USDA Forest Service
Aviation Safety Summary
August 2001

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Aviation Letters

File Code: 5700/5100 **Date:** July 25, 2001
Route To: 5700

Subject: Interagency Helicopter Operations Guide (IHOG) Policy Revisions

To: Regional Foresters and Area Director

The IHOG Working Group, as tasked by the Interagency Helicopter Operations Steering Committee (IHOps SC), recently completed the triennial revision of the IHOG. Most of the forthcoming revisions are typographical corrections or minor edits. However, five of the revisions represent substantial changes in policy that directly affect interagency helicopter operations. These changes deal with managing restricted use category helicopters and their management staff requirements. Implementation of these changes will enable us to continue operations in the face of shortages in critical positions.

This letter supersedes the letter on Interagency Helicopter Operations Guide (IHOG) Policy Revisions, dated May 16, 2001. The five changes in the IHOG Revision are effective immediately. They will be incorporated within the full reprinting of the IHOG. A copy of this signed letter should be kept with each IHOG until the next revision is available. The revised IHOG, incorporating the changes described above, should be available by the fall of 2001. For further information on these policy changes, contact Jon Rollens at 208-387-5634, or IHOps SC Chair Kevin Hamilton at 208-387-5173.

/s/ Robin L. Thompson
for

MICHAEL T. RAINS
Deputy Chief
State and Private Forestry

Enclosure

cc: Jon Rollens
Asher Williams
Samuel Stone
Michael Martin, OAS

Subject: Interagency Helicopter Operations Guide Changes

Purpose. This appendix provides changes to the Interagency Helicopter Operations Guide (IHOG), which effect the minimum daily staffing requirements for fire helicopters; the authority for one qualified Helicopter Manager to manage up to two (2) Type I or Type II helicopters that are designated for "limited use" or FAA Restricted Category helicopters when specific conditions are met; the management of helicopter bucket payloads; the establishment of two levels of Helicopter Managers; and the operation of National Guard helicopters without civilian helicopter managers when engaged in National Guard helicopter operations related to the incident.

Authority. The Memorandum of Understanding between the U.S. Department of the Interior (DOI) and the U.S. Department of Agriculture (USDA) dated January 28, 1943, and the Interagency Agreement dated November 25, 1985.

Policy. This policy is established pursuant to the "Interagency Fire Helicopter Standards" signed and dated by the Acting Director, Office of Aircraft Services, DOI and the Acting Assistant Director, Fire & Aviation Management, U.S.D.A. Forest Service, on June 4, 2001. Specifically, paragraph V. D. Operations of those standards states that Interagency Fire Helicopter operations will be conducted in accordance with the standards published in the IHOG. With the incorporation of these modifications, Interagency Fire Helicopter operations will continue to be conducted in accordance with the IHOG as amended by the following four (4) policy changes:

A. The first policy change will permit FAA Standard Category helicopters temporarily designated for "limited use" missions, or FAA Standard Category helicopters permanently designated for "limited use" missions or FAA Restricted Category helicopters to be managed by a Helicopter Manager only. However, any time a Standard Category helicopter is temporarily designated for "limited use" missions, or re-designated to perform standard missions (personnel transport), the appropriate agency Aviation Manager at the State, Area, or Regional level must grant approval on a case-by-case basis. This change will enable Fire and Aviation managers to reduce helicopter personnel requirements to a manager only when helicopters are being utilized in a "limited use" capacity, as opposed to a manager and additional helicopter crewmembers.

This change will be accomplished by modifying the following section of the IHOG:

Chart 2-7: Minimum Daily Staffing Requirements for Fire Helicopters

Type Helicopter	FAA Standard/Transport Category	FAA Standard Category Temporarily Designated for Limited Use*	FAA Standard Category Permanently Designated for Limited Use* or FAA Restricted Category
1	Manager plus Four (4) Helicopter Crewmembers	Manager only	Manager only
2	Manager plus Three (3) Helicopter Crewmembers	Manager only	Manager only
3	Manager plus Two (2) Helicopter Crewmembers		
CWN Helicopter and Module must mate up away from Incident(s) or Fire Operations.			

*Limited Use Designation: This is an agency term used to denote a helicopter that can only be utilized in a limited role (not for passenger transport). Use would typically include external cargo transport or water/retardant dropping missions. This may be a temporary designation as described above. Or it may be a permanent designation dictated by the contract or agency policy. During the period that a helicopter is designated as "Limited Use" IHOG Chapter 10 1.D is in effect and government employees are prohibited on board during flight operations.

Add the following Important Note immediately following Chart 2-7:

IMPORTANT NOTE: The appropriate agency Aviation Manager at the State, Area, or Regional level must grant approval any time a Standard Category helicopter is temporarily designated for Limited Use missions or re-designated to perform standard (personnel transport) missions. Any helicopter performing standard use missions requires full staffing of Helicopter Manager and Module.

B. The second policy change will allow one qualified Helicopter Manager to manage up to two Type I or Type II helicopters designated for "limited use" or FAA Restricted Category helicopters during periods of personnel shortages until additional Helicopter Managers become available, under the constraints listed below. This is a "stop-gap" measure so that helicopters may continue to operate on incidents until additional Helicopter Managers become available. This should not be viewed as a standard operating procedure.

This change will be accomplished by modifying Chapter 2: Personnel, Section III. Helicopter Management, on page 2-9 of the IHOG, by inserting the following IMPORTANT NOTE after the existing second paragraph:

IMPORTANT NOTE: Two (2) Type I or Type II designated as “limited use” or FAA Restricted Category helicopters may be managed by one qualified CWN Fire Helicopter Manager only when the following conditions are met:

1) An order for another CWN Fire Helicopter Manager for the second helicopter has been placed and is actively trying to be filled.
2) Both helicopters are working out of the same helibase and are physically located side-by-side.
3) A Helibase Manager is assigned.
4) Aerial supervision is being provided.
5) The appropriate agency Aviation Manager at the State, Area, or Regional level must grant approval on a case-by-case basis.

The management of two helicopters by one HEMG, as described above, should not be a standard operating procedure.

C. The third policy change affects the management of helicopter bucket payloads. Helicopter bucket operations require attention to ensure that allowable payloads are not exceeded. Allowable bucket payloads must be calculated for current fuel loads and local environmental conditions. Actual bucket payloads can only be accurately determined if the bucket is filled to the maximum adjusted capacity or by utilizing an on-board load cell.

The following procedure shall be used for all bucket operations:

- Determine allowable payload using the Interagency Load Calculation method, appropriate HOGE helicopter performance charts and current local temperature and pressure altitude. Performance enhancement charts (also known as “wind charts”) that attempt to take advantage of prevailing winds are not authorized. Since buckets are external jettisonable loads, the weight reduction may be omitted from the load calculation process with pilot approval.

  The following procedures shall be used for all bucket operations, except Type I Helicopters equipped with electronic helicopter hook load measuring systems (load cells) that provide a cockpit readout of the actual external load and a bucket that is equipped with a gating system that allows part of the load to be dispensed while retaining the remainder of the load:

- At the beginning of the fuel cycle, adjust the bucket capacity so that the actual payload, when the bucket is filled to the maximum adjusted capacity, does not exceed the allowable payload. Use 8.3 pounds per gallon of water. If mixed fire retardants are being delivered by bucket, use the appropriate weight per gallon for that mixture. The weight of the empty bucket and any associated suspension hardware (lines, cables, connectors, etc.) must also be included in calculating the actual payload. The calculation of the actual bucket payload must be documented on the load calculation form or separate load manifest.

SAFETY ALERT: IF THE HELICOPTER BUCKET PROVIDED BY THE CONTRACTOR CANNOT BE ADJUSTED TO THE ALLOWABLE PAYLOAD FOR CURRENT, LOCAL ENVIRONMENTAL CONDITIONS, BUCKET OPERATIONS MUST NOT BE CONDUCTED. If this situation occurs, consult with the appropriate Contracting Officer to determine contractual ramifications and necessary actions.

CAUTION: There are many different manufacturers and designs of helicopter buckets. Capacity adjustments are made in various ways: removing plugs, opening zippers or cinching collapsible/foldable buckets (see Chapter 9: Equipment Requirements and Maintenance, Section VII. Standard Equipment for External Loads, paragraph K, on page 9-30 of the IHOG). Capacity at each position or adjustment level should be marked on the bucket. Collapsible buckets with cinch straps should only be adjusted to the marked graduations (90%, 80%, 70%). Attempts to establish intermediate graduations or capacities below 70% (tying knots, etc.) is prohibited as this results in estimated capacities and may interfere with the release mechanism.

- After the bucket has been adjusted so that the actual payload will be within the allowable payload, bucket operations may begin. The pilot will be directed to fill the bucket to the maximum adjusted capacity each time (no partial dips for performance planning purposes). Thus, the same payload will be carried on each trip. As fuel is burned, the allowable payload will increase but the actual payload will remain constant. If so desired, after a period of time (for example, 30 minutes), the bucket may be readjusted to the new allowable payload created by fuel burn-off.

D. The fourth policy change establishes two levels of Helicopter Manager; Helicopter Manager Standard; and Helicopter Manager Limited. Helicopter Managers Standard are qualified to manage any category helicopter previously identified on new Chart 2-7: Minimum Daily Staffing Requirements for Fire Helicopters, while Helicopter Managers Limited are qualified to manage helicopters in the FAA Standard Category Temporarily Designated for Limited Use (per the center column of Chart 2-7), or FAA Standard Category Permanently Designated for Limited Use or FAA Restricted Category (per the right hand column of Chart 2-7). The intent of this policy change is to enable the utilization of personnel that possess helicopter management expertise as Helicopter Managers in areas where an arduous physical fitness level is not required.

E. This change will be accomplished by modifying Chapter 2: Personnel, Section III. Helicopter Management, on page 2-9 of the IHOG, by inserting the following paragraph between the two existing paragraphs:

Helicopter Managers completing the experience and training requirements per Charts 2-1 and 2-2 and qualified to manage any category helicopter on Chart 2-7, are identified as Helicopter Managers Standard. Personnel possessing helicopter management expertise per Charts 2-1 and 2-2, except for the arduous physical fitness level and ICT4 requirements, are identified as Helicopter Managers Limited and are authorized to manage helicopters in the FAA Standard Category Temporarily Designated for Limited Use (per the center column of Chart 2-7), or FAA Standard Category Permanently Designated for Limited Use or FAA Restricted Category (per the right hand column of Chart 2-7).

The intent of the fifth policy change is to enable National Guard helicopters to perform specified missions without the utilization of a civilian Helicopter Manager. This change will be accomplished by modifying *Chapter 2: Personnel, Section III, Helicopter Management*, on page 2-9 of the Interagency Helicopter Operations Guide (*IHOG)*, by inserting the following information as the third paragraph in that section:

Civilian Helicopter Managers will not be required for National Guard helicopters carrying National Guard personnel with the following mission profiles:

1. Transport of military personnel or transport of internal or external cargo in support of the military operation. Note: Civilian agencies should provide the National Guard with appropriate military liaison assistance (type of assistance to be coordinated with the Guard unit) when personnel and cargo are transported.

Water bucket operations. Note: In order to perform water bucket operations, civilian agency helicopter inspector pilots must card the military pilot and appropriate aerial supervision must be provided (i.e. radio contact with incident personnel, air attack, lead plane, HLCO, etc.)

All Air Operations and Helicopter Management personnel should carry a copy of this signed document. A copy of this signed document should also be kept with each IHOG until the revised IHOG is published.

Note from Robert Kuhn to Asher Williams with additional clarification on previous letter.

The language in the recent IHOG letter change of inspection and carding of national guard assets is clarified as follows:

"Agreements and letters of authorization for the use of military aviation assets will be accomplished prior to assignment on an incident. Military assets not previously authorized will be reviewed and documented by an agency inspector prior to their assignment to an incident."

What does this mean?

If the OAS or Forest Service has previously authorized by letter or other instrument a National Guard unit or other military aviation assert then it is available for use on an incident. Specific carding of each military aircraft and pilot is not required.

If the OAS or Forest Service has not previously authorized by letter or other instrument a National Guard unit or other military aviation assets it is not available for use on an incident until it is formally reviewed and authorized for use by the agency (FS or OAS). This is normally done at the incident when assets are brought into the system that have not previously been involved in wildland firefighting and can be accomplished, after the physical review, by carding, letter, or written agreement.

