMAN
Ast Director Aviation

cc: Paul Linse, Tom Ricks, John Nelson, Roger Staats, Maggie Doherty, Mike McFarlane, Aimee Mautone, Aaron Schoolcraft, Samuel Ramsay, Robert Roth, Ezequiel Parrilla, Jim Reed, Jeff Power, Gary Boyd, Gary Sterling, Gil Elmy, Eric Shilling, Abe Fandrich

Appendix 1.2: CMIT Charter, USDA Forest Service, Decision Memo



USDA FOREST SERVICE – FIRE AND AVIATION MANAGEMENT Forest Service C-23B+/SD3-60 Change Management and Implementation Team Charter

Background

The National Defense Authorization Act of 2014 (NDAA) authorizes the Department of Defense to transfer a total of up to fifteen (15) Short Brothers C-23B+ Sherpa aircraft to the USDA Forest Service (FS) for use in wildfire suppression. The C-23B+ are military certificated aircraft which the FS intends to certificate as standard category aircraft designated commercially as the Short Brothers SD3-60. Prior to standard category certification they will be used only for smokejumper and para-cargo operations.

Once certificated by the Federal Aviation Administration (FAA) as the SD3-60, the aircraft will continue the smokejumper/ para-cargo mission as well as transport firefighters, incident management personnel and support other fire and natural resource missions. In addition, the NDAA transfers initial spares and necessary ground support equipment along with the aircraft.

Name

The name of the team hereinafter shall be the **Forest Service C-23B+/SD3-60 Change Management and Implementation Team** (referenced here as the Team) of USDA Forest Service, Fire and Aviation Management.

Authority

The Team is established pursuant to the authorities granted by the Director, Fire and Aviation Management (FAM).

The deliberations of this Team are exempt from the Federal Advisory Committee Act under section 204 of the Unfunded Mandates Reform Act of 1995.

The Team receives leader's intent and direction from the Director, FAM and reports to the Assistant Director, Aviation.

The Team leader is authorized to convene meetings, schedule agenda items, make contacts, negotiate work assignments, make commitments on behalf of the team, task members or technical specialists, create working groups and task teams, or commit such resources as available within the team or as authorized by the Director, FAM.

Purpose

The Team is chartered to develop and recommend a Change Management and Implementation Plan for the safe and effective transition to the C-23B+/SD3-60 aircraft. This plan will include policy, objectives, organization, data collection and planning, risk management processes, change implementation, change management promotion, safety assurance, transition management, and documentation.

The Team, through the Branch Chief, Aviation Operations, provides guidance and oversight for the transition from current operations (smokejumper, para-cargo and firefighter transport) and aircraft mix (agency-owned and contractor) to the certificated SD3-60 aircraft. The Team will recommend and develop changes to current policy, guides, and plans affected by the transition.



The implementation of the C-23B+/SD3-60 aircraft will occur nationally and be coordinated and implemented with the affected regions. Oversight will occur at the national and regional levels. Regions will be involved in the development and implementation of the plan.

Organization and Membership

The C-23B+/SD3-60 Team is composed of:

- National Smokejumper/Large Fixed Wing Program Manager (Chair) – WO Boise
- Branch Chief, Aviation Operations
- Branch Chief, Pilot Standardization
- Branch Chief, Airworthiness
- Smokejumper Base Manager – *RAO Council designated*
- Regional Aviation Officer - *RAO Council designated*
- Regional Aviation Safety Manager - *RASM Council designated*
- Smokejumper Pilot – *Branch Chief, RAO and Pilot Standardization Branch designated*
- Avionics Specialist – *Branch Chief, Airworthiness designated*
- Airworthiness Inspector – WO (Ogden)
- Contracting Officer – Washington Office AQM/ ISB, *Branch Chief ISB designated*
- *Aviation Strategic Planner/Specialist*

The Team Chair and Team members are approved by this charter.

Team meetings and project coordination will be facilitated by On Course Aviation (contractor).

The Team may be supported by technical specialists or working groups as necessary. Technical specialists may include but are not limited to a Union Representative, FAM Public Affairs, Smokejumpers, Line Officer, Aviation Training Specialist, Human Resource (HR) Specialists, and Aviation Technology Specialists. A Team member will be assigned as a liaison for any working group established.

When a Team member cannot attend a scheduled Team meeting they are responsible for designating a stand-in representative for their proxy.

The terms of tenure for the Team will be for the duration of this charter.

Responsibility

The Team has the primary responsibility of developing the Forest Service C-23B+/SD3-60 Change Management and Implementation Plan (CMIP). Responsibilities include but are not limited to the following:

- Develop a C-23B+/SD3-60 Change Management and Implementation Plan.
- Make recommendations to the Assistant Director, Aviation regarding change management and implementation of the C-23B+/SD3-60 aircraft.
- Make recommendations to the Assistant Director, Aviation regarding change management and implementation of the C-23B+/SD3-60 program management and organization. This includes in-house program management, GOCO management and oversight.
- Develop yearly budgets and submit the project proposals.
- Ensure the discussion and recommendations are clearly communicated to the Washington Office, Regions and other affected stakeholders.



Deliverables

- Develop a Change Management and Implementation Plan to address items including: objectives, data collection and planning, risk management processes, change implementation, change management promotion, safety assurance, transition management, and documentation.
- A GAP analysis will be completed as part of data collection.
- Formally communicate this document and the authority of the Team to Regional staffs.
- Provide a quality assurance process for mitigations, new procedures and new technologies.
- Develop an Operations/Standardization budget and project proposal within constraints established by the Director of FAM. The budget will be reviewed by the Branch Chief, Aviation Operations, Branch Chief, Aviation Business Operations and Assistant Director, Aviation.
- Recommendations for any policy, guides or plans.
- The Team will document meeting highlights including C-23B+/SD3-60 Team recommendations. Meeting notes will be distributed to Team members; the Assistant Director, Aviation; the Aviation Branch Chiefs; Regional Aviation Officers, and Regional Aviation Safety Managers.

Cooperation and Coordination

The Team will work through the Assistant Director, Aviation to ensure coordination, collaboration, and information sharing with other agency staff, FAM staff, AQM staff, and interagency partners.

Charter Amendments and Approval

Changes to, or revocation of this charter shall be approved by the Assistant Director, Aviation and approved by the Director, FAM by official correspondence in a Decision Memo or letter.

This charter is effective as of the date of approval and shall remain in effect for five (5) years from the approval date, unless re-chartered by the Director FAM.

Approved



 Tom Harbour
 Director, Fire and Aviation Management

06/26/2014

 Date:

Appendices – Chapter 2

Appendix 2.1: C-23B+/SD3-60 Sherpa Change Readiness Assessment

Appendix 2.1: C-23B+/SD3-60 Sherpa Change Readiness Assessment

Complete results of the C-23B+/SD3-60 Sherpa Change Readiness Assessment were included in Version 3 of the Change Management and Implementation Plan and are available upon request from the Sherpa CMIT Co-Chairs.

Appendices – Chapter 3

Appendix 3.1: Smokejumper Aircraft Screening and Evaluation Subcommittee (SASES) Report

Appendix 3.2A: Summary of Regional Information and Data Collection

Appendix 3.1: Smokejumper Aircraft Screening and Evaluation Subcommittee (SASES) Report

The SASES report is to be completed in 2017.

