ASAT Final Report

July 13 - 25, 2018

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Executive Summary

The 2018 Great Basin Aviation Safety Assistance Team (ASAT) was mobilized at the request of the Great Basin MAC due to a surge in wildland fire activity where several SAFECOMS were submitted indicating a possible trend in airspace conflicts and near mid-air collisions. The ASAT team departed Salt Lake City on July 13, 2018 and returned July 23, 2018. During this period, the team visited multiple locations in Utah, Nevada, and Southern Idaho. The ongoing initial and extended attack wildfires represented a wide array of situations and scenarios throughout the Great Basin. Team members who participated in the Great Basin ASAT from 2017 noticed a discernable improvement in the overall efficiencies and safety of air operations from what was noted in the 2017 ASAT Final Report.

The team spoke with helicopter and fixed wing pilots, dispatchers, helicopter crews, air attacks, tanker base managers, aircraft mechanics and support crews, incident command teams, air operations branch directors, and smoke jumpers. From these discussions, the ASAT team identified and summarized six key findings and recommendations.

ASAT Team Members

Patrick Kane, Region 3 Fixed Wing Specialist

Sean Cox, Interagency Aviation Officer
Colorado National Forest
Saguaro National Park

Sairy Head, Lead Aircraft Dispatcher
Prescott National Forest
Phoenix and Colorado River BLM

Nic Strohmeyer, BLM Idaho State Aviation Officer

Nikki Sandhoff, Region 4
Aviation Safety Officer

Locations Visited

➢ Martin Fire (T2 IMT)
➢ Central Nevada Dispatch
➢ Winnemucca SEAT Base
➢ Winnemucca Helibase
➢ Battle Mountain ATB
➢ Dollar Ridge Fire (T1 IMT)
➢ Northern Utah Dispatch
➢ Richfield Dispatch
➢ Richfield Helibase
➢ Fillmore SEAT Base
➢ Cedar City ATB
➢ Color Country Dispatch
➢ Ely Dispatch
➢ Ely Helibase
➢ Elko Dispatch
➢ Elko Helibase
➢ Mountain Home SEAT Base
➢ Mountain Home Helibase
➢ Grasmere Helibase (Multiple T3 Incident Support)
➢ Boise Dispatch
➢ Boise ATB
➢ Boise BLM Helitack
➢ RAMP Services
➢ USFS UAS Program
➢ Automated Flight Following
➢ Lucky Peak Helibase
➢ Garden Valley Helibase
➢ Twin Falls ATB
➢ Pocatello ATB
➢ Hill ATB
➢ Tooele SEAT Base

Findings

1. Aircraft Dispatch Forms

Discussion

Aircraft dispatch forms have a standard format throughout the Great Basin. This has helped to alleviate inconsistencies regarding standardized formatting and pertinent information. The ASAT heard feedback that while the standard form is helpful, there were common errors that need to be addressed. Additionally, there were suggested improvements that would make the form more readable and useful. These are included in the recommendations below. The most critical error identified was an incorrectly formatted latitude and longitude, for example, instead of writing 120 01.42, the form would read: 120 1.42. There is an example of Aircraft Dispatch Forms and the errors in Appendix A.

Recommendations

Aircraft Dispatch Kneeboard formatting:

1. Reposition the Initial Point section under "Comments" section.

2. Latitude and Longitude drop down needs a formula to ensure correct format.

3. Command Frequency should be added under the Flight Following section.

4. Ensure the form can fit on one half of a 8.5 x 11 inch piece of paper so all information is visible when folded in half and placed on a kneeboard in flight.

Distribute an example of a complete and accurate Aircraft Dispatch Form, with instructions, to all dispatch centers in the Great Basin.

2. Aviation Management and Aviation Operation Positions

Discussion

1. There continues to be inadequate staffing at SEAT bases and airtanker bases throughout the Great Basin. The agencies continue to rely heavily on the hiring of AD employees and the low number of trainees does not appear to be able to meet future demand. Of the bases visited, four were operating without permanent SEAT base management. There were also instances in which Unit Aviation Managers fulfilled the role of SEAT base manager in conjunction with their other aviation management duties.

2. There is an insufficient number of qualified personnel in aviation fire positions (for example SEMG, AOBD, ACDP) as well as a limited number of personnel in aviation support positions, (Forest/Unit Aviation Managers). These shortages are further exacerbated during high operational tempos, causing a number of "Unable to Fill" requests in these critical positions as personnel take fire assignments. These shortages may lead to fatigue by overstressed personnel, limiting the ability to identify and mitigate aviation hazards.