Previously authorized means annually.

File Code: 5700 Date: July 17, 2001

Route To: 6320

Subject: Documenting Contract Aircraft Airworthiness

To:

CONTRACTING REPRESENTATIVES AND AGENCY MAINTENANCE INSPECTORS SHALL CEASE USING THE TERM “RETURNED TO SERVICE” FOR CONTRACTED AIRCRAFT AND USE “RETURNED TO CONTRACT AVAILABILITY” FOR ALL DOCUMENTATION ON SAFECOMS, FLIGHT USE REPORTS, CONTRACT DAILY DIARIES, ETC.

A REVIEW OF COMPLETED FS-5700-16 SAFECOM FORMS, FS-6500-122 FLIGHT USE REPORT FORMS, AND CONTRACT DAILY DIARIES REVEALED THAT ERRORS CONTINUE TO BE MADE FOR CONTRACT AIRCRAFT, AIRPLANE AND HELICOPTER, WHEN DOCUMENTING THEIR AUTHORIZATION TO RETURN TO WORK. AGENCY EMPLOYEES MAY ONLY AUTHORIZE AIRCRAFT TO “RETURN TO CONTRACT AVAILABILITY”. THEY DO NOT AUTHORIZE AIRCRAFT TO “RETURN TO SERVICE”.

FOLLOWING A MAINTENANCE OR PERFORMANCE FAILURE OF A CONTRACTED AIRCRAFT AN AGENCY MAINTENANCE INSPECTOR SHOULD BE NOTIFIED. AFTER REPAIRS ARE COMPLETE ON THE CONTRACT AIRCRAFT, THE CONTRACTOR’S AUTHORIZED MAINTENANCE REPRESENTATIVE OR PILOT IN COMMAND WILL “RETURN THE AIRCRAFT TO SERVICE”. THE LANGUAGE “RETURN TO SERVICE” HAS BOTH FAA AND LEGAL IMPLICATIONS AND THEREFORE IS NOT DONE BY AN AGENCY EMPLOYEE. WHEN AN AUTHORIZED CONTRACTOR’S REPRESENTATIVE NOTIFIES THE GOVERNMENT THAT THE DISCREPANCIES HAVE BEEN CORRECTED AND THEY ARE READY TO RETURN TO WORK, AN AGENCY AUTHORIZED MAINTENANCE INSPECTOR IS REQUIRED TO VALIDATE AND AUTHORIZE THE AIRCRAFT TO “RETURN TO CONTRACT AVAILABILITY”.

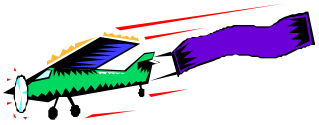
IT IS IMPERATIVE THAT THE AGENCY INSPECTOR NOTIFIES THE BASE MANAGER AND/OR CONTRACTING REPRESENTATIVE WHEN AN AIRCRAFT HAS BEEN RETURNED TO AVAILABLE STATUS. A WRITTEN AUTHORIZATION FROM THE INSPECTOR IS PREFERRED FOR BACKUP TO THE CONTRACT DAILY DIARY. IF THE AIRCRAFT IS NOT AT THEIR HOME BASE WHEN THIS ACTIVITY OCCURS, THE LOCAL BASE MANAGER WILL NOTIFY THE HOME UNIT. WHEN COMPLETING THE CONTRACT DAILY DIARY, FS-6500-122, OR SUBMITTING A SAFECOM, THE CORRECT TERMINOLOGY FOR RETURNING A CONTRACT AIRCRAFT TO WORK NEEDS TO INCLUDE THE FOLLOWING INFORMATION.

- THE NAME OF THE AUTHORIZED AGENCY INSPECTOR
- IDENTIFICATION OF THE AIRCRAFT
- “APPROVED FOR RETURN TO CONTRACT AVAILABLE STATUS”
- DATE – “ON XX/XX/XXXX AT XX:XX HRS”

IF YOU HAVE ANY QUESTIONS CONTACT YOUR REGIONAL AVIATION OFFICER, REGIONAL CONTRACTING OFFICER, OR YOUR PROGRAM MANAGER.

ASHER A. WILLIAMS

ASHER WILLIAMS
NATIONAL AVIATION OPERATIONS OFFICER



Announcing the Interagency Aviation Training Website!

Everything that you always wanted to know about the Interagency Aviation Training (IAT) program (formerly known as Aviation Training 2000) can now be found on the Internet.

The Office of Aircraft Services worked with two contractors for the past year in developing a website that will offer DOI and USFS employees a variety of training resources connected with the IAT program.

The web address is *http://iat.nifc.gov*. The site can also be accessed from the OAS homepage (*http://www.oas.gov*) or the USFS aviation website (*http://www.fs.fed.us/fire*).

The IAT website features:

- Position descriptions and requirements
- Online modules (web-based training)
- Instructor-led class schedule
- Registration for on-line and classroom training
- Commonly asked questions
- News and events
- IAT program information
- Glossary

Online Modules

Online modules are one of the options that employees can choose in completing Interagency Aviation Training. In order to receive credit, they must register and pass the accompanying test. However, the on-line training modules were designed to allow students to view the module as many times as they wish before taking the test.

A total of 21 modules will be on the web by 2003.

Modules now available online:

- A-101 Basic Aviation Safety
- A-105 Aviation Life Support Equipment
- A-106 Aviation Mishap Reporting
- A-107 Aviation Policy and Regulations I
- A-110 Aviation Transport of Hazardous Materials

Modules to be added in July 2001:

- A-108 Preflight Briefing and Debriefing
- A-113 Crash Survival
- A-204 Aircraft Capabilities and Limitations

For more information about the IAT website or on-line training contact Kris Damsgaard, OAS National Aviation Training Officer, 208-387-5812 or kris_damsgaard@oas.gov

Aviation Conference and Education (ACE)

The ACE is a weeklong event that offers over 20 IAT modules. The Interagency Aviation Training and Qualifications Working Team developed the ACE as part of the IAT program in order to provide DOI and USFS employees an efficient and effective method to complete aviation training. Attendees create their own agenda by taking modules based on their individual aviation duties and/or positions. ACEs are offered at various locations and times to meet the needs of employees throughout the country.

2001-2002 ACE Schedule

San Antonio, TX	October 22-26, 2001
San Diego, CA	March 18-22, 2002
Fairbanks, AK	April 29-May 3, 2002

Registration for the San Antonio ACE will be available on the IAT website in late July. For more information about the ACE contact Ruth Brueggemann, 208-387-5814 or ruth_brueggemann@oas.gov or Judy Ragain, 208-387-5770 or judy_ragain@oas.gov

S-217 Revision

The S-217 Helicopter Crewmember Course revision is comprised of seven IAT training modules:

- A-101 Basic Aviation Safety
- A-105 Aviation Life Support Equipment
- A-106 Aviation Mishap Reporting
- A-110 Aviation Transport of Hazardous Materials
- A-204 Aircraft Capabilities and Limitations
- A-209 Helicopter Operations
- A-210 Helicopter Field Exercise

The S-217 revision has been extensively beta-tested at various interagency locations throughout the country. The course will be fine-tuned based on evaluations and feedback from the beta test.

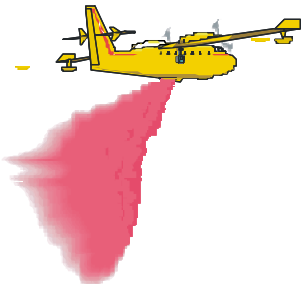
A final version of the S-217 course will be available in 2002. For more information, contact OAS Training Development Specialist Les Herman at 208-387-5813 or les_herman@oas.gov.

Interagency Aviation Training

The Interagency Aviation Training and Qualifications Working Team (IATQWT) developed the Interagency Aviation Training program under the direction of the Aviation Management Council.

IATQWT members are:

Joette Borzik	U.S. Fish and Wildlife Service
Scott Cochran	U.S. Forest Service
Kris Damsgaard	Office of Aircraft Services
John Gould	Bureau of Indian Affairs
Dennis Hulbert	U.S. Forest Service (Chair)
Gary Johnson	National Park Service
Dave Koch	Bureau of Indian Affairs
Tom Light	U.S. Geological Survey
Larry Mahaffey	Bureau of Land Management
Mark Santee	Bureau of Reclamation



For Immediate Release: *NEWS RELEASE* **July 2, 2001**

Region 5's Aviation *FAST TRACK* Takes Off!

U.S. Forest Service has early success with accelerated development program

MATHER, CA – **Dennis Hulbert, U.S. Forest Service Regional Aviation Officer for Region 5 realized the shortage, not only in his Region but nationwide, of qualified Air Operations Branch Directors, Air Support Group Supervisors, and Helicopter Managers. This shortage has been caused by the many recent retirements of those qualified in the positions and the inability of the current training & qualifications system to keep up. So late last Fall Dennis began planning a program to help alleviate this dire situation. This program is called "R-5 Aviation *FAST TRACK*"**

Fast TRACK Team on the Jones Incident -5 /01

The *FAST TRACK* Program provides the required training courses for each position in a reduced span of time. For example, a trainee who previously may have attended only one course per year now receives 4-5 courses in the same year. The follow-up Trainee assignments necessary for qualification in each position are also accelerated. The *FAST TRACK* trainees, in pre-organized Teams of 5-6, will be dispatched to any Type II or larger incident in the Region. Thus offering them more opportunity to complete Task Book items and reach qualification sooner. While the timeframes are accelerated the standards of the National Wildfire Coordinating Group (NWCG) Wildland Qualifications Guide 310-1 and the Forest Service Fire & Aviation Management Qualifications Handbook FSH 5109.17 will not be compromised.

FAST TRACK training at Vandenberg Center

The *FAST TRACK* Program got underway in April of this year. Twenty-six trainees were chosen from a formal application process after a Region-wide outreach. They all entered the program at different levels based on their current training and qualifications. Four weeks of intense training took place at the Vandenberg Interagency Training Center. Five courses were taught, Helicopter Crewmember, Helicopter Manager, Helibase Manager, Air Support Group Supervisor, and Fixed Wing Base Manager. Next year's training will be Aviation Conference & Education (ACE), Air Tactical Group Supervisor, and the final target position of Air Operations Branch Director (AOBD).

Region 5's Aviation *FAST TRACK* Takes Off!

FTTC works with Team member & Training Specialist

The Region has designated five *FAST TRACK* Training Coordinators (FTTC) for the purpose of maintaining the quality, integrity, and consistency of the program as well as providing Regional oversight, guidance, and direction. The FTTC's are responsible for the mobilization and management of the *FAST TRACK* Teams. Accompanying Teams to the Incident they maintain liaison with the Area Coordination Center, Forest Aviation Officer, Incident Commander (IC), AOBD, and Incident Training Specialist. FTTC's "mentor" the training process of each individual Team member, and insure proper documentation of training & qualifications achieved.

***FAST TRACK* Teams have been mobilized to three Incidents as of this date. Twenty-two team members have received training assignments ranging from Helicopter Crewmember to Air Support Group Supervisor. Over ninety line items were signed off in Task Books. Five team members were qualified to their next level. The *FAST TRACK* Team also assisted all three Incidents by providing qualified members to fill critical positions that the Incidents were unable to fill.**

Overall the feedback from Coordinators, Dispatchers, Forest Aviation Officers, Incident Commanders, Training Specialists, and Air Operations personnel at all levels has been very positive toward the *FAST TRACK* Team members and the program itself. Dennis Hulbert and the Regional Fire Staff truly believe that the *FAST TRACK* Program will begin putting fully qualified Air Operations Branch Directors into the National System by the end of next fire season.