Appendix 3.2A: Summary of Regional Information & Data Collection

Background

This is a summary of information submitted by the Regional Aviation Officers of Regions 1, 4, 5, and 6 in response to a request for information by Assistant Director Art Hinaman. This information was compiled on September 30, 2014 and was updated by the Regional Aviation Officers on April 4, 2016. This CMIP does not give approval for additional funding, it is only to identify potential need for aircraft, personnel, and facilities to support the SD3-60 Sherpa program.

Overview

The RAOs and SMEs from the regions with smokejumper operations have agreed that the contract for smokejumper aircraft needs to be solicited through the completion of the Sherpa conversion for the foreseeable future. The strategic goal is to move to a smokejumper fleet that only consists of SD3-60 Sherpa's and Twin Otter aircraft.

See Table 2, section 3.1.7 for further information on current plans for aircraft fleet replacement.

Regional Responses

This portion of the document is a side-by-side display of the RAOs' initial responses to the questions. Further discussion is needed to identify areas of alignment and areas needing further resolution.

Question 1

What is the number of NDAA Sherpas needed in your region by date of availability and by location?

Region 1

For the Turbine DC-3 replacement, contract aircraft will be used with a new Item Missoula in the 2016 contract. Commitment by the Washington Office regarding contract or agency aircraft has been supported for the Missoula base. This contract item will be in place through the SD3-60 Sherpa transition or until the replacement CWF aircraft is purchased behind the DC3. These contract options need to be discussed in the event the SD3-60s are not ready by January 2017. An option to consider if Region 6 and Region 4 receive the first SD3-60 Sherpas is that Missoula could use the C-23A Sherpa that would no longer be used in Region 6 and contract the Twin Otter that has been in place for the Region 4 contract. The preferred option is to purchase and operate an agency Twin Otter 2018.

Region 1 would acquire SD3-60 2017 for DC-3 replacement and replace the A model for an SD3-60 in and acquire Otter or second SD3-60 in 2018.

Aircraft at the contract locations, Grangeville and West Yellowstone, will be replaced last. This would allow for evaluation of SD3-60 model and at the same time provide for backcountry support needs if a Twin Otter is used to replace the DC-3.

Grangeville needs reflect need for backcountry and other missions for fire and natural resources programs. There would be benefit to incorporating an SD3-60 if performance allows. This would also be a good location for paracargo and agency boost of aerial delivered firefighters.

Region 4

The operational smokejumper requirement in Region 4 is one SD3-60 Sherpa. Planned Initial Operational Capability (IOC) for a SD3-60 Sherpa is CY 2016. A second operational spare SD3-60 Sherpa could be hosted at Ogden, UT, with modest infrastructure growth. This aircraft would support the scheduled “phase line” concept as a floating spare (to be available and used where needed).

Region 5

The Pacific Southwest Region would like to request two SD3-60 Sherpas to support the smokejumper mission. These aircraft would be hosted in Redding, California and replace the current contract aircraft and existing C-23A Sherpa. Date needed would be based on the availability of the SD3-60 Sherpas.

Region 6

The Pacific Northwest Region needs a total of three SD3-60 Sherpas. Two are needed to replace the C-23A Sherpas in Redmond, Oregon, and one to replace the CASA 212 in Winthrop, Washington. The date needed would be based on SD3-60 availability.

Table 3: Summary of SD3-60 Aircraft Needed Based on Regional Responses

Location	Number	Comments
Missoula, MT	2	If purchase of agency-owned Twin Otter approved.
Grangeville, ID	0	
West Yellowstone, MT	1	Pending the SD3-60 performance.
McCall, ID	1	
Redding, CA	2	
Redmond, OR	2	
Winthrop, WA	1	
Ogden, UT	1	Logistical support/smokejumper configured spare
Total SD3-60:	10	<i>(Note: 14 total smokejumper aircraft including 2 agency-owned Twin Otters and 2 contract aircraft.)</i>

Question 2

What is the projected ability of the regions to provide agency pilot staffing for the NDAA Sherpas?

Region 1

The Region agrees that the staffing is 2.5 to 3 pilots for double-crewed aircraft. The region could meet the staffing with the DC-3 and C-23A model Sherpa replacement with the current organizational charts. Additional staffing needs would increase as we replace the 2016 contract aircraft. If the contract is replaced with a Twin Otter, there would be need for 2 for 7-day coverage. If the DC-3 replacement is for an additional SD3-60, then contracting or agency pilot numbers needs to increase by 3.

The region could utilize a GOCO model for pilot services at base locations with seasonal needs or seasonal limits. This would include contract services for West Yellowstone, Grangeville and third SD3-60 in Missoula for a total of 7 to 9 contract pilots. This would be a good course of action for pilot development and recruitment.

Region 4

Region 4 has three type-rated pilots that will be attending recurrent training in November 2016. Agency pilots will receive supervised Sherpa mission training from current instructors in Regions

1, 5, and 6 in 2017. Region 4 anticipates having 1.5 fully qualified Sherpa crews prior to the planned CY 2017 IOC.

Region 4 advocates a long-term plan of staffing with agency pilots. Occasional shortfalls will be filled with CWN contract pilots.

Region 5

This Region currently has two dedicated pilots staffing one C-23A Sherpa aircraft. This is augmented by the Redding Supervisory Pilot and one of the Lead Plane pilots to cover days off and scheduled leave.

If the agency is planning to staff the additional Working Capital Fund (WCF) aircraft with agency pilots, the region would need to hire three additional agency pilots. This would give us a total of five agency pilots to staff two aircraft.

If the agency is planning to staff the additional WCF aircraft with contractor pilots, the region would need two primary pilots, and one pilot to provide for days off during the MAP.

Regardless of the decision to staff these aircraft with contractor or agency pilots, the Region desires an additional pilot position assigned to this program. This would allow the supervisory pilot to supervise his/her program and the lead plane pilot to staff his/her aircraft throughout the course of the summer. This program would then be self-sufficient.

Region 6

With two aircraft at Redmond and one at North Cascades Smokejumper Base (NCSB) staffed with all agency pilots, eight pilots would be enough to fully staff the three aircraft. This would provide coverage seven days a week with a 12-on/2-off schedule, resulting in 10 extra pilot days per pay period (not committed to staffing an aircraft). An 11-on/3-off schedule would result in two extra pilot days per pay period. A minimum of five captains would be required out of the eight pilots. Two travel days per pay period are included in the above numbers to cover relief at NCSB from a Redmond duty station.

With agency pilots staffing only the two Redmond aircraft, five pilots would be enough for seven-day coverage resulting in four extra pilot days per pay period. The NCSB aircraft would require three pilots for a seven-day coverage, resulting in 10 extra pilot days per pay period.

If a roving relief pilot or crew were used that could travel to the Sherpa bases across regions, the total number of required pilots would be reduced. Use of seasonal and developmental pilot details would reduce the total number of year-round pilots required.

Available flight time per pilot must be considered. Eight pilots at 100 hours per year (required by Forest Service policy) requires three aircraft to fly 267 hours per year each. More pilots per aircraft would require the aircraft to fly more hours to meet proficiency minimums. With limited "working mission" flight time available, the training and proficiency budget would have to increase.

