SAFECOM’s by Aircraft Type

For the month of July there were 107 USFS SAFECOM’s submitted, below the 10 year average of 138. Of the 107 SAFECOM’s reported, 30 were airplane, 11 air-tanker, 2 SEAT, 59 helicopter and 5 N/A. The chart below shows the percentage of SAFECOM’s by aircraft type.

SAFECOM’s by Category

Often there are more than one category assigned to a SAFECOM, resulting in a grand total of more than the total number of SAFECOM’s. There were 8 airspace, 37 hazard, 21 incident, 56 maintenance related, 6 mishap prevention and 2 management SAFECOMs reported for this period. Below is the percent of SAFECOM’s in each category.
SAFECOM’s by Category continued...

AIRSPACE - There were 8 airspace SAFECOMs reported; 2 intrusions, 4 conflicts, 1 congestion, 1 procedures and 1 route deviation. There were 3 instances of conflicts and intrusions with military aircraft. Prior to setting up a temporary tower at an airport there were two separate conflicts with fixed-wing aircraft taking off and landing.

HAZARD - There were 37 hazard events reported. Communications accounted for over a third of the hazards reported which were mainly dispatch radios not working, bleed over on frequencies, radio programming and unclear communications. Policy deviation was the next most reported and most of those were related to breaking duty days and pumpkin time. The weather related hazards were aircraft fling into thunderstorm which caused paint damage, a tanker aborting mission due to thunderstorms and damage to an aircraft tied down from a thunderstorm. Mission equipment included snorkles, buckets and longline loads.

INCIDENT - There were 3 aircraft damage reports, two were related to weather as mentioned above and the other was a horizontal stabilizer that hit a post on a Beaver while being pushed away from a dock. There were 3 precautionary landings, all due to mechanical issues. There were 3 dragged loads, all with buckets hitting trees and the ground and 2 dropped loads, one accidental release of a longline and pilot having to jettison bucket to regain power.

MAINTENANCE - Issues involving maintenance were present in 43% of the SAFECOMs. There were 56 maintenance reports, the most reported were: 12 engine issues including two failure/shutdowns with P2V’s. There were 8 reports of issues with avionics and 8 chip light reports. Maintenance on mission equipment accounted for 6 of the reports and there were 5 reports for both electrical and main rotor problems.

MANAGEMENT - There were two management SAFECOM’s reported; one was regarding flight crew not wearing PPE in accordance with agency policy and the contract requirements and another was a flight with no manifest for the passengers on board.

MISHAP PREVENTION - There were 6 reports in this category: helicopter manager noticing fuel cap not closed; dispatch dealing with inoperative radios and telephones; flight managers making good decisions due to radio issues; pilot and mechanic catching maintenance problem on pre-flight and pilots jettisoning load due to weather.

BRANCH PERSPECTIVE: as of this writing we have passed the historical peak period for incidents and accidents. It is gratifying to see positive feedback coming in from ASTAT teams and inspectors in the field. They have reported positively on the amount of risk management in field operations and have validated that your prevention efforts are successful, even in a highly active season. We encourage you to maintain vigilance and in these waning days of summer to be on the alert for fatigue, complacency and “get-home-it is.

Ron Hanks, Branch Chief Aviation Safety Management Systems
These are samplings from the SAFECOM’s submitted for the month of July. We hope you will discuss the lessons learned in your daily briefings. Some of the SAFECOMs have been edited due to length, to read the SAFECOM in its entirety, please click on the link.

### SAFECOM 12-770:

An aerial observer was requested for better intel of the fire for both the crews the duty officer. A plane was set from the local airport to gather and relay information. Two helicopters were working the fire trying to minimize spread when the aerial observation platform arrived on scene. Contact was made between all aerial resources and it was agreed that the plane would be circling at 9,000 feet well above the working altitudes of the helicopters. Resources on scene mistakenly referred to the observer as “air attack”. The aerial observer never made it clear that they were an aerial observer and not an air attack. No incident occurred on this fire besides not making clear the responsibility and qualification of the aerial observer. The lesson we learned from the fire about not having clearly identified locations can also be translated into not having resources clearly identified. **CORRECTIVE ACTION:**

- FAO Comments: Correcting resources when referred to incorrectly, etc. If you mistakenly referred to yourself as air attack, then restate you are a trainee you now understand you cannot hold that moniker until qualified or unless a trainer is present with you. If the reference comes from the field or other resources, correctly identify your role for the fire.
- RASM Comments: The National Aviation Safety Management Plan direction (5.26.1) is clear on aerial observation mission and responsibility but may not be known to contract resources. Use of a tactical call sign with the words “Recon, Detection, or Patrol is another option to eliminate future confusion. Appreciate your sharing this information so others may benefit from it.