For additional information on the Region 5 Aviation FAST TRACK Program contact Dennis Hulbert Regional Aviation Officer at 916-364-2833 or e-mail at dhulbert@fs.fed.us

Information Sharing

GSTC has completed the posting of the digital approach sectionals for the lower 48 states. At this time these files are only available within the FS fire wall because of agreements made with FAA, however the digital sectionals may be used by any agency engaged in fire management activities. Caution this data is not for navigational purposes, but is intended to be used for flight hazard mapping, and aviation briefings. If you have any questions about its use please contact me. Data can be found at:
http://fsweb.gsc.wo.fs.fed.us/clearinghouse/firenav/html/selection_map.html

Many thanks to Dave George and his crew at GSTC for making this happen

Joe Frost
USFS F&AM GIS Coordinator
National Interagency Fire Center
Email: jfrost@fs.fed.us
Phone: (208) 387-5961
FAX: (208) 387-5292

Jim Morrison , R-4 Regional Aviation Safety Manager

Hello Folks! I was asked by one of the FAO's on how to get to the FAA A.C.s and this will get you there. Click on the web address and then click on the 5th link down called "Flight Standard Advisory Circular" then just scroll down to the AC you want to see and click on it (example 90-66a "standard traffic patterns").

http://www.faa.gov/circdir.htm - topical

Mr. Del Villar,

I would like to formerly express my gratitude to Allen Johnson. Acting in his role as Safety Officer on the Tucker SAR Allen brought to my attention the restriction on Forest Service employees from flying on uncarded helicopters. As you know that helicopter crashed with four crew members and two OES technicians on board. I too would have been on that flight had Allen not intervened. Because of his knowledge of and his dedication to the duties of Safety Officer Allen kept me out of a situation that could have resulted in injury to me or even death.

This situation has caused me to stop and reflect on our safety programs and should serve as an example that safety rules are intended to keep people safe, not to keep them from doing their jobs. They are the culmination of many peoples' experiences. Unfortunately, some of those experiences ended in tragedy. It is easy to play lip service to safety rules but, as Allen shows, it takes a higher degree of dedication and professionalism to follow them.

To Allen, once again, thank you for watching out for my safety and the safety of others.

Geffrey L. Davenport.

NOTE: Alan Johnson was awarded an Airward. Below is the aircraft that Mr. Davenport did not get on.

HELICOPTER LONGLINE/VERTICAL REFERENCE WHITE PAPER
submitted by Clair Mendenhall, R-4 Helicopter Inspector Pilot

Upon review of SAFECOM 01-292, (Provo Exclusive Use Helicopter) a review of SAFECOM'S for FY 00 and FY 01 was conducted regarding Helicopter Longline/Vertical Reference operations within the U.S. Forest Service and Region 4. It was found that in FY 00 (42) forty-two SAFECOM'S were submitted regarding Longline operations. (1) one dragged load, (7) seven dropped loads, (23) twenty-three buckets dropped and (11) buckets dragged. So far in FY 01 there have been (14) SAFECOM'S submitted on External Longline Loads. (2) two dragged loads, (5) dropped loads, (5) five dropped buckets and (2) dragged buckets.

The use of helicopter longline operations began in the early to mid 1980's when Energy Exploration was at its peak. This required commercial helicopter operators to have highly proficient pilots capable of precision placement of explosive charges, seismic monitoring equipment, and sheds at pre-determined locations along a pre-determined route. This carried over into government operations as these pilots began working on government contracts. This was over 20 years ago and now the high demand for helicopter longline operations has been diminished to almost non-existent. Which has also reduced the proficiency level of today's pilot in helicopter longline operations.

There is a concern for the safety of Forest Service Personnel and Equipment, Contract Pilots and Aircraft operating on Forest Service and other public lands when conducting helicopter longline operations. Decay in the USFS aviation safety program is happening before our very eyes, specifically concerning longline vertical/reference operations. Over the past 20 years an ever-increasing use of longlines to transport sling loads is occurring. The vast majority of these loads are going from base heliports to established helispots with more than ample room to land an internal load or a sling load hooked directly to the belly of the helicopter. Numerous other sling loads are going to spike camps on a long line so they can either be set down in the camp or right next to it because it is convenient, with little or no concern for Safety. Aviation Management and Wildland firefighting personnel are accepting many missions that do not justify operation of the helicopter in the middle of the Height-Velocity Diagram. (The Height-Velocity Diagram is found in the limitations section of the Flight or Operators Manual. Accompanied with a note "*Operation in shaded areas must be avoided".*) As an example a pilot that has an engine failure while dipping water with a <u>belly hook</u> will more than likely swim away with no injuries, where dipping with a longline the pilot will probably sustain severe back injuries because of the high rate of decent when the aircraft impacts the water.

The problem is the indiscriminate use of Longlines to deliver cargo or water, which can be moved much safer, and efficiently either internally or on short slings or direct hooking to the belly cargo hook.

The cause of the indiscriminate use of longlines is twofold:

<u>ONE</u> - Aviation Management and Wildland firefighting personnel are no longer thoroughly educated the reason for the Height-Velocity Diagram being in the limitations section of the Flight Manual and at times have been informed they will probably never do a belly hook because longlines are safer (especially the 1st and 2nd year Aviation Management and Wildland firefighting personnel). This is probably the most dangerous piece of information to have ever been communicated from experienced Aviation Management and Wildland firefighting personnel to new Aviation Management and Wildland firefighting personnel. Helicopters are safest when at a 3' to 7' hover, than at 100' to 200' hover. Some Aviation Management and Wildland firefighting personnel say that it is up to the pilot whether to use the long line or not. The same people don't leave it up to the pilot whether or not to wear Nomex, helmet, or gloves no matter how the pilot feels about possible heat stroke in a 120-degree cockpit.

TWO – Many helicopter pilots (especially those under 40) encourage the Aviation Management and Wildland firefighting to use longlines for numerous reasons. It helps them to become proficient in longline skills so they can profess to have the "Right Stuff" which helps them in obtaining jobs in the heavy lift helicopter industry where precision placement is mandatory. Utilizing the longline generally takes about 20% longer to move and place a load and usually carry about 20% less payload. This in turn generates more revenue for the company and additional cost to the government or taxpayer. The USFS is a training ground for contract pilots in longline use. Pilots that prefer not to fly longline for safety reasons, except when there is no other way and it is an essential mission, generally are forced to fly the longline anyway, due to helitack pressure that longline is the only way government agencies move cargo or do bucket operations. In some instances a request for a sling load mission from a helibase to a spike camp, and the pilot suggested using a belly hook. He was told if he didn't haul the load with a longline, helitack would have another contract helicopter do the mission. This is a glaring example of longline or bust attitude, which prevails in some areas of our wildland firefighting and resource missions.

SAFETY ISSUE

There is a safety issue associated with the use of the longline in Type II (medium helicopters). The pilots are generally forced to fly the longline with a loose seatbelt and no shoulder harness on in order to get out into the "bubble" to perform vertical reference Longline mission. Generally the Aviation Management and Wildland firefighting ignore this unless they're in the aircraft with the pilot. In most cases, the pilot is unable to monitor engine instruments when he is outside the aircraft or in the "bubble" thus creating a problem on hot and high operations when the engine may exceed temperature or N1 speed before reaching maximum torque. Some of the Type II (mediums) are flown from both the left and right seat. Generally, unless there is an STC for left seat operation, the pilot moves back and forth for longline and passenger transport. <u>There is nothing about a longline operation that offers enhanced safety over a belly hook; in fact just the opposite is true.</u>

SUGGESTIONS:

1. Review and change Aviation Management and Wildland firefighting training to properly reflect and evaluate the hazards of Longline operations verses belly hook operations. Review and educate Aviation Management and Wildland firefighting on the Height Velocity Diagrams and the inability of any single engine helicopter to successfully complete a hovering autorotation from a height of 50' to 200' without destroying the helicopter and what ever is under it. Review and educate personnel of the improbability of a twin-engine helicopter to successfully land after the loss of one engine without incurring substantial damage to the aircraft and what ever is underneath it.

2. Review and educate Aviation Management and Wildland firefighting on the fact that the safest most efficiently moved cargo is either internal or on the belly hook. If a load needs to be placed where terrain or obstacle clearance is required then assess the longline operation and complete a risk analysis. Utilization of internal cargo also increases the efficiency of the operation due to 100 to 110 MPH cruise speed versus 70 – 80 MPH dragging a 100' longline around.

3. Longline bucket work by light and medium helicopters should be discouraged unless it is the only way to access a water source at a reasonable distance (this occurs less than 5% of the time). The helicopter cannot carry, as much water with a longline, and it is slower in most cases. The water is generally dropped from a higher height and is less effective due to drop speeds and heights (recommended drop speeds and height is 50 kts and 50' above fire). There is also a safety issue with mixing longline bucket operations in uneven and limited visibility areas.

4. Hover Drops from a fire behavior standpoint, do not provide an enhanced change in fire behavior, there is no need to do a hover drop on a fire. It should always be a trail drop (at or above effective translational lift or faster) even with as little as 50 gallons of water. The purpose of dropping water is to increase the relative humidity in the fire area and provide the moisture for the ground personnel to mix a little dirt with the moisture. In the event you are trying to cool down a snag, as little as 3 gallons of water will be adequate to suppress or hold the fire. Snag fires have never been extinguished by water bucket hover drops.

5. SAFETY IS OUR CORE VALUE. Helicopter longline operations should be planned with the utmost consideration given to safety. These operations should have a high degree of pre-planning, risk management, and analysis applied. Both the Pilot and the Helicopter Manager should utilize the 4 M's of risk analysis, from the IHOG. The decision to conduct a helicopter longline operation should be a joint agreement between the pilot and the helicopter manager.

Feedback and comments should be sent to Clair Mendenhall at: cmendenhall@fs.fed.us

Jim Morrison shared the database site for Job Hazard Analysis from The Missoula Technology and Development Center. The internet address is:
http://fsweb.r1.fs.fed.us/hr/6700_health_and_safety/index.html
On the left side of the screen click on JHAs.

One in particular to check out as the fire season peaks is the JHA on dehydration. It can be found in the New JHAs by clicking on the letter "d".

FS-6700-7 (2/98)

U.S. Department of Agriculture Forest Service	1. WORK PROJECT/ACTIVITY **Fire, Aviation and Air**	2. LOCATION **Region 1**	3. UNIT **FAA**
JOB HAZARD ANALYSIS (JHA) References-FSH 6709.11 and -12 (Instructions on Reverse)	4. NAME OF ANALYST **Greg Greenhoe**	5. JOB TITLE **Deputy Director, Region 1, Fire, Aviation & Air**	6. DATE PREPARED **06/20/00**

7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE
Dehydration and/or low blood sugar **a. Excessive heat 95° to 100° temperatures.** **b. Long physically demanding work shifts.** **c. Working on asphalt surfaces reaching temperatures in excess if 100° Fahrenheit.** **d. Hot exhaust turbulents and winds created by aircraft (fixed wing and Rotorcraft)** **e. Many locations involve dusty operations (i.e., hover hook-ups, etc.)** **f. Long tours of duty up to 21 days exposure** **g. Not eating a normal diet (meals ready to eat) (MRE's) and freeze dried food.** **h. to Deter motion sickness.** **This analysis applies to:** **Retardant base operations** **Helicopter operations** **Smokejumper operations** **Other airfields, helibases, heliports and related support operations within Region 1.** * *		**Provide (in addition to regular meals) fruit and liquids that replace the loss of carbohydrates and maintain blood sugar levels to normal limits. This will benefit the government by reducing employee illness, injury and agency provided medical care.** ***NOTE: When extreme weather and burning conditions return to normalallowing employees to subsist for themselves this Job Hazard Analysis is no longer in effect.**

10. LINE OFFICER SIGNATURE	11. TITLE	12. DATE
Jerry Williams /s/	**Director, Fire, Aviation & Air**	**06/20/00**

Previous edition is obsolete (over)

JHA Instructions (References-FSH 6709.11 and .12)

The JHA shall identify the location of the work project or activity, the name of employee(s) writing the JHA, the date(s) of development and the name of the appropriate line officer approving it. The supervisor acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.

Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.

Block 7: Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).

Block 8: Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:

a. Research past accidents/incidents
b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.
c. Discuss the work project/activity with participants
d. Observe the work project/activity
e. A combination of the above

Block 9: Identify appropriate actions to reduce or eliminate the hazards identified in block 8. Abatement measures listed below are in the order of the preferred abatement method:

a. Engineering Controls (the most desireable method of abatement). For example, ergonomically designed tools, equipment, and furniture.

b. Substitution. For example, switching to high flash point, non-toxic solvents.

c. Administrative Controls. For example, limiting exposure by reducing the work schedule; establishing appropriate procedures and practices.

d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines (chain saws, rock drills portable water pumps)

e. A combination of the above.

Block 10: The JHA must be reviewed and approved by a line officer. Attach a copy of the JHA as justification for purchase orders when procuring PPE.