Table 4: Summary of Existing vs. Projected Crews/Positions

Region	Current/Existing Crews	Minimum Current/Existing Positions (Based on 2.5 pilots/crew)	Projected Crews Needed	Minimum Projected Positions Needed (Based on 2.5 pilots/crew)
Region 1	2	5.0	3.0	7.5
Region 4	0	0.0	1.0	2.5
Region 5	1	2.5	3.0	7.5
Region 6	2	5.0	3.2	8.0
Total	5	12.5	10.2	25.5

Question 3

What is the projected ability of the regions to provide oversight to contract maintenance?

Region 1

Region supports the “Hub” model for maintenance needs. Region 6 currently provides the services and would identify future needs. Region 1 would continue to use contract maintenance under the current model. This capability would remain in place.

The current contract locations West Missoula and Grangeville would utilize the operational spare to conduct the current level of contractor provided and the requirements of the Exclusive Use clauses. These contract base locations would need to be added to regional maintenance locations.

Region 4

Region 4 has exceptional indigenous COR abilities to provide oversight to contract maintenance. Region 4 advocates the addition of one USFS FTE (full time employee), or that one full-time contract Sherpa maintainer be added to augment its Ogden agency staff of one Program Manager, two Maintenance Inspectors, and one Avionics Inspector. The single contract maintainer would be the dedicated crew chief for the Sherpa.

The proposed Ogden contract maintainer would work under the direction of a WO Contracting Officer Representative or maintenance director. The Regional staff would perform maintenance along with the contracted technician and provide oversight of the work performed. When heavy maintenance is being performed, an additional contract maintainer could travel to Ogden to assist. Time permitting, the contract maintainer could be authorized to assist maintenance efforts on other Region 4 possessed WCF aircraft.

The addition of a U.S. Forest Service FTE instead of contract maintainer would fulfill all duties mentioned above.

Region 5

The maintenance model which has been in use and agreed upon between Region 5 and Region 6 is that minor maintenance occurs in Redding under a local maintenance contract with oversight provided by a Regional AMI. All major maintenance and annuals occur in Redmond. With the additional aircraft there is no foreseen need to change this model.

Region 6

Region 6 has a Sherpa Program Manager in the Aviation Maintenance Division. We have great ability to provide oversight of contract maintenance.

Question 4

What facilities are required support NDAA Sherpa aircraft?

Table 5: Hangar Space Summary

Region	# of Sherpa A/C w/ hangar space	# of additional Sherpa A/C needing hangar space	Comments
Region 1	3 (MSO)	Unknown	West Yellowstone requires off-season hangar space.
Region 4	1	Unknown	See Region 4 below.
Region 5	1	1	See Region 5 below.
Region 6	2	1	See Region 6 below.

Region 1

Region 1 can provide hangar space for three large aircraft: three Sherpas OR two Sherpas and a Twin Otter. Miles City interagency agreement for booster does need to be discussed for future hangar requirements. Additional equipment required would include a fall arrest/restraint safety system installed in hangar.

Region 4

The future of Region 4 aviation facilities is currently unknown. Region 4’s hangar has one more year prior to lease expiration. The current Region 4 facility could house one Sherpa in addition to currently assigned aircraft. A second hosted Sherpa would stress current space by forcing contract lead planes out while extending inspection timelines to accommodate daily hangar shuffles. The expiration of the existing hangar lease has forced the development of multiple courses of action. OPTIONS: Solicitation for new leased property is ongoing and regardless of whether the operation remains at the present location or moves to a new or different building, the location is planned to remain at Ogden, UT.

Region 5

Our current facility in Redding houses the Fire Watch program with two helicopters, three lead planes, and our C-23A Sherpa. In order for us to house two additional SD3-60 Sherpas, additional hanger and office space would need to be procured or constructed. At this time, the Region does not receive any WCF funding from the Sherpa program for the Forest Service hangar in Redding.

Region 6

Maintenance facility comprised of hangar, parts room, and office space. Area square footage is as follows:

- Hangar- 22,780.
- Parts Room- 3,846.
- Offices- 6,089.

If projected SD3-60 Sherpa fleet size will exceed the current fleet of four aircraft or the agency plans receipt of excess SD3-60 parts and ground support equipment, consideration should be given to the following:

- 10-12K square foot secure warehouse/storage facility.
- Additional hangar space for up to 3 aircraft.
- Fall arrest/restraint safety system installed in hangar.

Question 5

What might be some of the non-smokejumper aircraft missions that the NDAA Sherpas could perform once certificated as Civil Aircraft? Identify the missions and anticipated number of annual flight hours.

Answering this question requires a considerable amount of speculation. Here are some initial thoughts from the Regions.

Region 1

Region 1 supports development of the aerial delivered firefighting mission. This includes support of paracargo development, delivery system and rear door capabilities, and smokejumper and rappel boost capabilities.

Any other missions outside ADFP would need further development and analysis. If there is support for additional missions, the current model of Infrared aircraft being conducted by Region 4 should be used. Any operational needs would be staffed by the regions.

Region 4

1. Support Boise Radio Cache. Hours per year – Unknown.
2. Increased/nontraditional paracargo in support of backcountry airstrip maintenance, resupply for trail crews, etc. Hours per year – Unknown.
3. Administration flight support. Hours per year – Unknown.
4. Transporting Incident Command Teams, Rappellers, or Ground Fire Fighters from point to point. Hours per year – Unknown.
5. Expanded aviation roles outside our core skill sets are feasible, but require well formulated plans:
 - Interagency support of civil authorities (Border Patrol, FEMA, etc.).
 - Opportunities to assist military.
 - International Non-Governmental Organizations (NGO) support.

Region 5

Being limited to two aircraft, the smokejumper mission will take priority over other requests during the fire season.

Outside of fire season will depend on aircraft and pilot availability. Currently, we are staffing our existing Sherpa year-round in support of the smokejumper program. This action alone has required us to coordinate around our pilot's annual leave, military leave, mandatory training, and aircraft maintenance. This takes place among our current staff.

Region 6

Any significant expansion of use for the smokejumper aircraft would have to be outside of fire season. Maintenance schedules, pilot training and leave schedules, winter weather, and other logistical challenges will constrain the off-season availability of the aircraft for those missions.

Currently we provide logistics support to the Alaska Fire Service, typically from mid-May to mid-July each year, depending on fire season demands in the Pacific Northwest. Flight time has averaged over 100 hours per year. This could increase slightly due to increased paracargo usage afforded by the large rear door capability. The time window for support to Alaska will still be constrained by fire season in the lower 48.

Certification of the aircraft could open up opportunities for passenger transport missions. Other missions not necessarily tied to certification could be to support the Department of Defense for their Special Forces and Para-Rescue parachute training, and logistics and paracargo support to disaster relief efforts. Again, these missions would have to be mostly outside of fire season.

Smokejumper boost missions would not increase average flight times as they are part of the current mission profile.

Rappel boosts could provide an opportunity for increased flight time, but would most likely have to be covered by additional aircraft that are not committed to smokejumper support.

There are too many variables to consider to come up with a reasonable estimate of additional annual flight hours for hypothetical missions. Based on experience with the Alaska mission, somewhere between 50 to 100 hours is possible if the aircraft were available for an additional two months per year, with a reasonable flight rate.

Appendices – Chapter 4

(None at this time.)