### SAFECOM 12-633:

On the take off roll from Walker Lake in a float equipped Beaver, all passengers noticed a very slight bump, but thought we had just hit a wave on the lake. The flight continued uneventfully. About 25 minutes later, following a climb to negotiate a mountain pass on our route, a small amount of oil was observed on the cowling of the aircraft and on the windshield. Oil pressure and temperature gauges remained normal. Since we were close to Bettles and safe landing areas on our route were almost non-existent, and because there was no indication of problems with the engine from the gauges, the decision was made by the pilot and crew to continue flight to Bettles where we could have a mechanic look over the engine. The flight to Bettles was uneventful with all gauges remaining in the normal operating position. Upon landing, the pilot noticed a cracked cylinder head, approximately 1 pint of oil was lost during the flight. **CORRECTIVE ACTION:**

- FHP Comments: Following discovery of the cracked cylinder, Dispatch, FAO, and RAMI were notified. New cylinder head was flown out, replaced by company mechanic, and A/C was test flown, then RAMI released A/C for contract availability.
- AMI Comments: procedures were followed as required.
- RASL Comments: Excellent work by all involved, good process for inflight troubleshooting and decision making: as in all incidents though there are usually lessons to be learned. One that should be highlighted here was the time taken to repair the aircraft. In an effort to ensure the mission continued as soon as possible with limited down time, the crew/mechanic worked until after midnight repairing the aircraft and then continued the mission the next day pushing the limits of the crew duty day. While everyone desires to get the mission done, it was decided during the after action review that there wasn’t a real need for rushing the repairs/mission but there was a perceived need to rush. From a human factor standpoint perceptions are reality: so this mission took on an artificial importance which was not justified. When I discussed this concept with the aircraft vendor and the flight crew they all agreed that crew duty day was not considered. It was expressed by all that if faced with the same event again they would consider crew duty day as well as the time of day when preforming aircraft maintenance. Lastly, I discussed this event with the Contracting Officer {CO} and there appears to be circumstances under the contract when the CO can authorize the vendor to receive normal contract compensation while repairing an aircraft. These circumstances vary and will be determined by conversation with the CO on a case by case bases. I honestly do not believe that there was a conscious attempt to violate crew duty day: only good people attempting to accomplish a mission in a timely manner.
SAFECOM 12-544: The assignment of VHF-AM frequencies which are too close to each other are resulting in a phenomenon referred to as bleed over which is observed when the squelch on the non-transmitting receiver is opened usually allowing a rush of noise to appear in the audio system emanating from the unused radio. When this happens, the only solution available is to turn off or turn down the offending radio. Often times this happens during a busy time and the radio fails to get reactivated, In this case, the radio was deactivated and not reactivated, resulting in a missed call from a rotor that was needed. Having failed to make contact with us, it returned to helibase and we lost it’s needed services. We were called on an FM frequency and then discovered what had happened. There should be a policy when assigning more than one vector frequency to a mission of separating them by at least 5 MHz which should eliminate the problem. **CORRECTIVE ACTION:** RASM Comments: Immediate problem was mitigated by changing frequencies. Multiple aircraft had this same problem so probably not hardware problem. The FAA has operational control of these freq. and will not give us 5 MHz separation as submitter recommended. Will continue to monitor the situation and have dispatch monitor for freq that are within 1.5MHz of each other. Quick reporting by field users will continue to help us rapidly respond to this problem. The problem of turning down and not returning a radio to the proper setting needs to be worked out by the crew using CRM and error trapping principles. Similar issues in SAFECOM 12-615.

SAFECOM 12-552: While performing bucket operations on a rugged piece of line on the Clay Springs Fire with a 100’ longline the pilot experienced a “Lee side wind/downdraft” that caused the aircraft to lose altitude. While arresting the rate of descent the bucket contacted the ground causing light damage to the bucket. The pilot promptly released the load of water from the bucket after the aircraft was stabilized and flew safely back to helibase ceasing operations for the evening. There were thunder cells approaching the area of operations. The pilot explained that he was unable to see the approaching weather due to a ridge that blocked his view. The terrain was steep and rocky with low shrubs and grass for vegetation. **CORRECTIVE ACTION:** After landing, the pilot, manager and helibase manager had a positive AAR regarding the event. Key takeaways are that the pilot should feel completely comfortable refusing a mission if conditions are not desirable and not to become “mission driven” and that ground resources/helibase should be proactive and warn aircraft of approaching weather. After conducting the AAR with all members of the helibase and a phone conversation with the local HOS the aircraft and pilot were deemed good to go the next morning. HOS: The manager and pilot should be recognized for the indepth AAR conducted and the follow up they completed in the aftermath of the event. RASM COMMENTS: Appropriate actions taken.

SAFECOM 12-591: Tanker jettisoned load over east abort area from tanker base due to stormy weather over fire preventing the load from being dropped on the fire. **CORRECTIVE ACTION:** RASM Comments: Good risk management call by the Air Attack and Lead Plane on not pushing the envelope. 60 MPH winds reported on the fire. Drop completed safely in designated area.