Blocks 11 and 12: Self-explanatory.

Emergency Evacuation Instructions (Reference FSH 6709.11)

Work supervisors and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the worksite.

Be prepared to provide the following information:

a. Nature of the accident or injury (avoid using victim's name).
b. Type of assistance needed, if any (ground, air, or water evacuation)
c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks.
d. Radio frequency(s).
e. Contact person.
f. Local hazards to ground vehicles or aviation.
g. Weather conditions (wind speed & direction, visibility, temp).
h. Topography.
i. Number of person(s) to be transported
j. Estimated weight of passengers for air/water evacuation.

The items listed above serve only as guidelines for the development of emergency evacuation procedures.

JHA and Emergency Evacuation Procedures Acknowledgement

We, the undersigned work leader and crew members, acknowledge participation in the development and/or review of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:

SIGNATURE	DATE	SIGNATURE	DATE

Mishap Update

In the last month we have experienced two accidents and an incident with potential.

A Cessna U206G on amphibious floats made a forced landing while flying reconnaissance on the Huron-Manistee NF in Michigan. The aircraft flipped over from the nose, resting upside down. The pilot and observer on board both escaped with only minor injuries.

Two helicopters, a Bell 205 and a Bell 212, doing bucket work on the Green Knoll fire on the Bridger-Teton N.F. had a mishap at the dip site. One helicopter struck the longline of the other helicopter, causing a forced landing of one of the helicopters. Again, we were very lucky that no one was injured.

We also had an Incident With Potential with an exclusive use rappel helicopter based in John Day, OR. The helicopter made an emergency run-on landing after experiencing engine problems while conducting rappel proficiency training.

SAFE ATTITUDE AIRWARD NEWS

In Recognition of Professional Performance during a Hazardous Aviation Event or Significant Contribution to Aviation Mishap Prevention

August 2001

Nice Catch

Helicopter Remains

Allen Johnson, acting as the Safety Officer on a Search and Rescue mission, intercepted Geffrey Davenport, Electronics Technician for the Forest Service, before boarding a helicopter. Forest Service employees are restricted from flying on uncarded helicopters like this one. This helicopter crashed with four crewmembers and two Office of Emergency Services' technicians. Johnson's quick feet and wise decision prevented what could have been a worse scenario. Safety rules are made to keep people safe. This boarding restriction proves the success of this field play. Nice catch, Allen!

No SafeCom submitted

Faster than a Speeding Bullet

Pat Loe, Region 9 pilot, experienced some complications while conducting a forest insect survey on a DHC-2 Beaver float-plane. The floatplane experienced a vibration and trace of oil on the windshield. Pat didn't waste any time messing around. Notification was made to the forest dispatcher that he was redirecting to Devil Track Lake. While descending the vibration worsened. Faster than a speeding bullet, he changed direction again and executed a precautionary landing on Northern Light Lake without incident. Excellent moves, Pat!

USFS SafeCom 01-283

Pat Loe (left) and Mike Hopf (right)

Home Run

Kevin Brown (left) and Hunter Ridenhour (right)

During rappel proficiency training at the John Day Oregon Base, the helicopter experienced mechanical failure during flight. Kevin Brown, spotter, had begun rappel training when he heard a noise that led him to believe it was a lost hydraulic pump. Hunter Ridenhour, pilot, decided to make the play of the day by stealing a base and sliding into home plate. He quickly turned the aircraft back to the airport while Brown prepared the crew for a hardball landing. The helicopter slid to a stop on the taxiway and the crew departed. Brown observed smoke from a grass fire that this incident may have caused, notified Ridenhour and he contacted the base manager for initial attack action on the fire. Nice slide, guys! USFS SafeCom 01-373

Good Call

Jamie Tackman, leadplane pilot, made a critical decision to stop retardant aircraft operations and warn the firefighting helicopters of the erratic winds in the canyon they were flying. Jamie believed that had the airtanker continued its run it may not have been able to pull out of the narrow canyon. Good job, Jamie! USFS SafeCom 01-317

No picture available

SAFE ATTITUDE

The ONLY Way WE Fly!

Aviation Safety Offices
www.aviation.fs.fed.us - www.oas.gov

SafeCom Summary

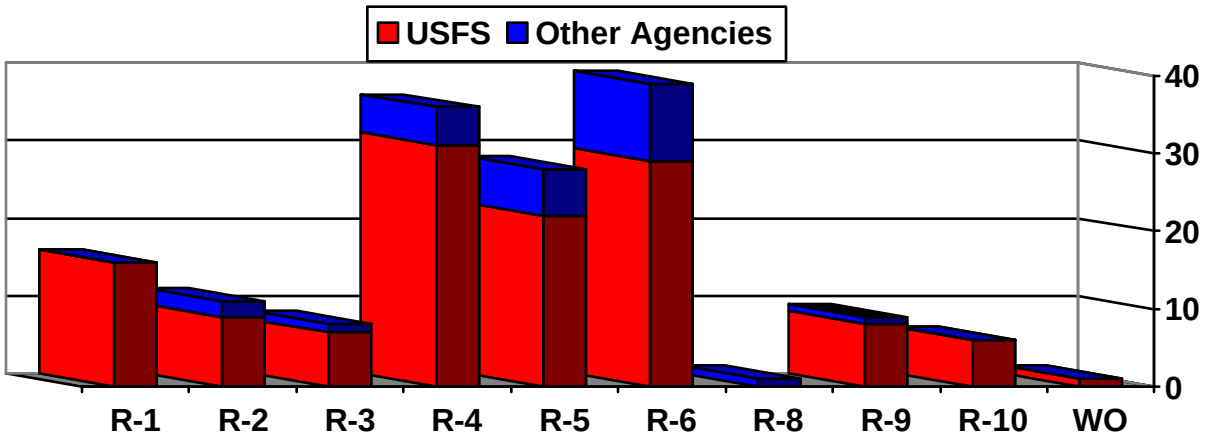
There have been 399 SafeComs filed this calendar year (January 1 – July 31) of which 327 are USFS and 72 are other agencies. Last year there were 479 of which 416 were USFS and 63 were other agencies for the same time period last year.

Included in this report are representative samplings of the SafeComs reported in July of this year. To view all the USFS SafeComs click on the link to SafeComs below. Pick the options you want to search for, then click on submit, or simply click on submit to view all of the latest SafeComs. http://www.aviation.fs.fed.us/safecom/psearch.asp

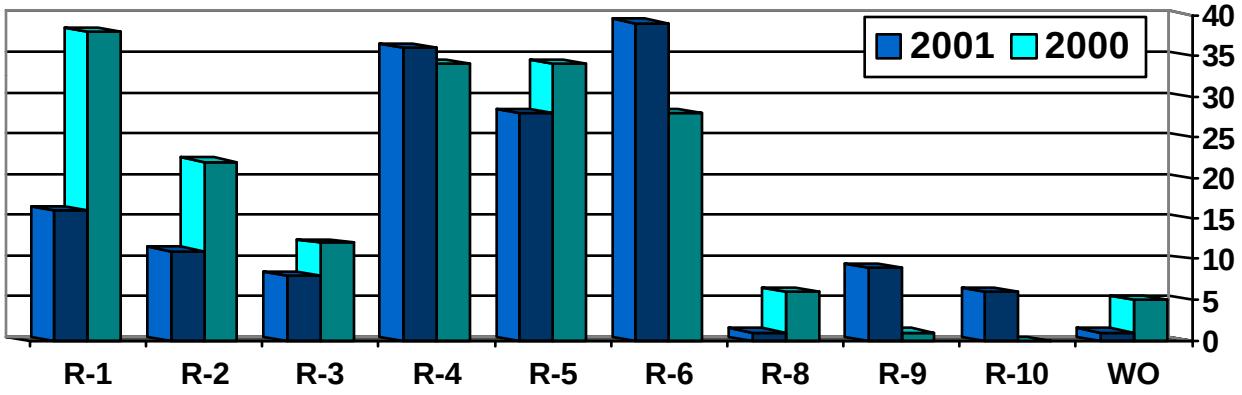
The following charts are based on SafeComs that occurred from July 1 through July 31 of this year and last year. There were 155 (128 USFS and 27 other agency) SafeComs reported this July compared to180 (155 USFS and 25 other agency) SafeComs last July.

SafeComs by Region

The chart below shows the number of SafeComs by region (FS and other agency) reported for July of this year. SafeComs reported in regions 4, 5 and 6 accounted for 66% of all the SafeComs this reporting period.

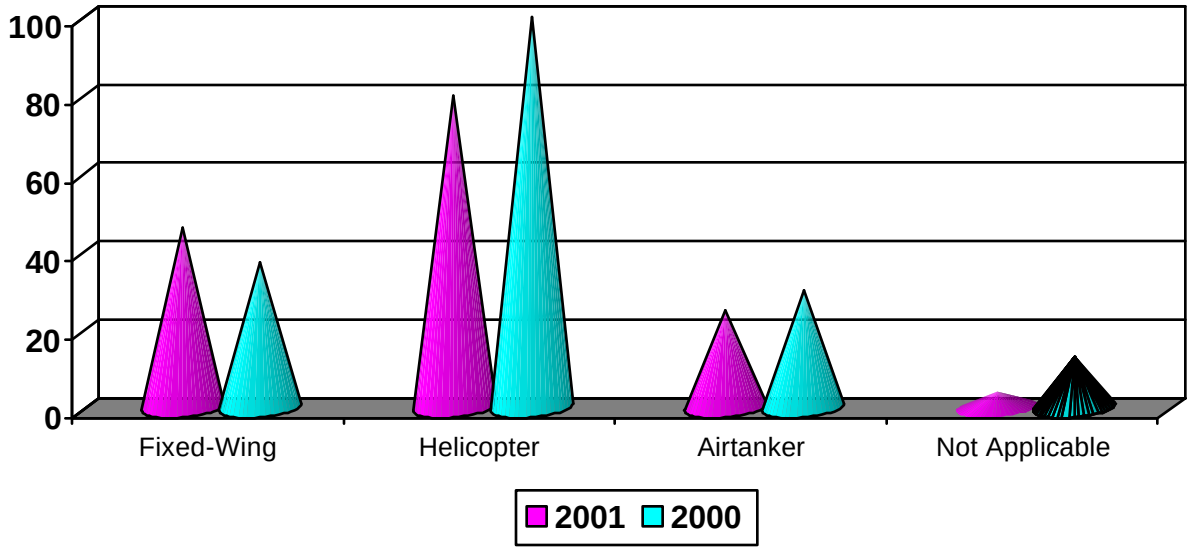


This chart shows the total number of SafeComs reported by region for July of this year and last year.