Appendices – Chapter 5

Appendix 5.1: Sherpa CMIP Risk Assessment Hazards and Mitigation Measures

Appendix 5.2: Sherpa CMIP Risk Assessment Rating and Evaluation

Appendix 5.1: Sherpa CMIP Risk Assessment Hazards and Mitigation Measures

The Sherpa Change Management and Implementation Plan Risk Assessment (October 2014) addresses hazards to the successful implementation of the change. It was updated in the summer of 2016 and its information is Appendix 5.1 and 5.2 of the CMIP. The hazards and mitigation measures were rated and are now included as Appendix 5.1 of the Change Management and Implementation Plan (CMIP).



FOREST SERVICE

CMIP Risk Assessment

U.S. Forest Service C-23B+/SD3-60 Sherpa Change Management and Implementation Plan

September 2016



Photo Credit: Shane Bak

Summary

The introduction of the C-23B+/SD3-60 Sherpa's into the Forest Service has been guided by the processes outlined in the Change Management and Implementation Guide (CMIG). One key step in this work is to systematically assess the risks to the success of the intended change.

This report is intended to provide a Risk Assessment for the Sherpa Change Management and Implementation Plan. It began in October 2014 with extensive work completed by a work group of the Sherpa Change Management and Implementation Group. The initial work consisted of evaluating the early versions of the Change Management and Implementation Plan (CMIP) to identify Hazards to the successful accomplishment of the goals of the CMIP.

This document was updated in the summer of 2016 and the text shows the current situation while commenting on past events.

CHAPTER 1 – Change Management Policy and Objectives

Item 1.01: Project Coordinator

Hazard: The hazard is a Project Coordinator not being designated for this project to oversee objectives, communication, data collection, risk management, promotion, safety assurance, transition management, documentation and recommendations for policy organization/management, and change implementation expose program to uncoordinated oversight and project management.

Mitigation: Fill a project coordinator position. Recommend this position not be a collateral duty. The Project Coordinator will be delegated the responsibility to ensure that measurements of success are accomplished and that follow-up occurs when measurements indicate slippage.

Update: As of June 21, 2016, a valid hazard. This hazard has been somewhat mitigated with the Smokejumper Program Manager position being filled and active. Also the Co-Chairs of the CMIT provide direction. However, they do have primary and collateral duties outside the Sherpa Implementation.

Item 1.02: Contract Coordinator

Hazard: All contracts regarding smokejumper aircraft, contract pilots, and contract maintenance are issued by the Aviation Acquisition Management Branch at Boise, ID. Programmatic challenges occur with multiple CORs and synchronizing contracts with operational timelines and plans.

Mitigation: Provide a single contract coordinator for the Sherpa project to coordinate all contracts with maintenance, pilot training/hiring, and aircraft modification schedules.

Update: As of June 21, 2016, still a valid hazard. Ensure the contract coordinator is separate from the project coordinator. Sherpa Contract Maintenance is being moved, or has been moved under the control of one contracting officer. However, there are a number of complex, action dependent items that will require resolution and coordination to be successful, i.e. pilots. Continue to utilize the Action Tracker to ensure mitigations are being implemented and bimonthly status calls to ensure accountability.

Item 1.03: Organizational Staffing Requirements

Hazard: Not having an appropriate and functioning organizational structure could produce poor oversight and inefficiency throughout the transition.

Mitigation: Evaluate the adequacy of organization staffing and ensure that national and regional program oversight is in place

Update: This hazard consolidates several hazards that were identified in 2014.

Item 1.04: Change Management and Implementation Plan

Hazard: Not completing a Change Management and Implementation Plan (CMIP) Version 4 by a date to be set in the last quarter of FY 2016 could delay project benchmarks due to the lack of oversight and coordination.

Mitigation: Complete CMIP Version 4 in FY 2016. This will ensure coordination of multiple areas with competing timelines. This will allow for identification of impeding challenges for programmatic issues that allow for alternate plans to be formulated in order to address conflicts.

Update: The timeline did slip and version 3 has been replaced by version 4. With Version 4 being signed and implemented, this hazard would likely be mitigated. The CMIP is scheduled to be approved in September 2016.

CHAPTER 2 – Transition Management

Item 2.01: Government Owned/Mixed Operation Model (GOMO)

Hazard: A Government Owned/Mixed Operation model (GOMO) will be utilized. There is an inherent risk of lost oversight and management of the program without clear definition of expectations and responsibilities through organization structure by government and contracted personnel.

Clear operational control is needed concerning the three areas:

1. Operations.
2. Maintenance/Logistics.
3. Pilots.

Mitigation: Develop a clear model for each area concerning supervision and oversight by identifying which positions will be contracted and which will be government supported. This reinforces efficiencies and cost control.

Update: As of June 21, 2016. The Interim Operations Plan (May 27, 2016) provides definition regard supervision and oversight. The Operations Plan (Estimate December 2016) will further develop these concepts.

CHAPTER 3 – Change Implementation Process

Item 3.01: Operations Plan for the C-23B+/SD3-60 Sherpa Aircraft

Hazard: Not completing an Operations Plan (Ops Plan) for the C-23B+/SD3-60 Sherpa aircraft by a date to be set in the last quarter of 2016 could cause delays in implementation.

Mitigation: Complete the Operations Plan on schedule. This will ensure coordination of multiple areas with competing regional and national operational timelines. This operations plan will allow for possible identification of impeding challenges concerning operational issues. It allows for alternate plans to be formulated in order to address conflicts.

Update: The Interim Operations Plan was approved on May 27, 2016. The Operations Plan is set to be approved in December 2016.

Item 3.02: Regional Plans

Hazard: Poorly coordinated activities due to outdated Regional Plans for implementing the change.

Mitigation: Update Regional Plans. Evaluate Regional Plans to ensure overall coherence of implementation.

Update: This is a valid hazard as of June 21, 2016. Regional objectives for the change and implementation will be established in regional plans. Regional information and data collection for Regions 1, 4, 5, and 6 was updated in June 2016 from the original 2014 plans and objectives.

Item 3.03: FAA Civil Certification

Hazard: Through identifying the FAA civil certification process for one prototype, issues may arise that affect the other SD3-60 aircraft. Using a Sherpa at Ogden, UT and then conforming the rest of the NDAA transferred aircraft to that standard is acceptable.

Mitigation: Develop and prepare alternate timelines with the potential for extension of operational contracts in order to mitigate delays in program timelines due to the possible effect of delays in the FAA process.

Update: This hazard did not materialize as the FAA Civil Certification was successful.

Item 3.04: Supplemental Type Certificate identification and Categories

Hazard: Hazard concerning lumping different engineering projects under one Supplemental Type Certificate (STC) as subsequent changes would affect all work done.

Mitigation: Pursue only STC items that require an STC. Avoid bundling unrelated items into an STC package.

Update: As of June 21, 2016 this is still valid.

Item 3.05: Smokejumper Aircraft Screening and Evaluation Subcommittee (SASES) process

Hazard: The Smokejumper Aircraft Screening and Evaluation Subcommittee (SASES) process could potentially delay program implementation if not done in concurrence with the STC process.

Mitigation: Develop and prepare alternate timelines with extension of contracts in order to mitigate delays in operational timelines due to the possible effect of delays in the SASES process.

Update: As of June 21, 2016 this is still valid. The needed Smokejumper Aircraft contracts will be in effect for four more years.