SAFECOM 12-610: HMGB Comments: An overnight bag was inadvertently placed alongside a Helicopter fuel truck. H-XXX was shutting down for their mid day break. The pump exhaust on the fuel truck ignited the overnight bag. The baggage was moved away from the exhaust and extinguished. Damage was confined to the luggage and its contents. No damage occurred to any equipment and no vegetation burned. HEB1(T) Comments: Notification of a fire under the fuel truck at Pad X was made by another pilot on an adjacent pad. The Helibase emergency Response Plan was activated. The HMGB notified the helibase to hold the crash rescue truck, the fire was out. HMGB briefed the HEB1(T) on the event. Event & mitigations discussed with all personnel at the helibase. CORRECTIVE ACTION: HMGB: The contract personnel were advised about the dangers of placing items near pumps and machinery. HEB1(T): All helibase personnel briefed on attention to detail and awareness of hazardous situations. Helibase personnel commended on the swift and successful response of helibase personnel according to the established Emergency Response Plan. RASM comments: An AAR was conducted with all personnel to prevent this type of incident occurring again. Good response by all.

SAFECOM 12-614: (Same incident as 12-610, different issue) During the initial response to a suitcase fire on the helibase from the identified type 3 crash rescue vehicle staging at the Helibase. The call came out on the deck frequency from a pilot on the adjacent pad that there was a fire burning underneath a heavy helicopters fuel truck, the crash rescue engine responded quickly with three personnel staffing the engine, and a 10 x 10 Canopy with an aluminum frame that was attached to the type 3 engine with bungee chords. This delayed the response as the personnel staffing the type three engine had to come to a complete stop and disconnect the canopy and frame attached to the apparatus. This type of unplanned stop could have stalled the emergency response engine just enough to have had a grass fire establish on the type 1 helibase. CORRECTIVE ACTION: This situation slowed response time to a minor incident and should be made known to all helibase managers and personnel with crash rescue support engines that have shade tarps or any other objects connected or tied down to the apparatus that could potentially reduce response time to any incident or mayday on a helibase. RASM comments: I spoke to the Helibase Manager and an AAR was conducted of the entire event and it was identified at that time. The crash rescue personnel learned from this event and will not be attaching anything to their apparatus.

SAFECOM 12-588: A special use flight was requested through the dispatch office to ferry 3 persons, two non-agency and one agency, to a remote timber sale area. A day use authorization was submitted for two non-agency personnel, and the flight was approved by the forest aviation officer. Upon taking off the pilot noted the persons on board as pilot plus four. As the center had not received any information about the additional passengers, the aircraft hanger was notified. The hanger personnel stated they had not done a manifest. As a consequence it was unknown who was on the flight. CORRECTIVE ACTION: Acting RASM: In a conversation with the Aviation Manager, it is apparent that inadequate communication was the underlying factor in the confusion. Because there was no contact information provided by the submitter, additional information was only obtained from the Aviation Manager. Prior to the flight, the requesting office presented the names of the agency & non agency personnel to the Dispatch Center for purposes of generating an order for the flight {flight strip}. On the day of the flight, the names of the passengers had changed and this information was not communicated to the Aviation Manager. The aircraft was ordered to pick up 3 passengers at one seaplane base, then fly to another to pick up a 4th passenger and then continue with the mission. The change and subsequent manifesting issue was addressed on the day of the flight, and a new manifest was completed for the passengers prior to flight. This is a good reminder for folks requesting a project flight to notify the dispatch office and aviation officer if plans change, also a good reminder to verify with the requesting office that the flight information is still valid for the day of the flight.
SAFECOM 12-582: Incident objectives include providing for firefighter safety by utilizing the Dutch Creek (Medical) protocol. Two military aviation resources (Wyoming National Guard, US Air Force) located in Cheyenne were identified with hoist capabilities for longline extraction. Air miles from Cheyenne to the fire location is less than one hundred miles. Activation time of this resource is two to three hours. A deliberate risk analysis was completed for all actions on the fire. Several helispots were created adjacent to the limited access and steep terrain areas. In the event of a life threatening injury time is of the essence, a decision approved by the incident commander and agency representative to short haul lift by a helicopter assigned to the fire would be utilized. This is a planned deviation from USFS agency policy {short haul}. A decision to implement this action under an emergency situation increases the hazardous flight environment and transfer the risk to the helicopter assigned. While the probability of an event occurring and risks associated to the helicopters are rare, a deliberate plan of action prior to such an event is needed rather than an unplanned reaction. Recommendation: Agency aircraft and aviation personnel assigned to wildland fires need the ability to short-haul injured firefighters. CORRECTIVE ACTION: RASM Elevated to the National Office. WO Comments: While it appears this may be the prudent action by performing a deliberate risk analysis, obtaining authorization from the IC and agency representative and identifying and planning for an emergency extraction, the door has been left wide open for unmitigated additional risks. Fortunately there was no emergency extraction required and therefore was not utilized. Many questions still come to mind as far as risk assessments and planning and we will not address the fire safety questions here. As far as aviation, the crew of the helicopter was put in a bad situation. There could have been other commercial resources available that could have been procured on a services contract that were listed in the Emergency Helicopter Extraction Source List (for all areas, just not under the GACC). The prudent thing to do in such cases is to contact the Regional and Washington Office Helicopter Operations Specialist for assistance and guidance. This issue has been discussed and continues to be highlighted among the helicopter operations program. Implementing such a procedure without addressing the additional risk and exposure {equipment & training} within our contract helicopter operations is risky business. This information will be shared with the Interagency Helicopter Operations Sub-committee (IHOPS). Thanks for sharing your experience and concerns. Please see the Interagency Emergency Helicopter Extraction Source List at: http://www.fs.fed.us/fire/aviation/av_library/Revision_6_EHE_Source_List(03-12).pdf. The intent of this source list is to provide Incident Management Teams, Geographic Area Coordination Centers, and Forests access to the availability of helicopter resources on a state, geographical and national basis to conduct human extractions (hoist/short-haul) for emergency evacuations by professional resources that have been trained and have the appropriate equipment. Both insertion/extraction techniques are used to precisely place emergency response personnel and remove critically injured victims from normally inaccessible terrain or locations.