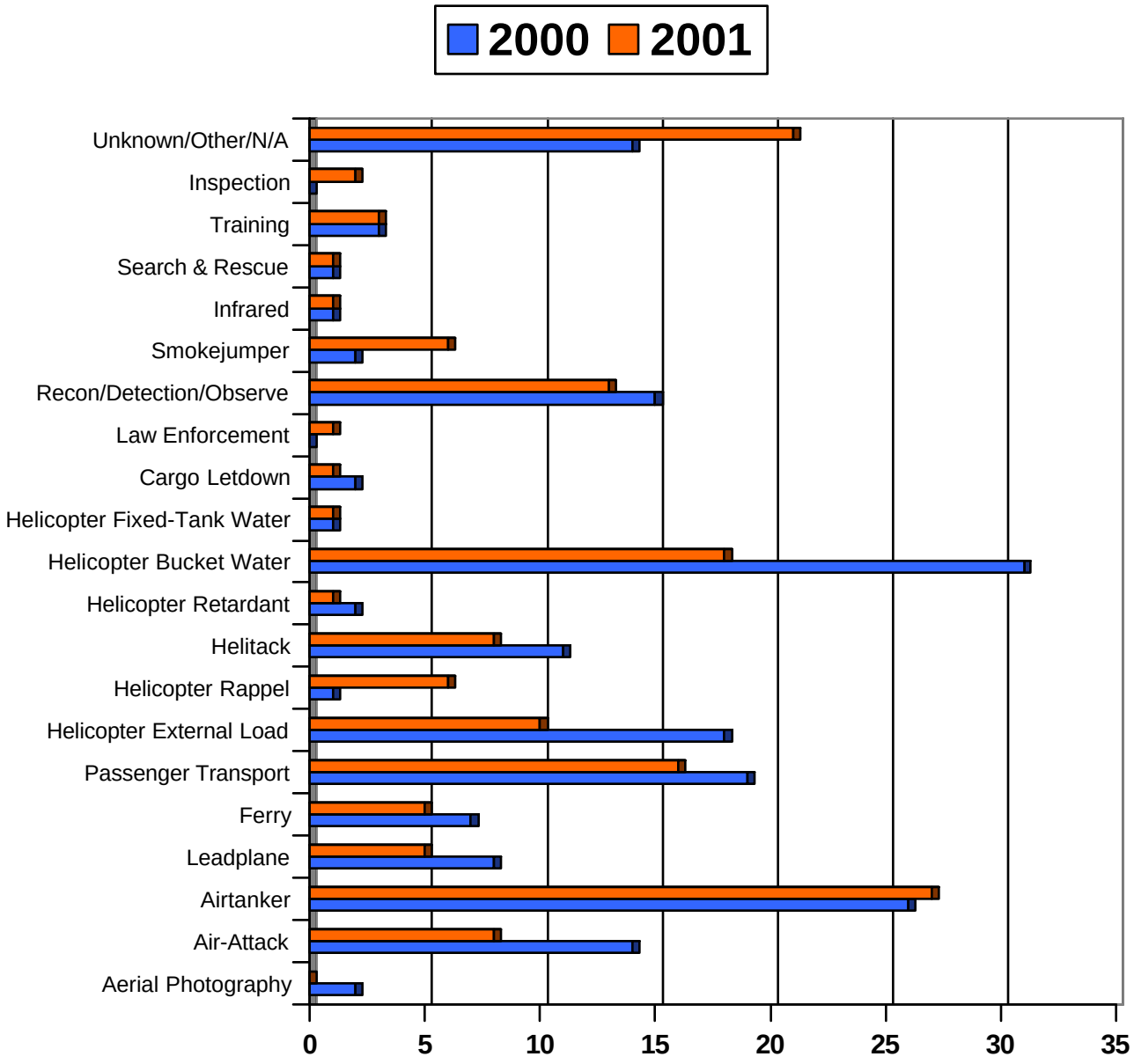
SafeComs by Aircraft Type

Helicopter SafeComs accounted for 51% of the SafeComs this year compared to 55% last year. Fixed-wing SafeComs were up this year at 30%, compared to 21% last year. The percent of Airtanker SafeComs were comparable at 16% this year and 17% last year. The charts below show the number of SafeComs reported by aircraft type for July of this year and last year.



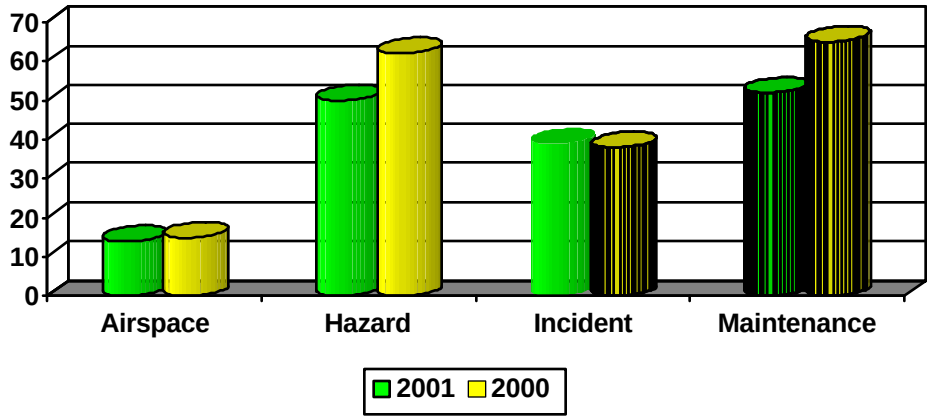
SafeComs by Mission Type

Airtanker retardant drops followed by Helicopter bucket drops had the most SafeComs reported for July of this year. Last year was just the opposite with more helicopter bucket drops followed by Airtanker retardant drops. Helicopter bucket drops were considerably higher this year than last year. Passenger transport SafeComs continue with the same trend, coming in third place. Helicopter External Loads and Air-Attack missions were both considerably higher this year compared to last year.



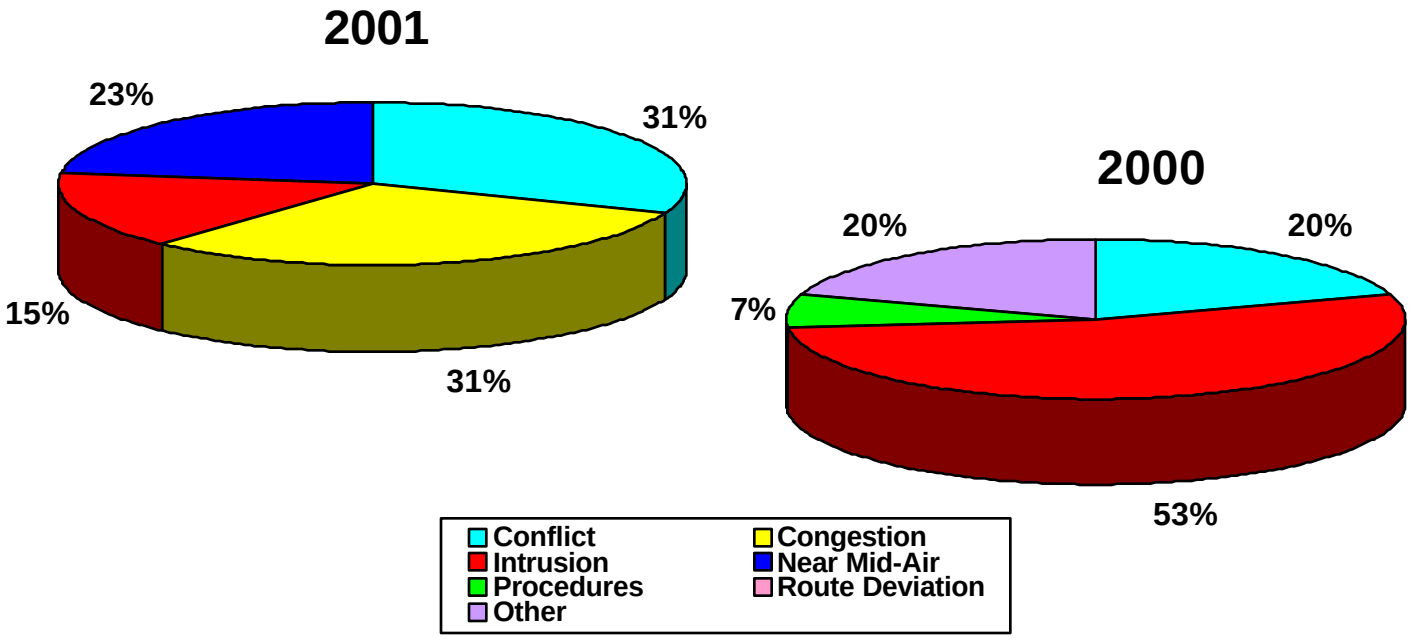
SafeComs by Category

SafeComs on Maintenance issues continue to be the most reported, this year, 34% of all the SafeComs compared to 34% last year. The second most reported SafeComs were hazard, 34% this year and 32% last year. Incident SafeComs were 25% this year compared to 21% last year. Airspace SafeComs were comparable at 9% this year to 8% last year. The chart below shows the number of SafeComs reported by category for July of this year and last year.



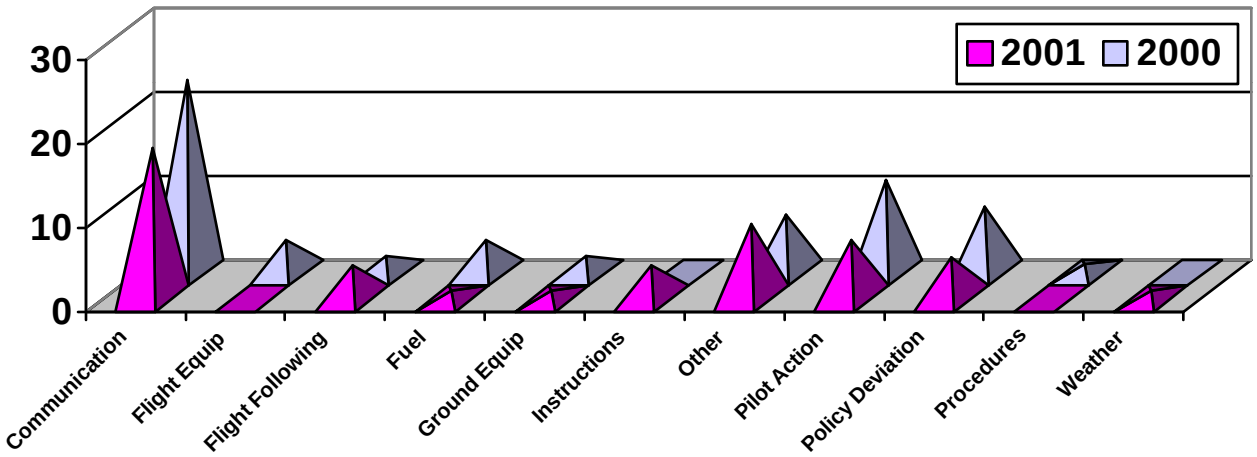
Airspace SafeComs

There were 14 SafeComs reported in this category this year compared to 15 last year. The disturbing part is the number of near mid-air and congestion SafeComs this year when you compare the amount of fire activity this year to last year in July. There were 3 near mid-air reported this year and 4 congestion compared to zero last year. Four conflicts were reported this year compared to 3 last year. The number of intrusions was considerably lower, 2 this year compared to 8 last year. The charts below show the percent of Airspace SafeComs by sub-category for June of this year and last year.



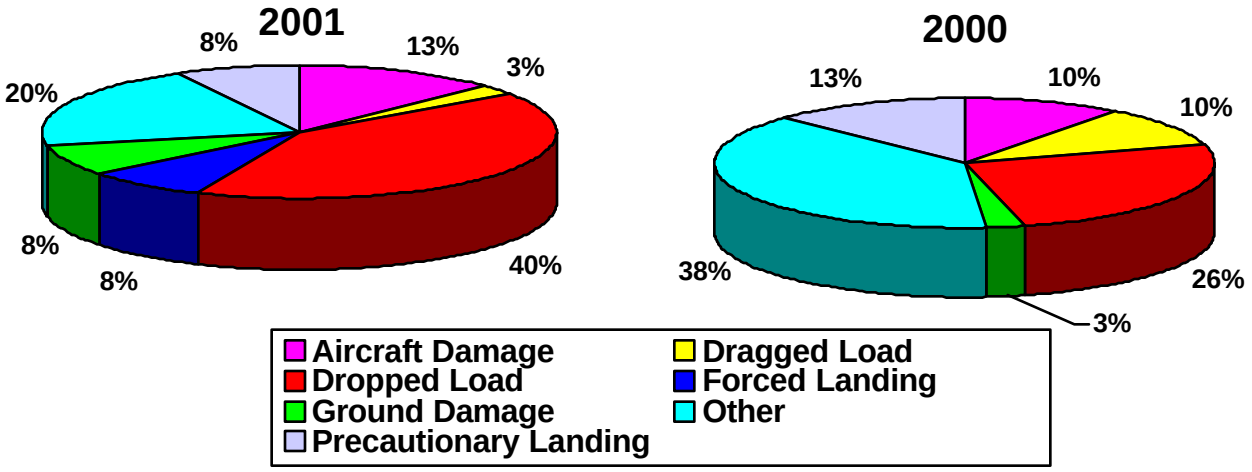
Hazard SafeComs

There were 50 SafeComs reported in this category this year compared to 62 last year. Communications continue to be our biggest enemy, what we have here is a failure to communicate. They accounted for 36% of the Hazard SafeComs this year and 38% last year. Pilot action SafeComs are also at a disturbing level, 14% this year and 18% last year. Policy deviations remain high as well, 10% this year and 13% last year. Safety is following policy, lets be SAFE. The chart below shows the number of Hazard SafeComs reported by sub-category for July of this year and last year.