Item 3.06: Processes for Assessing Smokejumper Aircraft

Hazard: Failure to follow methodical aircraft evaluation procedures in the Interagency Aircraft Evaluation Plan maintained by MTDC in assessing smokejumper aircraft and accessory suitability may subject program to avoidable errors.

Mitigation: Follow Interagency Aircraft Evaluation Plan maintained by MTDC to guide new product implementation.

Update: As of June 21, 2016, this is a valid hazard.

Item 3.07: Certify and Configure All Aircraft for Their Future Mission(s)

Hazard: Not progressively certifying and configuring all aircraft for their future mission(s) needs to be identified and balanced with other aircraft modification priorities. The anticipated production output for this effort is three or four aircraft per year.

Mitigation: Define future missions and aircraft modifications and their associated timelines to ensure coordination of funding needed.

Update: As of June 21, 2016, this is still a valid hazard. This work is on schedule. Contractor's abilities to complete certain segments of work has caused the timeline to shift a bit.

Item 3.08: Pilot Training Plan

Hazard: Absence of a pilot training plan would result in increased costs due to poor coordination of training efforts.

Mitigation: Prepare and define government and contractor pilot training plan in concert with the initial deployment of aircraft.

Update: As of June 21, 2016, this is still valid. This is provided for in the IOP. Region 1 Standardization Pilot is working on this with a due date of December 2016.

Item 3.09: GOMO Model for Pilot Workforce

Hazard: Overtasking of current pilot structure by utilizing the GOMO model, leverage the strengths of the current smokejumper pilot workforce and their skills in the similar C-23A model Sherpa.

Mitigation: Produce a clear plan that outlines workforce development and the focus concerning pilot training, numbers of pilots, and supervisory needs at each phase of the implementation.

Update: This risk is still valid as of June 21, 2016. The Operations Plan will address the Mitigation Measure. The pilot training component is on track to be completed in December 2016.

Item 3.10: Pilot Hiring/Training Plan

Hazard: Pilot stage of training development is not provided in an action tracker in concert with aircraft induction/delivery plan.

Mitigation: Produce / provide an action tracker inclusive of all development stages for the deployment aircraft, pilot/maintenance hiring, pilot training, and GOMO makeup.

Update: This is still valid as of June 21, 2016. This will be done following completion of the Pilot Training project due in December 2016.

Item 3.11: Maintenance Supervisors

Hazard: By not balancing the leveraging of skill sets of current Sherpa maintenance supervisors in overseeing contract aircraft maintenance, there is the assumption of risk of overtasking personnel. (Hazard is overtasking due to limited number of Sherpa maintenance supervisors.)

Mitigation: Produce a workforce development plan addressing hiring through government and contract employment to limit the overtasking of current Sherpa maintenance supervisors. Fill identified positions.

Update: As of June 21, 2016. This is on track with positions being filled.

Item 3.12: Maintenance and Hangar Facilities

Hazard: Existing facilities may not be sufficient to support SD3-60 Sherpa operations at current and future "bed down" sites.

Status: As of June 21, 2016, this is still valid.

Mitigation: Regional and WO personnel to develop a clear plan addressing Sherpa maintenance facilities at each "bed down" site. Each regional plan should incorporate the required contracts to support seasonal maintenance operations for the determined number of Sherpas at each region.

Update: As of June 21, 2016 this is still valid. This will be addressed in Regional Plans. Not sure if having this addressed in the Regional Plans is going to ensure it is accomplished.

Item 3.13: Working Capital Fund (WCF) Aircraft Funding

Hazard: Hazard concerning Working Capital Fund (WCF) becoming deficient if the financial projection is not based on achievable assumptions regarding flight time, including predicted use and other potential missions.

Mitigation: Agreement between F&AM and Fiscal Management to incorporate the SD3-60 Sherpas into the Working Capital Fund as “paid up” aircraft with maintenance money provided.

Update: As of June 21, 2016 this is still a valid hazard. Extensive planning has gone into the incorporation of the NDAA Sherpa’s into WCF. They are coming in “paid up” with “seed money” and maintenance money.

Item 3.14: Identifying a Current Program Action Tracker System

Risk: Not developing a current master measurement of progress via an Action Tracker spreadsheet to track scheduled effort as well as completion dates is a risk to program oversight and coordination.

Status: This was true in 2013/2014, it is still a concern if the action tracker is not utilized.

Mitigation: Develop a current Action Tracker spreadsheet as soon as possible. This ensures that the multiple milestone efforts needed are on schedule and trigger points are developed that result in coordinated action. This will aid in ensuring scheduled activities are being accomplished on time. As well the upcoming project coordinator will need a working document from which to acquire program situational awareness.

Update: The Action Tracker is being actively used to manage the project and is kept current by the WO Aviation Management Specialist. This process is working very well. Because the Action Tracker changes frequently and in order to understand the history of a topic you need to see the archives it will be maintained outside of the CMIP.

Appendix 5.2: Sherpa CMIP Risk Assessment Rating and Evaluation

Criteria for Risk Assessment Ratings

Table 6: Risk Assessment Matrix

Likelihood	Severity			
	Negligible	Marginal	Critical	Catastrophic
Frequent	2	3	4	4
Probable	2	3	4	4
Occasional	1	2	3	4
Remote	1	2	2	3
Improbable	1	2	2	2

Table 7: Severity Scale Definitions

Severity	Definition
Catastrophic	Failure of implementing the SD3-60 Sherpa
Critical	Production stoppage Unanticipated major change in requirements Extensive unplanned costs Excessive delays
Marginal	Production slippage Mission capability not sequenced Investment costs increased
Negligible	No impact to time or dollars or efficiency

Table 8: Likelihood Scale Definitions

Likelihood	Definition
Frequent	Continuously Experienced
Probable	Will occur often.
Occasional	Likely to occur several times
Remote	Unlikely but can be reasonably be expected to occur
Improbable	So unlikely, it can be assumed it will not occur.

Table 9: Rating Matrix for Costs and Benefits (Pre-Mitigation and Post-Mitigation)

					Severity Levels Reduced			
					0	1	2	3 or 4
					Benefit			
					No Improvement	Moderate Improvement	Significant Improvement	Substantial Improvement
					Low	Moderate	High	Very High
					1	3	6	8
Cost	150,000+	Very High		1	2	4	7	9
	51,000-149,000+	High		2	3	5	8	10
	11,000-50,000	Moderate		3	4	6	9	11
	0-10,000	Low		4	5	7	10	12

The subject matter experts assigned a numeric value to each classification. The sum of these two numbers became the score for each combination of cost and benefit. The subject matter experts structured the scores in four rating classes as shown in the table below.