SAFECOM 12-556: An unexpectedly heavy load nearly over-grossed aircraft: Pilot reported pulling 100% torque to lift a load of 1 blivet w/5 bladder bags - load cell showed 1200 lbs w/allowable of 1125 (HIGE), 915(HOGE), and 1095(HOGE-J). Due to fuel burn-off, aircraft did not exceed allowable, but pilot immediately set load down on the ground and release it from remote hook. The load was 3rd in a series of 4 loads, each of which had been built almost identically and manifested at 880 - 900 lbs. Having the load cell show 1200 lbs on the 3rd load surprised the pilot and helitack (6 personnel from 2 different crews participated in building the loads) because pilot reported all other loads measured very close to manifested weights. CORRECTIVE ACTION: Upon investigation of the brand name of blivet, it was discovered that the blivet from the 3rd load was probably a 132-gallon blivet rather than the manifested 72-gallon blivets. The 132-gallon blivets labeling had worn off so no capacity rating was visible. The 132-gallon blivet did not have a visual appearance significantly different than the 72-gallon blivets when full or partially full, other than a different type of steel ring anchor point. The HMGB had the 132-gallon blivet clearly marked, and notified the cache manager that distributed the blivets to helibase. The cache manager reported that they only stock the 72-gallon blivets, but committed to investigate further.
SAFECOM 12-549: HMGB of a Type 1 heli-tanker advised his pilot of a weather service warning for severe thunderstorms with quarter-sized hail and to “baton things down.” The company rep, the ASGS, and the HMGB got into a discussion about whether flying to avoid the storm would be revenue or non-revenue. This occurred at the box on the helibase, about ¼ mile from the helicopter pad. The ASGS said that nobody was ordering the helicopters to move, so if the company decided there was an eminent threat, it was their decision to do so and the flight would be non-revenue. After the discussion, the HMGB drove to the pad. When the HMGB got to the pad, he said the helicopter spooled up and was lifting off before he got out of the truck. The HMGB reported afterward that he did not know if the aircraft had communication with anyone, as the wind of the storm along with radio chatter prevented him for knowing for sure. The HMGB was also unsure of how many souls were on board. After the incident, neither the personnel at the helibase (HMGB, ASGS, or others), or dispatch knew SOB or FOB. The incident HB got a call from the Helitanker: “Off HB to Torrington: will contact Casper.” The aircraft desk noticed a Type 1 helicopter go positive on AFF. The aircraft desk thought it was for a local fire mission, the two dispatchers were discussing the craft and its mission. They knew of nothing that would take it to the east. Contact on National FF was attempted, and a message was left with the AOBD on the incident. Great Plains Dispatch was asked to contact the ship for mission, fuel, souls. They couldn’t reach them. Then the ship went red on AFF. Dispatch made several calls to neighboring dispatch center, tower, AOBD, ASGS and sheriff’s office. AOBD called back and informed all that the manager had contact with the pilot and everyone was alright. The airport tower, county law enforcement, the GACC, and the neighboring dispatch center involved were all notified of the situation. Per AOBD, an AAR will be scheduled to learn from this incident and avoid future communications issues. **CORRECTIVE ACTION:** Acting RASM 7/7/2012: This is a good reminder for incidents and other operating bases to develop a severe weather plan that pre-identifies severe weather trigger points, re-location options for aircraft as well as an understood discussion surrounding the payment question {payment is a contracting question that will not be addressed here~ but having pre-identified expectations will help expedite the decision to move aircraft to safer locations during inclement weather:} I spoke with the AOBD, and an AAR was conducted with the Helicopter Manager, ASGS and the ABRO. At the time this situation occurred, the incident was experiencing lightning and rain in the area, and the pilot was likely driven by a sense of urgency to get the aircraft moved to a safer location. The lesson learned is to ensure flight following is properly conducted, and to take the time to make informed decisions. In this case the lack of communication with the dispatch center combined with the loss of signal of the Helitanker on AFF initiated a “missing aircraft” response, involving local law enforcement. Had this turned out to be an actual emergency, the Dispatch Center was missing important information pertaining to the # of people on board, fuel on board and the purpose of flight. Communication is essential to safe aviation operations.