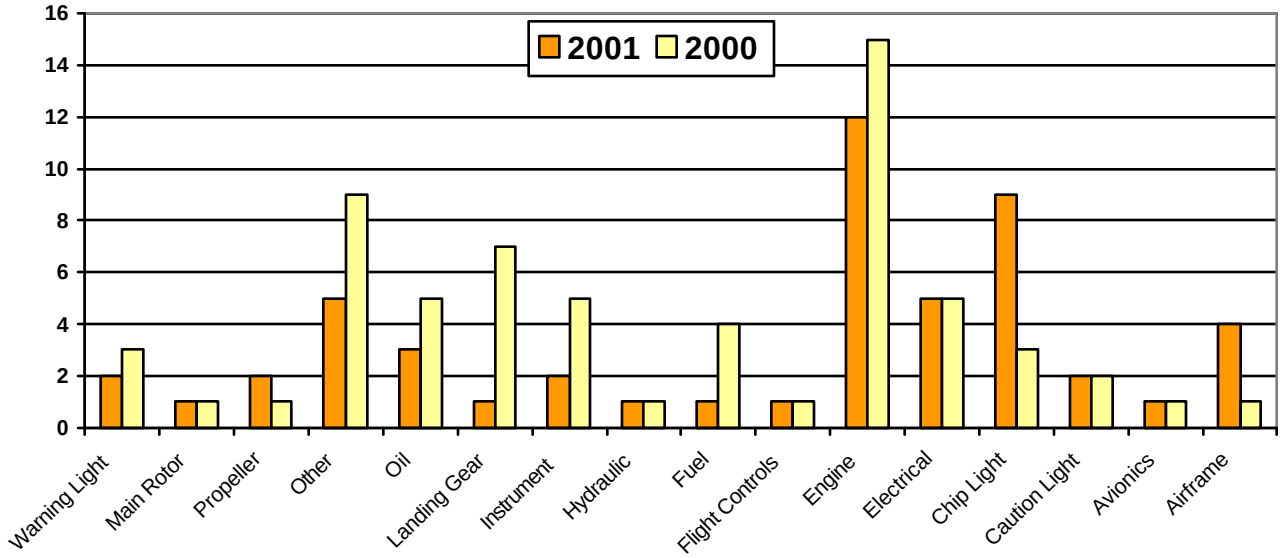
Incident SafeComs

There were 39 SafeComs reported in this category for July of both this year and last year. This most significant difference between this year and last year is the increase of dropped loads, up 14% from last year. Aircraft and ground damage SafeComs are both up from last year as well. This year there were 5 aircraft damage, one dragged load, 16 dropped loads, 3 forced landings, 3 ground damage, 3 precautionary landings and 8 other. Last year there were 4 aircraft damage, 4 dragged loads, 10 dropped loads, one ground damage, 5 precautionary landings and 15 other. The charts below show the percent of Incident SafeComs by sub-category for July of this year and last year.



Maintenance SafeComs

There were 52 Maintenance SafeComs this year compared to 64 last year. Engine followed by chip light were the most reported this year with engine followed by landing gear the most reported last year. The chart below shows the number of Maintenance SafeComs reported by sub-category for June of this year and last year.



SafeCom #: **01-350** Date: **07/23/2001** Time: **1045**

Location: **Idaho County Airport, S80** State: **Idaho** Region: **1**

Mission Type: **NA** Procurement: **Contract**

Aircraft Type: **Bell 206L3**

Narrative: Second Aircraft, N178GC, Jumper 14, DeHavilland Twin Otter, Pilot, 8 Smokejumpers and 2 Spotters on board. Helicopter 61E was departing S80 to go to the Seed Orchard Helibase for a longline project. Jumper 14 was departing S80 at the same time for a practice jump. As Jumper 14 started their takeoff roll, Helicopter 61E crossed the runway midfield, causing Jumper 14 to abort their takeoff roll. The helicopter never saw the jump ship, as they had begun a left turn to the west. A debrief was held after both aircraft returned from their missions, with both pilots, the helicopter manager, jumper spotters, Forest Aviation Officer, and RASM. Both Aircraft transmitted on Multicom 122.9, announcing their intentions, prior to 61E lifting off and prior to Jumper 14 taking the active runway. It is believed that these transmissions were simultaneous, as neither pilot heard the other. One of the jumper spotters thought she may have heard the helicopter in the background as Jumper 14 made the transmission. None of the 4 people on the helicopter heard Jumper 14's transmission. In addition to Multicom, the helicopter was monitoring Nez 2 on FM, which

was the frequency they would be using for flight following to and from the project. Jumper 14 was monitoring National Flight Following, which is the frequency they were using to flight follow to the jumpspot. There is no line of sight from the helibase to the end of the runway, as there are hangars and trees blocking the view.

Corrective Action: A debrief was held after both aircraft returned from their missions, with both pilots, the helicopter manager, jumper spotters, Forest Aviation Officer, and RASM. To prevent possible reoccurrence, it was decided to implement the following procedures: All aircraft departing S80 will do 2 calls on Multicom prior to taking off. Helicopters will do one during warm-up, and one just prior to lift-off, especially if they will be crossing the runway, which they normally do on a north or east departure. Fixed-wing aircraft will do one while taxiing and one just before beginning their takeoff roll. This should increase the chances that all aircraft, not just agency aircraft, will hear the transmissions. This procedure will be included in flight crew briefings for all agency aircraft at Grangeville Air Center.

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SafeCom #: **01-390** Date: **07/25/2001** Time: **2000**

Location: **Coeur d' Alene Airport, COE** State: **Idaho** Region: **1**

Mission Type: **Fire, Retardant Drop (airtanker)** Procurement:

Aircraft Type: **Lockheed P3**

Narrative: Our FAO had recently purchased several ICOM radios for the ramp personnel to communicate with the tanker and each other. I tuned the radio to the CTAF, as I was watching T-27 enter the pattern from the Sage Fire in the late afternoon. When the tanker turned final, I became aware of a Cessna 172 that was turning base for the same runway. When I realized that the Cessna was indeed cutting in front of the tanker, I alerted the crew and told them to go around. It was about 1/2 hour before official sunset, so the light conditions were a little deceptive. The tanker pilots thought the Cessna was a helicopter crossing in front, but they immediately went around as soon as they heard the warning. The Cessna proceeded to go from base to final and started to flare for landing, and then he pulled back up. The tanker had been plainly announcing their positions in the pattern, and continued to do so through the whole sequence. However, the Cessna had not made any contact on the CTAF (122.8). As the tanker turned for final again I was surprised to see the Cessna turn short base for a second time. I again warned T-27 to go around, which they did. The Cessna continued the pattern and made a landing. When the Cessna pilot stopped at a nearby hanger, I and another individual from another part of the airport, approached the pilot. We asked him about his lack of pattern "see and avoid" procedures and why he did not use his radio. We determined his radio was tuned to the wrong frequency. After talking with the Cessna pilot and his passenger I discovered he had not even known that the tanker had to make a second go around. T-27 is very visible with it's orange nose, wing tips, and tail. The Cessna was close enough to the tanker that if the pilot had made any attempt to scan the approach path he would have realized the danger he had placed himself in. The tanker pilots felt that without the warning they would not have collided with the Cessna, but their wake turbulence could have been disastrous for the small aircraft.

Corrective Action: A recent email concerning operations at uncontrolled airports, having the right equipment and being aware of the situation prevented a disaster. The old adage, "Expect the unexpected!" was certainly true in this case. RASM Comments: Airspace conflicts at both controlled and uncontrolled airports continue to be the subject of Safecoms on an all-too-frequent basis. Please encourage all on board (and on the ground, as in this case) to keep their eyes open for other aircraft, especially while in and around airport traffic areas. See-and-avoid continues to be our best means of defense.

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SafeCom #: **01-327** Date: **07/17/2001** Time: **2110**

Location: **Redmond Airport** State: **Oregon** Region: **other**

Mission Type: **Fire, Other** Procurement: **XXXXX**

Aircraft Type: **NA**

Narrative: A continuing situation is apparent at the Redmond Airport that is endangering Forest Service and other civil aircraft. The two commuter aircarriers flying into Redmond Airport routinely fly non-standard right hand traffic patterns into the airport after the control tower has shut down. This is a violation of FAR 91-126/127. When other aircraft in the area have advised the aircrews of the commuter aircraft, that standard uncontrolled airport entry is left hand traffic, the aircrews have chosen to ignore that advice and continue to fly right hand entries. This situation is a particular hazard to our fire fighting aviation resources and is escalating in occurrence. Returning Forest Service fire fighting aircraft have been cut out of approaches and exposed to potential danger because of this action. Allowance of non-standard traffic patterns nullifies any safety potential of our agencies requirement that our aircraft fly standard traffic patterns in uncontrolled airports.

Corrective Action: National Airspace Program Manager: I contacted the Duty Officer at Oregon's Flight Standards District Office (FSDO) and explained the situation. She wrote it up as a matter of record and referred it to the Operations Unit Supervisor. He will assign this situation to a FSDO Investigator. They will contact us with further information. I also briefed the Redmond Air Center Manager about the procedure to extend contract tower hours during times of need. RASM: A copy was sent to the FSDO office of the FAA. They will follow up.

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SafeCom #: **01-309** Date: **07/3/2001** Time: **1730**

Location: **McLaughlin Incident Inyo NF** State: **California** Region: **5**

Mission Type: **Fire, Leadplane** Procurement: **Fleet**

Aircraft Type: **Beechcraft 58TC**

Narrative: While loitering over the fire waiting for a load and return tanker. A seagull went through the #2 prop and hit the top of the nacelle. Upon landing the right prop spinner was dented and paint chipped off the nacelle.

Corrective Action: First baseball pitchers and pigeons, now leadplanes and seagulls! Was a 91.137 restricted airspace in effect? If so, the seagull was in violation! Was a FAA Form 5200-7 Bird/other Wildlife Strike Report submitted to the FAA? If not, please submit. An accurate accounting of seagulls is necessary for our existence. RASO, R-5

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SafeCom #: **01-372** Date: **07/23/2001** Time: **1300**

Location: **Green Knoll Helibase, BTF** State: **Wyoming** Region: **4**

Mission Type: **Fire, Air Attack** Procurement: **Service Contract**

Aircraft Type: **Bell 205**

Narrative: During air operations on the Green Knoll fire, two air-attack aircraft were in the process of relief and debriefing. Both fixed and rotary-wing had an assigned air-to-air frequency for coordination of operations. Air attack used the helo air-to-air frequency for their debriefing. As a result of the overload on this frequency, helicopter coordination fell short and a Type-III and Type-II had a "near miss". One helicopter was on a recon mission as the other was dropping buckets. The A/C doing bucket drops passed overhead of the A/C flying recon. The Pilot for the Type-II brought it to the attention of myself, the Helibase Manager, and the pilot of the other helicopter involved.

Corrective Action: I called the relieved Air-Attack upon landing at the airport to share this problem with him. He mentioned that he should have switched all helicopters to the fixed-wing frequency during his debriefing or use "short-call". The local FAO and transitioning Team AOBD was also notified immediately. Spoke with both helicopter pilots involved. The Type-II pilot said that he would also file a Safecom; the Type-III pilot was unaware of the situation. RASM Remarks: I spoke with the AOBD; all parties involved shut down and had a brief regarding the incident. A dedicated Victor frequency for the helicopters and for the fixed wing was immediately implemented and has no further issues. 7-26-01.

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SafeCom #: **01-401** Date: **07/23/2001** Time: **1055**

Location: **Green Knoll Fire** State: **Wyoming** Region: **4**

Mission Type: **Fire, Water Drop-Bucket (helicopter)** Procurement: **CWN**

Aircraft Type: **Bell 205A1**

Narrative: Near miss. While orbiting with loaded bucket (on 100' longline), BHT206L1 flew under my aircraft within 200'. The real problem was I could not communicate because Air Attack was using helicopter VHF for hand off briefing with new Air Attack. Air to ground was tied up with bucketing helicopters getting instructions from line. Helicopter VHF should not be used for debrief. There were 7 helicopters assigned to this fire, 5 of which were in the air at that time. I spend 15 minutes orbiting because I could not break into briefing.

Corrective Action: RASM Remarks: See Safecom # 372 for corrective actions, 7-30-01.