Table 10: Cost/Benefit Scores and Defining the Ratings

Score	Cost/Benefit Rating	Color
10-12	Best	
7-9	Better	
4-6	Good	
2-3	Minimal	

Risk Assessment Evaluation

ID	Hazard	Pre-mitigation			ID	Mitigation	Post-mitigation			Cost Rating	Benefit Rating	C/B Rating
		Likelihood	Severity	Rating			Likelihood	Severity	Rating			
1.01	A project coordinator has not been designated.	Probable	Critical	4	a.	Fill a project coordinator position.	Remote	Marginal	2	Low	High	Best
<p>Management Evaluation: The National Smokejumper/Large Fixed-Wing Program Manager has been delegated the responsibility of project coordinator in conjunction with the Region 1 Aviation Officer as Co-Chair of the Change Management and Implementation Team. The National Smokejumper/Large Fixed-Wing Program Manager is also providing leadership for the Ram-Air transition. There are multiple changes occurring simultaneously at various levels within the Forest Service that create a more complex environment and that are being addressed program by program.</p>												
1.02	All contracts regarding smokejumper aircraft, contract pilots, and contract maintenance are issued by the Aviation Acquisition Management Branch at Boise, ID. Programmatic challenges occur with multiple CORs and synchronizing contracts with operational timelines	Frequent	Critical	4	a.	Provide a single contract coordinator for the Sherpa project to coordinate all contracts with maintenance, pilot training/hiring, and aircraft modification schedules.	Occasional	Marginal	2	High	High	Better
<p>Management Evaluation: The coordinator is the Contracting Officer and is a good liaison between SME and AQM. Single point of contact with Contracting Officer is beneficial and efficient. B34</p>												
1.03	Not having an appropriate and functioning organizational structure could produce poor oversight and inefficiency throughout the transition.	Probable	Critical	4	a.	Evaluate the adequacy of organization staffing and ensure that national and regional program oversight is in place.	Occasional	Critical	3	Very High	Mod	Good
<p>Management Evaluation: Organizational staffing outside of the Sherpa program is critical to the success of the program.</p>												
1.04	Not completing a Change Management and Implementation Plan (CMIP) Version 4 by a date to be set in the last quarter of FY 2016 could delay project benchmarks due to the lack of oversight and coordination.	Occasional	Critical	3	a.	Complete CMIP Version 4 in FY 2016. This will ensure coordination of multiple areas with competing timelines.	Occasional	Marginal	2	Mod	Mod	Good
<p>Management Evaluation: The Project Co-Chairs are currently working with the CMIT and SMEs to complete Version 4 of the CMIP in 2016.</p>												
2.01	There is an inherent risk of lost oversight and management of the program without clear definition of expectations and responsibilities through organization structure by government and contracted personnel.	Probable	Critical	4	a.	Develop a clear model for each area concerning supervision and oversight by identifying which positions will be contracted and which will be government supported.	Occasional	Marginal	2	Mod	High	Better
<p>Management Evaluation: There are changes for multiple missions that are simultaneously occurring throughout all levels of the Forest Service Fire Management and Aviation Program, particularly the Smokejumper Program. This change creates a more complex environment and has greater potential to reduce oversight and supervision of agency organizations and contractors.</p>												
3.01	Not completing an Operations Plan for the C-23B+/SD3-60 Sherpa aircraft by a date to be set in the last quarter of 2016 could cause delays in implementation.	Probable	Critical	4	a.	Complete the Operations Plan on schedule.	Occasional	Critical	3	High	Mod	Good
<p>Management Evaluation: Because of delays in the conversion of the C-23B+ to the SD3-60 Sherpa Aircraft, pilot staffing issues, and organizational changes, the Operations Plan will potentially be delayed until the second quarter of 2017. An Interim Operations Plan has been completed to utilize one SD3-60 as a logistical aircraft. Even though an Operations Plan will be developed, it will not be inclusive of every potential issue or situation that may be encountered.</p>												

ID	Hazard	Pre-mitigation			ID	Mitigation	Post-mitigation			Cost Rating	Benefit Rating	C/B Rating
		Likelihood	Severity	Rating			Likelihood	Severity	Rating			
3.02	Poorly coordinated activities due to outdated Regional Plans for implementing the change.	Probable	Critical	4	a.	Update Regional Plans. Evaluate Regional Plans to ensure overall coherence of implementation.	Remote	Marginal	2	Low	High	Best
<p>Management Evaluation: Effective coordination across all Regions could be a challenge since the SD3-60 Sherpa is a new program with multiple changes to the current program that may create competing priorities. It is critical to improve coordination between Regions and WO to ensure success of this program. Active involvement and participation from the Regions is critical.</p>												
3.03	Through identifying the FAA civil certification process for one prototype, issues may arise that affect the other SD3-60 aircraft.	Occasional	Catastrophic	4	a.	Develop and prepare alternate timelines with the potential for extension of operational contracts in order to mitigate delays in program timelines due to the possible effect of delays in the FAA	Remote	Marginal	2	Low	High	Best
<p>Management Evaluation: Three aircraft are currently certificated with others in the process.</p>												
3.04	Hazard concerning lumping different engineering projects under one Supplemental Type Certificate (STC) as subsequent changes would affect all work done.	Probable	Critical	4	a.	Pursue only STC items that require an STC.	Occasional	Marginal	2	Low	High	Best
					b.	Avoid bundling unrelated items into an STC package.	Occasional	Marginal	2	Low	High	Best
<p>Management Evaluation: The Aviation Airworthiness Branch is working with MTDC on STC items and how to bundle or separate them.</p>												
3.05	The Smokejumper Aircraft Screening and Evaluation Subcommittee (SASES) process could potentially delay program implementation if not done in concurrence with the STC process.	Occasional	Critical	3	a.	Develop and prepare alternate timelines with extension of contracts in order to mitigate delays in operational timelines due to the possible effect of delays in the SASES process.	Occasional	Marginal	2	Low	Mod	Better
<p>Management Evaluation: This has already occurred and we are already working off an alternate timeline to mitigate delays.</p>												
3.06	Failure to follow methodical aircraft evaluation procedures in the Interagency Aircraft Evaluation Plan maintained by MTDC in assessing smokejumper aircraft and accessory suitability may subject program to avoidable errors.	Probable	Critical	4	a.	Follow Interagency Aircraft Evaluation Plan maintained by MTDC to guide new product implementation.	Occasional	Marginal	2	Low	High	Best
<p>Management Evaluation: No deviations of the Interagency Evaluation Plan are anticipated at this time.</p>												
3.07	Not progressively certifying and configuring all aircraft for their future mission(s) needs to be identified and balanced with other aircraft modification priorities.	Occasional	Critical	3	a.	Define future missions and aircraft modifications and their associated timelines to ensure coordination of funding needed.	Remote	Critical	2	Low	Mod	Better
<p>Management Evaluation: Maintaining support, funding, and project focus during the change of administration will be particularly important. Avoid the headline, "Forest Service Concerned about the Upcoming Change in Presidential Administration."</p>												
3.08	Absence of a pilot training plan would result in increased costs due to poor coordination of training efforts.	Frequent	Catastrophic	4	a.	Prepare and define government and contractor pilot training plan in concert with the initial deployment of aircraft.	Remote	Marginal	2	Mod	High	Better
<p>Management Evaluation: It is a high priority that the WO and Regions ensure that a pilot training plan and program are in place. If not in place, this could cause extreme time slippage in the Sherpa program timeline. All Regions will need to support and buy into the pilot training plan and program. Continue working with the Pilot Standardization Branch Chief to ensure that training plan and program are in place and meet Forest Service Policy and FAA requirements.</p>												