SAFECOM 12-520: During bucket work, there was low visibility with variable winds. Winds were shifting light to moderate. The bucket made contact with a tree. Once he made contact with the tree, the 9-pin plug came undone. Then, the pilot went out to do bucket work unaware that the 9-pin was unplugged. He tried to release the water, but it didn’t work. He went back to the dip site and sat down the helicopter. The helitack plugged him in and he went back out to the bucket work. **CORRECTIVE ACTION:** He returned to helibase where the crew checked his bucket. No damage. At the end of the shift, we had an AAR. The pilot admitted he hadn’t worked on a fire for a while and he hadn’t done bucket work with the helicopter type. **RASM comments:** We are seeing human factors more frequently at this point of the season. Pilots need to keep up their bucket skills and briefing on the mission is one way to help keep focus. The crew responded well with the AAR to develop mitigations for preventing future occurrences.
SAFECOM 12-561: The ATGS-T received a call from dispatch that provided both the fire coordinates and advisory coordinates for a neighboring fire. While planning a route to a dispatched fire the ATGS-T input the advisory coordinates. When the platform was arriving on scene the visibility was compromised by the smoke from multiple fires in the area and the ATGS-T inadvertently directed the platform to the advisory coordinates Fire instead of the intended Fire. The ATGS-T was in contact with the intended fire Air Tac and thought he had visual contact with the Air Tac and noticed other aircraft in the airspace on TCAS that he hadn’t been advised of. The intended fire Air Tac advised the Trainee that they were the only fixed wing aircraft on the incident. While observing what was thought to be the Air Tac the ATGS-T observed another aircraft at a similar altitude with about a 1/2 mile separation which identified itself as the advisory coordinates Air Tac. The ATGS-T was directed out of the airspace at a safe altitude and made visual contact with the intended fire Air Tac and proceeded to the intended Incident. CORRECTIVE ACTION: Confirm proper dispatch coordinates are input into the GPS. If conditions aren’t as expected upon arrival maintain a safe position and re-evaluate. Held AAR with the advisory coordinates Air Tac at the end of shift. RASM Comments: Discussed with air attack a couple factors contributed to the perceptual error. The coordinates were taken by phone and transferred to a sheet of paper instead of using a form of some type. (Resource Order, Knee Board Form). The input was not error checked by another crew member due to positioning in aircraft and not following a CRM approach of having the pilot input coordinates and ATGS verify. This may of still not trapped the error but good work on the crew’s heads up of noticing the other AC on TCAS and asking for more information. Thanks for reporting it helps everyone.

SAFECOM 12-531: Returning to Cedar City Airport {CDC} from a shift on the Shingle Fire, the pilot for Air Attack declared the intent to enter the CDC airspace and come over center field to enter a downwind pattern for runway 20. A Pilatus identified himself on final for a missed approach and said he had us in sight. We informed him that we would cross over the center runway and enter the right downwind. As we approached the runway to cross the Pilatus pulled straight off the runway on a steep climb right towards us. We turned left paralleling him to avoid collision. He climbed right to our pattern altitude and we called him asking his intentions. He told us he would go under us and that we can start a right hand turn to cross the runway. We climbed a little and started our right hand turn and the Pilatus initiated another climb instead of going under us. He passed behind our aircraft: we entered a downwind and landed 20 with no other conflict. CORRECTIVE ACTION: Was At the Tanker base when pilot and air attack came in, they both expressed that they were following general pattern rule around the cdc airport, discussed the event with the Unit Aviation Manager for the Color country BLM field office area/Air Center Manger of the the tanker base, we then discussed this with the Airport manager and all came to the conclusion to order the Temporary tower for the Airport. The event was followed up with both parties willing to contact the FAA, and discussions occurred with both pilots. RASM COMMENTS: While in discussion with the Air Tanker Base manager, and the pilot involved. All protocols were followed; an FAA Tower was in the process of being staffed at time of incident. No further action required. Similar issue in SAFECOM 12-526