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SafeCom #: **01-371** Date: **07/11/2001** Time: **1528**

Location: **Poppet Fire** State: **California** Region: **5**

Mission Type: **Fire, Helitack** Procurement: **Service Contract**

Aircraft Type: **Bell 212**

Narrative: On July 11,2001 we dispatched helicopter 538 to a vegetation fire in Riverside county. H-538 left Ramona Airport at 1528 with a heading of 351 degrees, pilot+6 on board with two hours of fuel enroute to the fire. At 1537 they checked in with a heading of 350 degrees. Checked in again at 1551 at 150 degrees. At 1606 the Cleveland ECC tried to make a status check with H-538, with no response. The Cleveland ECC called BDF at 1609 to see if they had switched over to flight follow without telling CNF. BDF reported no contact had been made. CNF called RRU at 1610 to see if H-538 had switched over to their frequencies. They had no information of them switching over. Called South Ops to see if they could reach H-538. South Ops said they would try to reach them and get back to us. At 1620 South Ops called CNF ECC, H-538 had been found. Another aircraft had a visual on H-538 on the Poppet Fire. H-538 called in @ 1623, 32 minutes after the last check in with CNF. The Superintendent from H-538 said they had no radio or telephone communications.

Corrective Action: Always remain in communication with the agency that you are flight following with. If a helicopter switches frequencies, it needs to advise the ECC in which they had been flight following with. Manager attempted to check in but got no response from ECC. South Ops. Called helicopter on guard. Pilot responded but got no response from ECC. Manager monitored CDF air to ground frequency. Radio tag maybe? S.Z. Avionics Tech was scheduled to be at that base to on 7-31. I was going to have him recheck the helicopter radios, just to be sure. H538 is off base so this won't happen. A point to remember is that when transmitting i.e., on guard, that the radio volume is turned up. This applies to all transmitting stations. Sometimes we turn them down and forget to turn them up. No further action required at this time. RASO, R-5

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SafeCom #: **01-418** Date: **07/29/2001** Time: **1215**

Location: **Union Valley Fire** State: **Washington** Region: **5**

Mission Type: **Fire, Passenger Transport** Procurement: **CWN**

Aircraft Type: **Bell 212**

Narrative: Entered incident airspace without positive contact from local forest. After refueling in Pasco, XXX and crew departed with a bearing to Lake Chelan airport. Flight following had been previously established through PICC (Pendleton Interagency Comm. Center) and was continued following the fuel stop. Contact was made with PICC twice in the next half hour. However, several attempts were made to contact the Wenatchee N.F. with no success. Several repeaters were tried but the 2001 Pacific Northwest Interagency Frequency Guide gave no indication ("N/A") of repeater locations with respect to the forest. In addition, the helicopter had been previously working on a forest with narrow band frequencies and the radio in the aircraft was set to this narrow band mode. Contact was made with PICC "five minutes out" from Cheland airport but still none with the Wenatchee N.F. and/or the Union Valley incident helibase. Upon passing over the ridge east of Chelan (and within direct view of the incident) the pilot changed the radio to a wide band mode and contact was made with the Air Support Group Supervisor at the airport/helibase. Helicopter and crew proceeded to land at the Chelan airport.

Corrective Action: AOBD and UAO: Land the aircraft until positive communication can be established. This aircraft should have landed at EAT until communications were established. Indicated repeater locations in the Frequency Users Guide. Indicate use of either wide or narrow band in the Frequency Users Guide. Aircraft should not be utilizing narrow band mode unless directed to do so by National Forest that changed over to narrow band. Presently there is only one National Forest in region 6 that has changed over to narrow band and that is the Umatilla on Forest Net only. RASM: We are having several problems with communications and frequency use. Terry is working on a Regional evaluation toward improvement of our system.

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SafeCom #: **01-294** Date: **07/9/2001** Time: **1900**

Location: **Libby Creek Fire** State: **Washington** Region: **6**

Mission Type: **Fire, Leadplane** Procurement: **CWN**

Aircraft Type: **Beechcraft 58P**

Narrative: While performing leadplane missions on the Libby Creek fire with an ATGS on scene, Cessna xxxx made contact with the ATGS on our air-to-air frequency. The ATGS and Nxxxx (media platform) started a very long continuous conversation about his clearance into the fire. This took place during a very busy and congested time on the incident both with

resources in the air and on the radio frequency. I was unable to get a word in edgewise to tell the ATGS and Media aircraft to give me the frequency so I could talk to the incident aircraft that were on scene. I was forced to ask the airtanker to move to another frequency so we could communicate for our retardant drop. Having the media a/c on scene was not a problem as far as having the a/c in the area. The problem was with the media a/c tying up the tactical frequency with no regard for the incident a/c on scene. The ATGS should have instructed the media aircraft to hold off until we were at a timelier situation on the fire for their communication. In short, there was a substantial lack of radio frequency etiquette during this time on the incident. It is my intent to accommodate media a/c as much as possible if I can first ensure the safety of ALL a/c on the incident. If I cannot talk to those a/c, I cannot guarantee that safe environment. At an opportune time I reestablished communication with xxxx and cleared him in to a more advantageous location for his passengers. He did adhere to his clearance limits that were given to him. He needed to be more patient with us about waiting to receive those clearances.

Corrective Action: UAO: ATGS training and refreshers should include better/more instruction on how to deal with media aircraft. The Interagency Airspace Coordinator has set up a meeting with the pilot of this media aircraft and will discuss proper procedures while flying incidents. National Airspace Program Manager: I interviewed the pilot of the media aircraft. He stated that there is always two sides to each story and felt that this was a massive bureaucratic over reaction. He briefed me on his background as an air attack pilot and said that he is well aware of the safety issues. He felt that the air attack was behind the power curve and that he should have stated "stay clear and I'll call you in a more opportune time". We discussed the recent Seattle Media Pilots meeting and he stated that he was provided copies of all the handouts. He will be more cognizant of the brevity of communications during a fire. As he stated, there are always two sides to the story. In support of our Air Attack, this situation is well documented and will be watched for future trends. Acting RASM: There have been a number of Safecom recently regarding overloading of frequencies because of multiple Initial Attack incidents. It is extremely important that all users maintain a strict radio discipline in order to safely conduct the aviation business. All parties need to be aware of the surrounding situation on their incident and cooperate in order to keep radio traffic to the minimum necessary to conduct business. This situation will be monitored as the fire season continues.

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SafeCom #: **01-298** Date: **07/8/2001** Time: **1200**

Location: **42U Morgan Field Airport** State: **Utah** Region: **4**

Mission Type: **Fire, Water Drop-Bucket (helicopter)** Procurement: **CWN**

Aircraft Type: **Sikorsky 61**

Narrative: Helicopter XXX was dispatched from 42U to a single tree fire on the Uinta Ntl. Forest. Instructions from SLIFC to me, the HEMG, was to send the helicopter directly to the fire with a 150' long line and bucket external. After checking with Region 4 HOS and pilots it

was determined that this could be accomplished while avoiding congested areas and crossing I-84 and I-80 with breaks in traffic. Information was given to the pilots (lat-long of fire, dipsite contact names, all frequencies and specific mission details) and was launched. En-route to the fire it was diverted by Uinta dispatch to PVU (Provo Airport). This forced the ship to fly over congested areas and residential areas, and cross Interstate 15, a very busy interstate, with the 150' long line and bucket. After landing the pilots were "briefed" on the specifics of the fire, but given no new information, the information was the same as the initial information given at the Morgan Field Helibase. The external bucket was then loaded and flown to the fire and put on at the incident. The helicopter put the external bucket back inside and returned to Morgan Field-42U. Lack of communication between the two dispatch centers lead to confusion as to exactly what was to be accomplished. Apparently the original resource order from Uinta to SLIFC asked for the bucket internal and the ship to report to PVU. The message was not passed on to me, the HEMG, and I had no fax machine available at the Morgan Field Helibase for a resource order. Secondly, instead of allowing the helicopter to proceed to the fire on its mission, a change in dispatch communications led the aircraft over residential areas and a busy interstate to give the pilots a briefing which they already had from the HEMG located at Mtn. Green and the initial dispatch.

Corrective Action: RASM Remarks: I'm reviewing the incident, more to follow 7-12-01. 7-14-01, I reviewed the Safecom, resource orders and spoke with several individuals and the bottom line was the resource order was incorrectly conveyed to the HEMG. The helicopter was to go to PVU for the brief prior to proceeding to the fire. The resource order does not convey that the bucket was to be placed on board the aircraft for the leg to PVU. The bucket should have been placed on board the aircraft to eliminate risk of dropping on freeways and homes in route to PVU. Spoke with Forest FAO, FAX machine is on order. Lessons Learned: 1) Dispatch centers convey information accurately. No further action required.

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SafeCom #: **01-363** Date: **07/20/2001** Time: **1030**

Location: **5S0, Oakridge Airport** State: **Oregon** Region: **6**

Mission Type: **Fire, Other** Procurement: **CWN**

Aircraft Type: **Aerospatiale 315B**

Narrative: Pilot and driver showed up for duty at 0900. Upon arrival at the airport, the pilot informed the manager that he would be leaving Oakridge for Boseman immediately. No work was being accomplished on severity standby, and his company had some work for the ship. After a preflight inspection, the pilot boarded the helicopter and took off. The pilot did not file a flight with Eugene Dispatch, nor did he give dispatch any prior notice that he was going to leave. The pilot did not contact Dispatch after take off, so Dispatch contacted him to try and determine flight plan. He responded with a location, and then discontinued all communication.

Corrective Action: Pilot needs to understand that a flight plan needs to be completed, and that prior notice should be given, as a courtesy, to the local Dispatch Office before he just turns his rotors and leaves. Proper Dispatch protocol was not followed. Acting RASM: Upon checking with Dispatch, pilot did radio in departing Oakridge but was not in radio contact afterwards. The helibase manager at John Day, were a/c refueled, did contact Dispatch.

Bozeman dispatch notified Eugene dispatch that pilot had contacted them and passed on ETE and ETA. Flight following procedures were reviewed with pilot. Other aspects of performance were turned over to the C.O.

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SafeCom #: **01-325** Date: **07/13/2001** Time: **1600**

Location: Wagner Fire State: **Oregon** Region: **6**

Mission Type: **Fire, Helitack** Procurement:

Aircraft Type: **Bell 206L3**

Narrative: Overheard XXXXXXX XXXXXX Dispatch advising helicopter N3XXXXX to proceed from initial attack incident to Big Muddy Helibase. Helicopter NXXXXX was on ground at Big Muddy Helibase at the time. Big Muddy Helibase did not receive any information from dispatch regarding incoming aircraft. Manager of XXX spoke w/ manager of XXX when they arrived, both agreed that communications were becoming a hazard due to large number of new fires, all frequencies including VHF, air-to-ground, direct and repeater frequencies were overloaded. Dispatch seemed to be having a hard time flight-following due to heavy radio traffic.

Corrective Action: Acting RASM: UAO and I discussed this Safecom. He concurs that his Safecom provides documentation of a continuing problem with frequency overload during I.A. and extended I.A. With multiple incidents, single Air to Air and Air to Ground frequency is insufficient to handle the heavy volume of radio traffic. The Regional Office is currently reviewing frequency availability and allocation.

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SafeCom #: **01-322** Date: **07/18/2001** Time:

Location: **Pike St. Isabelle NF** State: **Colorado** Region: **2**

Mission Type: **Fire, Helitack** Procurement: **Contract**

Aircraft Type: **Aerospatiale 315B**

Narrative: During the past 6 weeks, the radio system on the Pike NF has been in poor working condition, which causes poor to no communications between dispatch, aircraft and firefighters on the ground. During flight operations on the Forest, we have had to switch between as many as 4 separate frequencies in order to maintain flight following while in line of sight of a radio site. This situation is not acceptable because during an in-flight emergency, we may not have time to repeat our transmissions. The radio technicians on the forest HAVE been working hard to keep the system up and working. If this situation is not corrected, we will no longer be able to perform operations on the Forest due to safety considerations.

Corrective Action: We have been unable to resolve the situation at the local level. I have contacted the RASM in Region 2 for assistance. 07-20-01, RASM. Due to the Safety concerns surrounding the inability to flight follow and the concerns for no or poor radio communications with the ground fire personnel, we need a solution to the radio issues. A meeting is set with the Forest, Regional Information Resource Management, Aviation Management and a detailed Aviation Avionics Technician to determine the best method to resolve the communications issues. Additional corrective actions will follow this meeting. RASM: At the request of the RASM, Jim Reed, Avionics Technician, Region 5 came to assist in determining that all aircraft avionics were with contract specifications and operational. These inspections were conducted satisfactorily. The meeting was held in Pueblo, CO with all scheduled attendees present. The communications plan and schedules for completion were gone over. The plan in place is a good plan with reasonable implementation expectations. Assistance with qualified detailers was offered and accepted. The problem with flight following has been addressed. No father action required.