3. There is a perception that the interagency fire community has seen an increase in new pilots. This has resulted in pilots that meet piloting minimums, but are not proficient in the Fire Traffic Area. Helicopter pilots new to fire often end up on Type 3 Exclusive Use programs. There are new smokejumper pilots and several 'green' Level 2 SEAT pilots.

Recommendations

- Identify, recruit, and fill SEAT manager and airtanker base positions at a minimum of career seasonal appointments.

- Continue to identify the SEAT bases that have the highest use and evaluate programs that are chronically underutilized and understaffed.

- Every effort should be made to assist employees in completing their task books. Determine how agencies can speed up training and currency for these positions, e.g. academies.

- Level 2 SEAT pilots should be given opportunities to train in flight simulators, currently only Level 1 pilots are given training in the flight simulator. Helicopter pilots new to wildfire operations should be given additional training before starting on exclusive use contracts, which may include National Aerial Firefighting Academy or allowing an experienced pilot on board at the beginning of contract periods.

3. Airspace Conflicts and Congestion

Discussion

The number of reported airspace conflicts is concerning. While there are procedures in place, they have not alleviated the number of close calls in the FTA from year to year.

Helicopter reconnaissance missions were frequently described as one of the most dangerous things we do in the Fire Traffic Area. There may be several reasons for this, the IC wants to see the same area that aircraft need to work, lack of training for IC on aviation operations, the difficulty in Air Attack, Lead Plane pilots tracking a helicopter throughout a recon, un-briefed or unplanned changes to routes based on inflight requests by ICs, and a lack of written policies or procedures to conduct low-level fire recon flights.

There were situations where incidents were unaware of incoming aircraft that were not assigned to the fire. One example was the National Guard attempting to land at the Dollar Ridge Helibase without communicating with the local dispatch or incident.

Recommendations

Review the current policy and procedures for the Fire Traffic Area and determine if they still adequately address current fleet capabilities and wildland fire complexities. The review should include near-miss and airspace conflict SAFECOMs, Lesson's Learned, Information Bulletins, and Safety Alerts.

Discuss airspace conflicts with aircraft inspector pilots. With their guidance, determine how we can reinforce and train airspace rules and requirements with pilots prior to operating in the FTA. Address sequencing helicopter reconnaissance flights in future aerial supervision trainings, academies, and policies.

Communicate airspace policies and procedures with cooperators at all levels such as the National Guard, air ambulance operators, news media, etc. An example would be the Southwest area's Media Day, where all airspace users are gathered for a full day of FTA and aviation incident protocol.

4. Frequency Management

Discussion

Various issues were noted in regards to frequency allocation, use, and implementation. Some examples include:

- Utilization of the same air to air frequency for multiple initial attack fires.

- Incident size-ups occurring on National Flight Following.

- Confusion about which frequencies the Fire Boss/Scooper aircraft should be assigned (rotor versus fixed wing air to air).

- Lack of use of the National "DECK" frequency on incidents causing frequency congestion on air to ground.

- Frequency changes were implemented mid-shift versus prior to the beginning of the shift, resulting in aircraft on two sets of frequencies.

Recommendations

Ensure frequencies assigned during initial attack operations do not conflict with neighboring incidents.

Redistribute Interagency Information Bulletin 18-07 to field personnel.

Review policies and procedures for water scoopers in trainings and academies. Consider an information bulletin to reinforce these policies with the field this season.

5. UAS: Operation, Intrusion, and Policy

Discussion

Air Operations Branch Directors had concerns about which policy is applicable for incidents that want to utilize UAS. Multiple policy letters exist for separate agencies, making it difficult for interagency teams to determine which policy is applicable in every situation.

The reporting protocol and UAS intrusion flowchart appeared to be distributed and understood by all employees. The ASAT noted a great improvement on the knowledge of these tools from 2017.

The ASAT filed SAFECOM 18-0566 after watching news footage of a UAS operating during aerial firefighting operations on the Cartwright Fire. The incident was a BLM assisted fire in Boise, Idaho. Subsequent follow-ups occurred with the FAA, Ada County Sheriff, and the Idaho BLM State Aviation Manager.

Recommendations

Despite NMAC Correspondence 2018-13, there continues to be confusion regarding operating UAS on incidents. Continue to communicate NMAC correspondence regarding UAS use during IMT in briefings, conference calls, and after action reviews. Additional information regarding UAS is available at https://sites.google.com/a/firenet.gov/interagency-fire-uas/program.

6. Resource Allocation

Discussion

There were situations when SEATs and helicopters were dispatched to an incident late in the day and were unable to return to a base to perform scheduled maintenance or meet with a relief crews. Landing at the end of the day at a location other than the original planned airport to perform maintenance or crew swap delays availability for fires the next day. Additionally, there is limited hotel room availability in several areas in the Great Basin. Concern over lodging and logistics during these flights may cause undue stress and worry to pilots and can be a serious hazard.