SAFECOM 12-0696: Pilot requested 1000 gallons and was overloaded by 3%. The loaders say that the floats are not reacting to the P100 as quickly as the D75 and the aircraft was overloaded. There has been much discussion regarding this issue and it continues to be a problem here locally. CORRECTIVE ACTION: RASM: I and the FWOPs visited the base to discuss why the airtankers were being overloaded. There were no indicators that P100 were affecting the floats in the aircraft and all loading equipment (motion micro meter, etc) were noted to be working properly. We discussed the importance of dispersing only the amount the pilot is asking for with company lead. After this visit, all airtankers were loaded correctly. The ATBM had an AAR with the crew and now tracking and matching pilot; s requested load with what is actually being loaded.
SAFECOM 12-521: During an attempt to drop the tenth bucket on the fire, the bucket malfunctioned and water did not release. Helicopter was in a slow descent and continued descent when the anticipated release of the water did not occur. Bucket contacted the top of an approximately 50 foot tree and became entangled. Pilot was unable to free the bucket from the tree and was forced to jettison the the line from the belly hook. Helicopter returned to the helispot without further incident. CORRECTIVE ACTION: Acting RASM comment 7/7/2012: This incident is being treated as an incident with potential {IWP}. The reporting and communication of this incident was outstanding, from the pilot & helitack crew to the FMO...all information was timely and forthright. In addition, the helitack crew made an informed risk decision regarding the retrieval of the bucket and consciously chose to not recover the bucket due to hazards associated with remote, steep, rugged terrain. Even though this is classified as an IWP the pilot, crew and unit did not hesitate to report it, demonstrating exceptional professionalism.

SAFECOM 12-515: After a fuel cycle of bucket work helicopter. After being down for a couple of hours, helicopter was getting ready to go pick up the dip site manager, during the walk around the pilot noticed a dent 1/2 inch round and 1/4 deep in the tail rotor. After further inspection, he determined that a zeus fastener had come out of the tail rotor drive shaft cowling and impacted the tail rotor. The pilot and manager determined that the impact occurred most likely during the previous mission, because the defect was not found during the preflight. The mechanic found that the receiver for the zues fastener had broken causing the fastener to loosen and fall out during flight. This was a good catch by the pilot. CORRECTIVE ACTION: Mechanic replaced the receiver and zues fastener. The tail rotor was also replaced and balanced according to the Maintenance Manual. The pilot and manager discussed the importance of preflights and checking the aircraft before and after every flight to assure airworthiness. RASM comments: The manager contacted an AMI in resolving this issue. Preflight inspections are an effective risk mitigation that should be occurring. Kudos to the pilot for finding the damage and the part that failed.

SAFECOM 12-0753: The relief mechanic was performing a post shut-down inspection of the main rotor system. During the inspection, the mechanic noted play in both red and white stabilizer bar damper links. The amount of play noted was consistent with normal wear of the rod end bearings and would not typically cause alarm but the mechanic remembered that the primary mechanic had stated at the last relief that he planned to replace the links, so the mechanic inspected the links more closely. It was at this more detailed inspection that the mechanic noted that the play was actually caused by premature wear of the rivets which secure the rod ends to the link tubes. The mechanic made the decision to ground the aircraft based upon the fact that the rivets had worn to an unacceptable level in just over 30 hours. While waiting for the replacement parts to arrive with the fuel truck and maintenance trailer, the mechanic performed a detailed inspection of the subject parts, and noted that the links were assembled with incorrect hardware and no structural adhesive, as directed in the bell helicopter standard practices manual. The rivets installed were a 2024 alloy with a dd temper. This rivet has a shear loading capacity of 41000 psi, the required rivet is made from monel and has a shear strength of 49000 psi. It is noted that the identifying marks on a dd rivet are two raised dashes while the monel is identified by two raised dots. CORRECTIVE ACTION: Both the primary and relief mechanics initiated an FAA Malfunction or Defect Report (FAA Form 8010-4) which gives the FAA the required information to further investigate the concern. The primary mechanic also contacted the supplier and took the lead as the company representative regarding the concern. Great catch by the mechanic.
SAFECOM 12-512: While performing bucket operations on the Clay Springs Fire the Pilot returned to the Delta City Airport for a fuel and return mission. While landing with a belly hooked bucket the pilot was experiencing a strong head wind. The individuals staffing crash rescue reported that as he was landing the bucket kept drifting back beneath the helicopter. While the pilot was trying to maneuver the bucket below him he drifted with the wind to the right and the rotor disk passed approximately 3 feet over the top of the fuel truck. The crash rescue individuals immediately notified the pilot via hand signals and the pilot corrected the aircrafts location landing safely and shutting down. **CORRECTIVE ACTION:** The pilot and the manager talked over the situation to make sure the pilot was clear on the events. The Heli-Base Manager was notified of the event. The Pilot and manager were both comfortable with the aircraft and pilot returning to service after discussing the events. The crew performed an after action review on the importance of crash rescue, clear communication and marshaling. The pilot mentioned the need for a good vertical reference marker to be placed on the helipad so a bright vertical reference marker was placed on the pad to assist the pilot while landing. The helicopter manager would like to thank his crew members for doing their job well and going above and beyond in preventing what could have been a very bad situation as well as promptly reporting the event.