ID	Hazard	Pre-mitigation			ID	Mitigation	Post-mitigation			Cost Rating	Benefit Rating	C/B Rating
		Likelihood	Severity	Rating			Likelihood	Severity	Rating			
3.09	Overtasking of current pilot structure by utilizing the GOMO Model.	Probable	Critical	4	a.	Produce a clear plan that outlines workforce development and the focus concerning pilot training, numbers of pilots, and supervisory needs at each phase of the implementation.	Occasional	Critical	3	Mod	Mod	Good
<p>Management Evaluation: Currently there is a lot of competition and demand for pilots in private industry. The WO and ASC need to ensure that all agency pilot positions are filled as soon as possible. The Forest Service needs to make pilot positions more desirable to both internal and external applicants for recruitment and retention. The Pilot Standardization Branch Chief will be consulting with a contractor to determine staffing and training needs.</p>												
3.10	Pilot stage of training development is not provided in an action tracker in concert with aircraft induction/delivery plan.	Frequent	Catastrophic	4	a.	Produce/provide an action tracker inclusive of all development stages for the deployment of aircraft, pilot/maintenance hiring, pilot training, and GOMO make-up.	Occasional	Marginal	2	Low	High	Best
<p>Management Evaluation: Lack of an action tracker that specifically addresses pilot training has hindered the development of the pilot training program. The pilot training program hasn't been given the attention it deserves. The timeline that aircraft come out of avionics is going to affect implementation of pilot training. The number of aircraft will determine how many people can attend and complete the pilot training. All Regions will need to be flexible and supportive of pilots attending this training.</p>												
3.11	By not balancing the leveraging of skill sets of current Sherpa maintenance supervisors in overseeing contract aircraft maintenance, there is the assumption of risk of overtasking personnel.	Probable	Critical	4	a.	Produce a workforce development plan addressing hiring through government and contract employment to limit the overtasking of current Sherpa maintenance supervisors. Fill identified positions.	Occasional	Marginal	2	Mod	High	Better
<p>Management Evaluation: Although this is complex, a "spoke and wheel" maintenance organization model utilizing agency and contracted personnel will reduce overtasking of personnel at different geographical locations.</p>												
3.12	Existing facilities may not be sufficient to support SD3-60 Sherpa operations at current and future "bed down" sites.	Probable	Critical	4	a.	Regional and Washington Office personnel to develop a clear plan addressing Sherpa maintenance facilities at each "bed down" site.	Remote	Marginal	2	Low	Mod	Better
					b.	Each regional plan should incorporate the required contracts to support seasonal maintenance operations for the determined number of Sherpas at each region.	Remote	Marginal	2	Low	Mod	Better
<p>Management Evaluation: John Nelson has done a lot of work setting up contracts and working with regional maintenance personnel; there is still work to do, but he is close.</p>												
3.13	Risk concerning Working Capital Fund (WCF) becoming deficient if the financial projection is not based on achievable assumptions regarding flight time, including predicted use and other potential missions.	Probable	Catastrophic	4	a.	Agreement between F&AM and Fiscal Management to incorporate the SD3-60 Sherpas into the WCF as "paid up" aircraft with maintenance money provided.	Occasional	Critical	3	Low	Mod	Better
<p>Management Evaluation: John Nelson and Heather Matusiak have made great strides over the last two years to ensure there is enough money in WCF for each aircraft, reducing initial funding impacts on the Regions.</p>												
3.14	Not developing a current master measurement of progress via an Action Tracker spreadsheet to track scheduled effort as well as completion dates is a hazard to program oversight and coordination.	Probable	Critical	4	a.	Develop a current Action Tracker spreadsheet as soon as possible.	Occasional	Critical	3	Low	Mod	Better
<p>Management Evaluation: Aimee Mautone has been assigned responsibility to facilitate bi-monthly calls and to keep the Sherpa Action Tracker up to date. Continued coordination between Regions and WO is critical to ensure tasks are being completed on time and to keep the Sherpa Action Tracker up to date. The Action Tracker has helped with the Sherpa program, but concern remains that with multiple Change Management Plans occurring simultaneously, some tasks may still be unaccounted for.</p>												

Summary Management Evaluation: Working through the risk assessment process has identified several critical areas of concern. The WO and Regions need to continue coordinating and working together on the Sherpa Program. There are multiple changes occurring throughout the Forest Service at every level that can overtask personnel and create conflicting priorities. There is concern during an election year that funding may be limited and may not fully support the Sherpa Program as planned. Due to vacancies and retirements, pilot hiring and training is critical to this program. There is still a lot of work ahead to determine an organizational structure that includes Forest Service and contract pilots. Delays with the avionics contractor has created alternate timelines that may have impacts in 2017 on pilot training and aircraft placement. There have also been many positive gains in the Sherpa Program: a maintenance plan and organizational structure are near completion, the aircraft have been placed into the WCF with funding for the Regions, and a key vacancy in the National Smokejumper/Large Fixed-Wing Program Manager position has been filled. The Region 1 Aviation program has been instrumental in providing support to the Sherpa Program.

/ s / Roger Staats Roger Staats, Co-Chair, Sherpa Change Management and Implementation Group, August 2016	/ s / Margaret Doherty Margaret M. Doherty, Co-Chair, Sherpa Change Management and Implementation Group, August 2016	

Appendices – Chapter 6

(None at this time)

Appendices – Chapter 7

Appendix 7.1: Communications Plan

Appendix 7.1: Communications Plan

The Communications Plan is constantly being updated. The current version can be obtained from the NIFC Public Affairs Specialist.

References and Resources

Hinaman, Arthur W., U.S. Forest Service, Appointment Letter for the C-23B+/SD3-60 Sherpa Change Management and Implementation Team and Leader's Intent. August 15, 2016. 2 p.

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U.S. Forest Service, Administrative Use of Aircraft. Desk Reference 2016. 19 p.

U.S. Forest Service, C-23B+/SD3-60 Sherpa Change Management and Implementation Team Charter, 2014. 3 p.

U.S. Forest Service, Change Management and Implementation Guide, Revised 2016.

U.S. Forest Service, National Aviation Safety and Management Plan, 2014.

U.S. Forest Service, U.S. Forest Service Integrated Project Team, C-23B+ Sherpa Aviation Business Case, April 7, 2014. 18 p.

Glossary and Acronyms

ADFF - Aerial-Delivered Firefighter.

Aerial-delivered Firefighter (ADFF) – A firefighter who is delivered to wildfires by a fixed-wing aircraft or a helicopter.

Albuquerque Service Center (ASC) – Consists of the U.S. Forest Service’s National Service Centers for Human Resources, Budget and Finance and Information Management.

AMARG – Aviation Maintenance and Regeneration Group.

AQM – Acquisition Management.

ASC - Albuquerque Service Center.

Aviation Business Case – A methodology for aviation capital asset planning required by Office of Management and Budget Circular A-11.

Aviation Maintenance and Regeneration Group (AMARG) – An Air Force facility at Davis-Monthan Air Force Base in Tucson, AZ, which specializes in storing and regenerating aircraft.

BLM - Bureau of Land Management.

Bureau of Land Management (BLM) – A U.S. Department of Interior agency that sponsors two smokejumper bases, one in Boise, ID, and one in Fairbanks, AK.

C-23A Sherpa – A transport aircraft provided by Short Brothers Aviation for the U.S. Air Force from 1984-1990. These aircraft were manufactured in the mid 1980’s. The Forest Service acquired seven C-23As in 1991. Three of these were transferred to the BLM who utilized them as Smokejumper and cargo transport aircraft and later disposed of them. The Forest Service operates four C-23A aircraft as Smokejumper aircraft in a GO/GO model.