There were several examples of aircraft spending considerable time ferrying from one airport to another and never actually flying on an incident. This is a difficult situation to provide recommendations for, however, due to the number of personnel expressing this concern, it has been included in the report.

Recommendations

Aircrews expressed flexibility if repositioning is necessary for operations, however, they requested some sensitivity to return to locations where maintenance and lodging has been confirmed if the airport is reasonably close. The need for early and frequent communication between pilots, managers and dispatch centers regarding aircraft and aircrew status will help facilitate maintenance, lodging, and crew swaps. Colorado has had success using a SEAT Coordinator Program, which could be considered to alleviate these issues.

Miscellaneous Items

Item 1. Hearing Protection for Boise Helitack

The UH-60 Blackhawk is an exceptionally loud helicopter. A Warning in the US Army Blackhawk Operator's Manual, (which indicates a mandatory action), states: when flight exceeds 100 minutes in any 24 period, or when speeds are above 120 knots, helmet AND earplugs shall be worn by all crewmembers. This requires crewmembers to wear earplugs under their helmets (typically foam), which reduces the ability to hear and monitor radios. Additionally, the sound proofing has been dropped from the cabin area for weight reduction, which increases the noise level making it even more difficult to monitor radios.

Suggestion: Provide Communication Ear Piece (CEPs) to crewmembers and install the associated wiring harness in helmets. CEPs are specially designed hearing protection that allows crewmembers to hear radios but also provides the mandatory secondary hearing protection.

Item 2. Forest Service Aviation Policy Library

Forest Service policy and approval letters regarding aviation resources are not easily accessible or easily located. For example, there is a letter that defines the requirements for conducting demonstration flights for the public (e.g. Rappel), however, very few people were aware it existed or where to find the letter until they tried to conduct these missions.

Suggestion: Consolidate all active aviation policy letters and place them online for aviation personnel to access. Make timely changes to policies in order to avoid reliance on dated letters.

Item 3. Lead Plane Pilot Status and Availability Document

On a few occasions, the spreadsheet distributed by the National Fixed Wing Coordinator has contained discrepancies, causing end users to have inaccurate information regarding Lead Plane availability.

Suggestions: Consider using a national self-status system, similar to that used by the rappel community. This system will cut out a middle-man, reducing the possibility of transcription errors. The system is also time coded, allowing users know how recently the status has been updated.

Item 4. Safety Management Systems and Risk Assessments

The ASAT team asked several vendor and agency crews about their Safety Management Systems and whether they used a Flight Risk Assessment Tool (FRAT) on a daily basis. Several vendors had particularly strong safety systems and were required by company policy to use a FRAT daily. Daily use of FRATs among agency crews was mixed, however it is not mandatory in policy to use one every day, with the exception of short-haul and rappel crews.

Two SEAT plane companies had particularly impressive Safety Management Systems and FRATs that they were happy to discuss with the ASAT. In general, these discussions indicate a positive overall shift towards a culture of safety throughout the industry.

Appendix A. Aircraft Dispatch Form Examples

Figure 1. Incorrect Latitude and Longitude and Frequency

Figure 2. Incorrect Date

Appendix B. Interagency Information Bulletin 18-07

Figure 3. Interagency Information Bulletin 18-07

OAS-28A
(5/15)

Interagency Aviation
Information Bulletin

No. IA IB 18-07   Date: June 22, 2018   Page 1 of 1

Subject: Frequency Management: Use of National Flight Following and National Guard frequencies

Area of Concern: All Aviation Operations

Distribution: All aviation users, flight followers and Dispatch Centers

Discussion: Recently, the issue of unauthorized use of the National Flight Following (NFF) frequency was reported in SAFECOM (18-0332). This is not the first time that NFF or National Air Guard frequencies have been used inappropriately. NFF was reportedly used for aviation ordering, fire size-ups, frequency requests, and aircraft management. Misuse can delay rescue response during an AFF failure through frequency congestion that would prevent a pilot from being able to report their location. Authorized use of these two frequencies is stated (below) in the Interagency Standards for Fire & Aviation Operations (Redbook) Chapter 15. Some operations established a dedicated frequency for cooperator aircraft initial communication which has also been misused.

NATIONAL FLIGHT FOLLOWING (168.6500 MHz)
The National Flight Following frequency is used to monitor interagency and contract aircraft. All aircraft on point-to-point or mission flights should establish/terminate flight following, and confirm Automated Flight Following (AFF) on the National Flight Following frequency.

The National Flight Following frequency is to be used for flight following, dispatch, or redirections of aircraft. No other use is authorized.