**SAFECOM 12-514:** Pilot exceeded duty day limitations. Pilot duty day began @ 0:600 Per pilot duty day restrictions/agency standards the pilot is required to be off @ 20:00 (0:600 + 14 hours equals 20:00). Information was received close to the end of the pilot’s duty day that an aircraft was missing. Due to a lack of suitable aircraft it was determined that the pilot and aircraft were a critical need for completing SAR mission. It was also determined that duty day limitations would likely be exceeded and the need for the pilot to exceed limitations was critical as life was clearly in jeopardy. (Fire objective #1 Provide for firefighter and public safety). Pilot, Helicopter Manager, and Helibase Manager were in full concurrence that exceeding duty day limitations was fully justifiable. **CORRECTIVE ACTION:** Upon completion of the SAR mission the pilot was given 1 hour off in addition to his mandatory 10 hour rest period. Pilot had just returned from 2 days off and was comfortable returning to work the next day. RASM Good risk management process and accommodation after the fact to manage fatigue.

**SAFECOM 12-0720:** While dropping on the fire, helicopter made two successful drops. Upon lifting the third load the pilot felt loss of power with right yaw. Pilot lowered the bucket back into the water. Aircraft yawed right twice and was shaking violently the entire time. After approx. 5 to 10 seconds aircraft regained stable power and pilot lifted empty bucket out of the water. Pilot radioed ground personnel of the incident and started looking for a suitable landing site. Pilot found area near a nearby lake and set down with no other incident. **CORRECTIVE ACTION:** Mechanic drove out to aircraft but due to daylight could find nothing that evening. Next morning the mechanic found fuel control unit with leaking diaphragm. Part was replaced a couple days later. Run up and check flight preformed at lake. Maintenance inspection preformed and aircraft was able to fly to nearby airport. Another maintenance inspection flight was performed in the morning and mechanic put a/c back into service. Regional maint. Inspector was notified and a/c was placed back into availability.

**SAFECOM 12-754:** During Bucket operations on the fire, The helicopter was dipping water in a spot specific to the division he was working. While the helicopter was in the dip, another Division group supervisor called and asked for a drop. Instead of flying out like he regularly would, he decided to turn out 180 degrees toward the new division. He had done this on one other occasion without incident and knew there was a snag near the flight path. On the second time doing this, the bucket did not have enough clearance and contacted the top of snag, putting about an 18” tear in the side of the bucket. The pilot returned to helibase, we switched buckets, fueled, and went back to work. **CORRECTIVE ACTION:** Discussion was had between pilot and manager about flying out the regular departure path all the time instead of changing it on short notice if another DIV calls for buckets.
SAFECOM 12-646: Aircraft was not provided with vendor FM radio (Met Type IV Avionics Standards), so a Government provided kit was required. The Pilot and Flight Manager struggled to gain communications with the FS supplied kit and interface with aircraft audio control system upon install. Once adequate communications seemed to be established (ground checked during pre-flight) the mission began without incident. Once airborne, during attempts to establish VHF-FM communications with dispatch, the communication systems (VHF-AM/VHF-FM) became inaudible. The pilot established VHF-AM communication in a safe holding pattern southeast of the departure airport away from standard approach/departure paths while the Flight Manager attempted to troubleshoot VHF-FM problem. Troubleshooting could not correct the problem, so Flight Manager directed the pilot to return to the airport until radio problems could be corrected. CORRECTIVE ACTION: Flight was discontinued by Flight Manager due to radio system complications and reported to Unit Aviation Officer (Contract COTR). Radio kit install procedures checked and troubleshooting accomplished the following day. A defective Push to Talk supplied with the kit was found faulty during testing which was replaced and detection flights resumed the following day with no further problems. UAO Comments: Kudo’s to the Flight Manager for timely cancelling further flight activity, directing pilot back to airport for further troubleshooting of the radio system on the ground. This was the first detection flight of the season for this aircraft and radio kit, and it’s suspected the push to talk in question most likely was showing signs of failure towards the end of last season, but had never been taken out of service or reported as needing to be replaced. Note to Flight Managers: Report equipment deficiencies and provide yourself adequate time to familiarize yourself with equipment. Complete a thorough pre-flight check of radio systems as part of your Go-No Go checklist. RASM Comment: The Flight Manager utilized sound risk management processes and did not allow the mission to override a safe aviation operation. This was a good example for the aviation vendor as well because now that vendor understands the mission will not compromise safety. Well done!