C-23B+ Sherpa – The C-23B+ aircraft were designed and manufactured as Short Brothers SD3-60 airliners in Belfast, Northern Ireland. They were remanufactured as C-23B+ Sherpas by the Army National Guard in Clarksburg, West Virginia. These aircraft, while similar to the C-23A Sherpa, have additional horsepower and a rear ramp that can be lowered in flight. The Forest Service is acquiring 15 C-23B+ Sherpa aircraft via the National Defense Authorization Act of 2014. They were manufactured in 1993 and 1994. Following significant documentation and some modification, the aircraft may achieve Civil Aviation status as SD3-60 Sherpas.

Change – Change involves developing a means of placing something new into a current system or program to address a given problem.

Change Management – Considerations and plans to manage internal and external disruptions to an organization or program.

Change Management and Implementation Plan (CMIP) - A detailed plan that describes the steps and processes that will be used to achieve the goal of the change. The Change Management and Implementation Team is responsible for development of the CMIP.

Change Management and Implementation Team (CMIT) - A team chartered to develop the CMIP and to provide overall guidance to the Forest Service C-23B+/SD3-60 Sherpa Change Management and Implementation Project.

Change Safety Assurance – A safety process of management functions that systematically provides confidence that the organization's change processes are meeting the safety controls identified in the Change Risk Management process and is on schedule.

Civil Aircraft – Certification by the Federal Aviation Administration that aircraft conforms to standard established and approved for Civil Aircraft Operations.

CMIP - Change Management and Implementation Plan.

CMIT – Change Management and Implementation Team.

Contracting Officer Representative (COR) -- An agency employee who is appointed by a Contracting Officer to provide oversight and serve as a point of contact for a contract.

COR – Contracting Officer Representative.

Criticality - Criticality relates to the potential consequences of equipment being improperly operated or an activity being incorrectly executed.

Department of Interior (DOI) – The Department that manages the Bureau of Land Management.

DOI - Department of Interior.

GOMO - Government Owned, Mixed Pilot and Maintenance Operations.

FAA - Federal Aviation Administration.

FTE – Full Time Employee.

Gantt chart – A detailed project management schedule.

Gap Analysis - The purpose of a safety management system gap analysis is to locate safety processes within a program where elements are not being performed. This creates “gaps” between the safety processes of a program and implementation on the ground. This analysis will help disclose which processes may exist and are minimally effective as well as processes that are in place and are being implemented well at the field level.

Implementation – To carry out, put into action, perform, complete, satisfy, or fulfill (www.dictionary.reference.com).

IOP – Interim Operations Plan.

ISB – Incident Support Branch.

ISMOG -- Interagency Smokejumper Operations Guide.

ISPOG -- Interagency Smokejumper Pilot’s Operations Guide.

Leader’s intent – A concise statement that outlines what individuals must know in order to be

successful for a given assignment. The intent communicates three essential pieces of information: (1) Task – What is the goal or objective, (2) Purpose – Why it is to be done, and (3) End state – How it should look when successfully completed. Source: *NWCG Glossary of Wildland Fire Terminology*, p. 112.

MAP – Mandatory Availability Period.

Missoula Technology Development Center (MTDC) – One of the two Technology and Development Centers of the U.S. Forest Service.

MOU - Memorandum of Understanding.

MTDC – Missoula Technology Development Center.

National Defense Authorization Act of 2014 (NDAA) – The act that authorized the transfer of 15 C-23B+ Sherpa from the U.S. Army National Guard to the U.S. Forest Service.

National Federation of Federal Employees (NFFE) – The union that represents a large number of U.S. Forest Service bargaining unit employees.

NDAA -- National Defense Authorization Act of 2014.

NFFE –National Federation of Federal Employees.

NWCG – National Wildfire Coordinating Group.

OEM – Original Equipment Manufacturer.

OP – Operations Plan.

Outputs – Results of a process, plan or activity that is documented and communicated throughout the program or organization.

Phase I “The Ending”– The first phase in the process of transition. Whenever there is a change implemented into an organization, employees and managers alike have to let go of something. Endings create a loss or require letting go of something and that is where management will find themselves dealing with resistance.

Phase II “The Neutral Zone” – The Neutral Zone is the period after the change implementation has begun; the old ways are gone but the new way isn’t comfortable yet or working satisfactorily. This is where management could get impatient with the time it seems to be taking for the change to be fully operational and effective. A difficult time for both the organization and the workforce.

Phase III “The New Beginning” - This phase is marked by new energy and confidence. People have moved past the loss, and sorted out their place and future within the change process. They are once again comfortable in their work.

R & D – Research and development.

RASM -- Regional Aviation Safety Manager(s).

Region 1 (R1) – Northern Region, U.S. Forest Service.

Region 4 (R4) – Intermountain Region, U.S. Forest Service.

Region 5 (R5) – Pacific Southwest Region, U.S. Forest Service.

Region 6 (R6) – Pacific Northwest Region, U.S. Forest Service.

RFI – Request for Information.

Safety Impact Analysis (SIA) -- A document that analyzes the hazards and mitigation measures associated with an activity and includes chapters addressing both safety assurance and quality assurance.

SASE -- Smokejumper Aircraft Screening and Evaluation.

SASES -- Smokejumper Aircraft Screening and Evaluation Subcommittee, formerly known as SASEB (Smokejumper Aircraft Screening and Evaluation Board).

SD3-60 Sherpa -- Post certification name of the C-23B+ Sherpa.

Sherpa – The assigned popular name for a series of transport aircraft manufactured by Short Brothers Aviation.

SIA – Safety Impact Analysis.

SME – Subject Matter Experts.

Smokejumper Aircraft Screening and Evaluation (SASE) – Evaluation of a model of aircraft for smokejumper missions. See also Smokejumper Aircraft Screening and Evaluation Subcommittee (**SASES**).

Smokejumper Aircraft Screening and Evaluation Subcommittee (SASES) – An interagency board that certifies various models of aircraft for smokejumper missions by applying established standards to the capabilities and performance of a given aircraft.

STC – Supplemental Type Certificate – a type certificate received when an applicant has received approval from the FAA to modify an aircraft from its original design.

Terms of Reference – A statement of the operational background and organizational intent in deciding composition of the Change Management Action Team and its activities and interactions within the Change Management Plan.

TMT – Transition Monitoring Team.

Transition – Transition is the result of incorporating change into the system which then impacts the people within a particular program.

Transition Monitoring Team (TMT) – A team selected to closely track the implementation of change to provide independent assurance that the change is successful.

Transition Management – A detailed process that addresses change from a personal level for the workforce with a plan that will orient the change implementation by selecting, designing and scheduling events, actions and projects that move people through the transition phases.

Trigger Point – An event or series of events that indicate a planned activity cannot occur and

contingency plans will need to be considered.

SAFECOM – Forest Service Form FS 5700-14, SAFECOM: Aviation Safety Communiqué, used to report aviation mishaps or hazards; this form also is approved for interagency use as Form OAS-34.

WCF – Working Capital Fund.

Working Capital Fund (WCF) -- A fund and management system that creates revenues based on availability and flight time of aircraft and applies those revenues to pay for expenses incurred in the operation and maintenance of the aircraft.

Wildfire Season - The period during which 90 percent of a National Forest's wildfires occur.