NATIONAL AIR GUARD (168.6250 MHz)
A National Interagency Air Guard frequency for aircraft will be used for emergency aviation communication. Continuous monitoring of the frequency in narrowband mode is mandatory by agency dispatch centers.
This frequency, 168.6250 MHz is only used for:

- Air-to-Air emergency contact and coordination;
- Ground-to-Air emergency contact; and
- Initial call, recall and redirection of aircraft when no other contact frequency is available.

If the FCC Enforcement Bureau finds an individual in violation, the fines top out at $19,246 for a single violation and up to $144,344 for an ongoing violation. The FCC can also seize the offending radio equipment and impose criminal sanctions.

Please ensure your Dispatch Centers, flight following and field personnel understand and adhere to the authorized uses of NFF, National Air Guard and local aircraft hailing frequencies.

/s/ Keith Raley
Chief, Aviation Safety, Training, Program
Evaluations and Quality Management
DOI, Office of Aviation Services

/s/ J. Kent Hamilton
Branch Chief, Aviation
Safety Management Systems
USDA Forest Service

Appendix C. SAFECOM 18-0566

Figure 4. SAFECOM 18-0566

SAFECOM Aviation Safety Communique'	Tracking #: 18-0566 Date Submitted: 7/21/2018 12:22:00 PM

EVENT

Date: 7/20/2018   Local Time: Injuries: Damage:
Location: Cartwright Fire   State: Idaho
Operational Control: Other/Unknown

MISSION

Type: Fire, Initial Attack   Other:
Procurement: Other:
Persons Onboard: Special Use: Hazardous Materials:
Departure Point: Destination:

AIRCRAFT

Manufacturer: Model:

NARRATIVE

During the evening news cast {KTVB, Boise}, drone footage was shown of the Cartwright Fire. The Great Basin ASAT team happened to be in Boise and see the broadcast. The proximity of the drone to the fire during retardant dropping operations was a concern. The ASAT team drove to the area near where the fire was to determine the distance the UAS was to the fire based on the footage. The UAS was within 1/2 mile of retardant drops, and 1/4 mile of the helitack's helispot. During the visit, the property caretaker was present and said that he saw the drone and was concerned about how close it was to SEAT aircraft. A TFR was not up at the time. The UAS operator's name and business was on the news cast footage.

CORRECTIVE ACTION

Original Text: The UAS was not sighted by agency personnel during active firefighting operations. The BLM fire liaison for Boise District to the city of Boise was notified by the ASAT team the following morning. The ASAT team will make the appropriate notifications using the NWCG UAS incursion protocol. The ASAT team will attempt to contact the UAS operator and discuss the hazards associated with operating in the vicinity of active wildland fires, regardless of the presence of a TFR. ID BLM SAM contacted Boise Airport Tower and relayed all information on the UAS intrusion. ID BLM SAM.

Appendix D. NMAC Correspondence 2018-13

Figure 5. NMAC Correspondence 2018-13

National Multi-Agency Coordinating Group

3833 South Development Avenue; Boise, ID 83705

NMAC Correspondence 2018-13   July 12, 2018

To: Geographic Area Coordination Group Chairs

From: National Multi-Agency Coordinating Group (NMAC)

Subject: Unmanned Aircraft Systems (UAS) Operations on Federally Managed Incidents

UAS incident response is increasing as federal and state agency UAS programs grow and the utility of UAS is further developed. UAS has proven to be a useful situational awareness and data collection tool.

Goal: Safe integration of UAS technologies into incident management organizations.

Approved UAS Aircraft:

- 3DR Solo Quadcopter (federally owned and operated)
- Firefly6 Pro (federally owned and operated)
- ScanEagle, Bramor C4Eye, Stalker XE, Silent Falcon (BLM call when needed contract)
- UAS procured/owned by cooperating agencies (state, local, and International) may be utilized on federally managed incidents when cooperative agreements are in place and the aircraft have been approved by letter nationally or regionally.

Approved UAS Personnel:

- Federal personnel are approved (carded) in accordance with agency policy.
- State and local personnel are approved for federally managed incidents when cooperative agreements are in place and the personnel have been approved by letter nationally or regionally.

UAS Personnel and Equipment Ordering:

- UAS Personnel are ordered as "THSP" through established ordering procedures. The Interagency Fire UAS Subcommittee maintains a roster of qualified and available UAS personnel and will coordinate though NICC as required.
- Agency owned UAS should be designated by make, model, and call sign in the "Special Needs" section of the name requested THSP resource order.
- CWN UAS are a national resource. Orders will be coordinated through NICC. A federal UAS Manager and Data Specialist will be assigned when the order is filled.