SAFECOM 12-712: During an Air Attack mission the aircraft lost electrical power resulting in loss of all radios and intercom. The pilot shut down the air conditioner and the power came back on. The incident lasted less then two minutes. Critical factor was that Lead and a Tanker were less than five minutes out from the fire and receiving an initial briefing from the trainee ATGS. After informing Lead of the situation Air Attack returned to base. CORRECTIVE ACTION: Acting FAO comments: Good CRM was performed by the ATGS and Trainee. After the electrical power was restored the decision to return to base was discussed internally and communicated to Lead and dispatch. RASM Comments: Excellent work by the crew in identifying the problem and returning to base. Contractor identified an alternator malfunctioned. The alternator was replaced overnight and the aircraft was returned to contract availability after review by the RAMI. Backup handheld radio independent of aircraft power supply if available is a good way to maintain important communications until return to base.

SAFECOM 12-0702: During the morning daily inspection and pre-flight inspection, the pilot and mechanic noticed a crevasse in the composite material at the rotor blade tip. This crevasse was developed during manufacturing of the rotor blade. A void in the composite material developed, and was exposed when the paint over the void eroded away and exposed the crack during normal flying conditions. The previous day’s flight was through some rain, and could have accelerated the erosion through the paint. The crevasse was 85mm long, 3.5mm wide and 12mm deep. CORRECTIVE ACTION: As a crew we discussed the importance of allowing the pilot and mechanic undisturbed and uninterrupted time to perform the daily inspection and pre-flight inspection. RASM: The AMI was contacted and after evaluation returned the aircraft to contract availability. Very good point by the crew emphasizing a “sterile” environment while pre-flight is taking place.
SAFECOM 12-667: 167 gal of AV Gas put on board a SEAT. At this time, 3 Aircraft assigned to fire were on hold, 1 P2V and 2 SEATS. All requesting fuel. The P2V is in first and AV Gas is ordered. Vendor arrives and fuels the P2V. 40 min later the 2 Seats come in and Jet A is ordered for the SEATS. T-xxx is the last in and the first aircraft the Vendor starts to fuel. It is unclear if the fuel truck was still on sight from fueling the P2V or had returned to the FBO and came back to service the SEATS. Pilot of T-xxx was on the phone when the fuel operator started fueling the aircraft. When he looked up while on the phone he realized the vendor was giving him AV Gas. Fueling operation was stopped immediately. 167 gal of AV gas was put on board. Pilot immediately called the FBO. The manager and Pilot discussed the situation and made the decision to fill the rest of the fuel cells with Jet A resulting in a blended mix of about 50/50 AV/Jet A. It was at this point that I heard about it. CORRECTIVE ACTION: Grounded aircraft until appropriate agency notified. Notified FAO and SEAT Manager. SEAT Manager contacted R2 FS Aviation Maintenance Inspector (AMI). AMI: Per Pratt & Whitney Service Bulletin #14504R5 - “Turboprop Engine, Engine Fuels-Requirements and Approved Listing”, states this aircraft is approved to operate with the blended fuel. Documentation from manufacture states aircraft can fly on a blended mixture or AV Gas, AMI with this info approved this aircraft to fly. Corrective action: This is clearly a communication and Situational Awareness mishap. Timekeepers asked for Jet A. FBO arrives with AV Gas. Pilot was at the aircraft when fueling began, but distracted making phone call. Timekeepers and ramp personnel failed to notice the fuel truck was AV gas. Fueler did not recognize a/c he was fueling was a turbine engine. Pilot catches mistake after 130 gal. pumped in. Stay observant help each other out, pay attention. RASM: This is a trend. We have seen this happen in the past with aero commanders where Jet A is used in a reciprocating engine requiring 100LL. Good reminder that the PIC needs to verify the fuel going into the aircraft and remain present during the fueling operation. A further mitigation would be to identify type fuel needed in the aircraft at the point of entry into the aircraft.

SAFECOM 12-540: During water delivery operations on the Seeley Fire, the aircraft experienced difficulties with a new bucket design which incorporates both power-fill and gated delivery systems. During the first operational period the bucket’s hydraulic system was operating at approximately 3000 psi which was causing excessive electrical loading, tripping the breaker in the aircraft. The pressure was later reduced by the mechanic and flown for another 5.9 hours and 42 buckets without incident until the bucket gate failed to open again while deploying water. The target was a downslope approach and the environment was 9000 @ 20c which resulted in deficient power for exiting the target area with the external load. The pilot recognized the situation immediately and utilized the emergency squib release to jettison the bucket and longline in order to regain power and forward airspeed. No personnel were in the vicinity of the jettisoned load. The aircraft returned to helibase without incident and was unavailable the remainder of the day. CORRECTIVE ACTION: A new squib mechanism was ordered and arrived later in the PM. Manager debriefed with the pilots, mechanic, and appropriate incident aviation personnel about the situation. Contact and follow-up was made with the RASM and Maintenance inspector, the ship was made available for bucket work with another bucket the next morning after installation and testing of the new squib. Further follow up is ongoing with vendor and agency aviation personnel.