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SafeCom #: **01-269** Date: **07/3/2001** Time: **2000**

Location: **Genoa Fire** State: **Nevada** Region: **4**

Mission Type: **Fire, Water Drop-Bucket (helicopter)** Procurement: **CWN**

Aircraft Type: **Sikorsky 61N**

Narrative: Helicopter XXXXX showed up at Minden airport per instructions to meet up with his Helicopter Mgr before going to the Genoa Fire, which was only 2 miles away. No Manager was present so he contacted Minden Dispatch through the Air Tanker Base personnel and was told to proceed to the Genoa fire where his Mgr was supposed to be waiting. He proceeded to the fire and was told to go back to the airport and stand by. The fire called and said they wanted him back there so he hooked up his bucket and went to the Genoa fire where he made about 30 drops before being released back to the Minden airport. The next day he was dispatched to another USFS fire down by Markleeville and preceded there to work the fire. He had still not hooked up with a manager as of yet and Dispatch became aware of it and sent a Manager to tie in with him at Minden Airport where he went through his briefing and had his cards checked. He continued working that fire for the rest of the day and the next day proceeded to a BLM fire where he worked the next two days without incident.

Corrective Action: The problem here I think is threefold and something we have been encountering every year somewhere. First I think the contractors need to be thoroughly briefed by the contracting officers at the beginning of the contract period that they need to connect with a manager before beginning operations on any fire. Dispatch or Aviation management needs to confirm that the marriage of the two resources has occurred. Also someone on the fire either at the helibase or Air operations should be aware of a resource working without a manager and arrange for the resource to shut down until qualified personnel are on site. We need to be careful when it gets busy and orders start coming in for CWN helicopters that they are not ordered without the necessary modules and managers to manage them or they will have to sit and incur availability until this happens. We can't be forced into using resources without managers on fires and when they show up without the

managers we tend to compromise our options. ...RASM Remarks: Follow-up on going 7-10-01. I called the vendor's office and explained that there is also an obligation on their part contractually to merry up with the manager (see page 1b of '99-'01 Interagency CWN Helicopter Contract, which states: "Each time a helicopter is furnished, a Government Helicopter manager (foreman) will be assigned to direct use, assist the Contracting Officer in field administration of the contract, and to approve availability and flight times." The Dispatch office that ordered the services shares some of the blame also; they admittedly stated that they "assumed" the manager had merried up with the helicopter. And lastly, it is unclear how a helicopter can work with a base and not get noticed (getting fuel, supplies, etc.). Folks don't get caught up in the "heat-of-battle" this is not a war, as our HOS would say, "Fire is NOT an emergency, this is your job". Don't let mission override your safety that folks have already perished for. No Further action.

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SafeCom #: **01-462** Date: **07/31/2001** Time:

Location: **Green Knoll Helibase** State: **Wyoming** Region: **4**

Mission Type: **Fire, Water Drop-Bucket** Procurement: **Contract**

Aircraft Type: **Bell 212HP**

Narrative: XXX off Helibase to dipsite. YYY off fire to dipsite. YYY didn't hear XXX off helibase. XXX assumed YYY would use nearest pond. YYY didn't see XXX over the river. XXX turned left into pond putting YYY on the blind side. Both aircraft went into the same pond. XXX Bucket ended up in YYY rotors. YYY landed on edge of pond, rotor damage. XXX landed at helibase missing bucket.

Corrective Action: RASM Remarks: Investigation on going.

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SafeCom #: **01-420** Date: **07/31/2001** Time: **1200**

Location: **Union Valley Fire** State: **Washington** Region: **State**

Mission Type: **Fire, Water Drop-Bucket (helicopter)** Procurement: **CWN**

Aircraft Type: **Bell 212**

Narrative: At noon on 7/31, helicopter N8223V lost its bucket in the Columbia River while pulling up from a dip. Standard checks were performed on the bucket & hook when it was hooked up the day before. The bucket was left attached to the helicopter after operations were shut down on 7/30. The standard procedure for checking the bucket and hook was not performed again on the morning of 7/31. After speaking with the pilot and mechanic, no direct cause was found for the loss of the bucket.

Corrective Action: AOBD and UAO: Daily checks need to be performed hook, longline and bucket equipment. RASM: Ok, what is the policy and procedures? Daily checks required. We share responsibility with pilot on this one.

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SafeCom #: **01-297** Date: **07/11/2001** Time: **1035**

Location: **Libby Heliport** State: **Montana** Region: **1**

Mission Type: **Fire, External Load (Longline)** Procurement: **Service Contract**

Aircraft Type: **Aerospatiale 350B**

Narrative: While conducting a longline mission, the load was inadvertently released. The exact reason was not determined as the pilot was confident that he had not pushed the release button and failure of the long line, lead line, swivel, or remote hook was not found. The load released upon lift off of the cargo area, approximately 10 feet off the ground. No damage was done to the cargo, which was re-netted and successfully delivered the fire.

Corrective Action: All equipment was checked and found to be ok. The incident was discussed and the cause was not pinpointed. Correct long line procedures were reviewed and safety issues discussed.

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SafeCom #: **01-292** Date: **07/9/2001** Time: **1310**

Location: **StrawBerry Reservoir, Uinta NF** State: **Utah** Region: **4**

Mission Type: **Fire, Water Drop-Bucket (helicopter)** Procurement: **Contract**

Aircraft Type: **Eurocopter 350B**

Narrative: Pilot and helicopter were doing bucket work on Strawberry fire. After delivering several loads of water to fire helicopter returned to fill bucket at Strawberry Reservoir Dam. Pilot reported to helicopter manager that bucket had come off of helicopter and had fallen into lake. Bucket sank into about 100 feet of water. Helicopter returned to helibase. Pilot reported that he did not release the bucket from aircraft. Bucket was on 100-foot long line due to steepness of terrain and down wash associated with aircraft over fire, both long line and bucket were lost in reservoir. The Onboard Systems cargo hook was open when the aircraft returned to helibase. There was no obvious reason why long line and bucket came off of cargo hook. Maintenance technician looked at electrical connections and unhooked the electrical plug to electrical hook release disabling it. The second bucket was hooked to aircraft on 50 foot long line and after two water drops second bucket and long line detached from aircraft and landed in timber about 1/4 mile from fire and from about 300 feet in the air. Bucket was severely damaged and was retrieved by helitack personnel. At this point it was determined that the Onboard Systems hook was malfunctioning inside hook and mech. removed it from the aircraft. At this time the reason the hook was releasing on its own has not yet been determined. This is a serious problem and is being looked into by the contractor, and contract COR. The Contractor will replace the cargo hook and it will not be

used again. It is not considered safe by Helicopter Manager due to unknown malfunction problem.

Corrective Action: RASM Remarks: Investigation On going, 7-10-01. ...RASM Remarks 7-12-01: The Onboard Systems Hook used was model 0525 rated 3000#s; P/N: 528-023-00, S/N off was 35 (Mfgr.date 11/2000), s/n on was 62 (Mfgr. date was Feb 2001). The Vendor's technician troubleshot the system and suspected internal malfunction of the hook. The technician had also removed the last clamp that directs the manual release cable to the hook thus allowing additional movement of cable as the trapeze/hook move about. Functional check flights of the bucket/load proved NO additional problems and the aircraft was returned to contract service by the Regional Airworthiness Inspector. The RASM and RHIP met with the Manager and Pilot and discussed the issue regarding the aircraft amiability during test flights and that no missions are to be performed unless the aircraft meets contract specifications (airworthy). .....No further action.....

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SafeCom #: **01-346** Date: **07/15/2001** Time: **1140**

Location: **Graves Cr. Fire, Council Rd.** State: **Idaho** Region: **DOI**

Mission Type: **Fire, Water Drop-Bucket (helicopter)** Procurement: **Contract**

Aircraft Type: **Bell 205A1**

Narrative: After dropping water w/bucket and 100' line, pilot was returning to dipsite for 3rd. bucket when the pilot felt a minor bump and looked down under the aircraft to find the bucket and longline gone. After returning to base of operations, technician inspected the hook and found nothing wrong. Manager flew out to the location where the bucket was dropped, inspected line and bucket and found only two rods on the bambi bucket broken. Hooked up the line and the pilot flew back to base. Technician repaired the rods within 1/2 hr. and checked the function of the bucket--all working well. Contacted FAO who in turn asked manager to contact R-4 pilot and maintenance inspector. Both checked aircraft and pilot. Conclusion: Pilot may have inadvertently hit the release button or pilot inspector referenced the fact that with a swivel belly hook, every once in a while if a hook is not somehow stabilized from swiveling either a manual or electrical malfunction occurs to release hook.

Corrective Action: Technician repaired the rods within 1/2 hr. and checked the function of the bucket--all working well. Contacted FAO who in turn asked manager to contact R-4 pilot and maintenance inspector. Both checked aircraft and pilot. Conclusion: Pilot may have inadvertently hit the release button or pilot inspector referenced the fact that with a swivel belly hook, every once in a while if a hook is not somehow stabilized from swiveling either a manual or electrical malfunction occurs to release hook. RASM Remarks: Please see SafeCom # 01-345, Vendor experienced another released load, Technician trouble-shot to a defective hook solenoid and replaced hook assy with new assy. and functionally tested OK. Placed back into contract amiability by Regional Airworthiness Inspector. No further action required.

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SafeCom #: **01-395** Date: **07/28/2001** Time: **1600**

Location: **Broken Fire** State: **Wyoming** Region: **4**

Mission Type: **Fire, Cargo Letdown** Procurement: **Contract**

Aircraft Type: **Bell 206L4**

Narrative: After sizing up at a new fire start it was determined the best method to staff the fire was by rappel. Due to the elevation and fuel load on the helicopter the spotter and pilot agreed that the appropriate course of action would be to insert the cargo first without rappellers on board. Arriving at the predetermined rappel spot the aircraft set up for cargo let down. The spotter called for release of the cargo and only the breakaway strap, carabineer and swivel released out under the aircraft. After determining the cargo net was not still attached to the cargo hook, a recon of the route into the area was made. The cargo was located about half way between the configuration site and the rappel site. After landing and inspecting the equipment, the spotter determined that the quick release string on the Widhard snap swivel had become bound up between the swivel attachment ring and the carabineer that was attached to the cargo hook. It is believed that the rotation of the swivel caused the tension on the release string, which in turn opened the swivel gate. Equipment damage was limited to cargo only.

Corrective Action: Follow up calls were made to determine if the swivel in use was indeed approved equipment. Prior base management assured us that it had been approved for use. Quick release strings have been removed from all of the swivels. RASM Remarks: I'll check on further follow-up action, if needed. 7-29-01. After further investigation it was determined that the "quick release snap" is unapproved hardware according to MTDC, and MUST be replaced by approved hardware. Any questions on this, please call myself (R-4 RASM) or R-4 HOS. R-4 HOS contacted crew for this helicopter and asked them to remove this Snap from their inventory. No further action required.

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SafeCom #: **01-362** Date: **07/18/2001** Time: **1210**

Location: **Dog Creek Fire** State: **Washington** Region: **6**

Mission Type: **Fire, External Load (belly hook)** Procurement: **CWN**

Aircraft Type: **Hughes 530F**

Narrative: While performing a backhaul of 3 cargo nets the pilot was waiting for another helicopter to pass by when he noticed that the load (nets) was not attached any longer to the remote. The pilot noted that the hotshot crewmembers that attached the load snapped 3 swivels into the hook, each one holding a rolled and secured net. The thought is that, after testing 3 swivels in the remote, the turning of the rings caused the keeper to open every time.

Corrective Action: UAO: All individuals who are hooking up slingloads to a remote need to stick to a "single point" hookup using a swivel. This was discussed with Air Operations personnel on the fire. Acting RASM: Regional Helicopter Operations Specialist is aware of this event and is tracking all dropped loads.

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SafeCom #: **01-283** Date: **07/6/2001** Time: **1136**

Location: **Superior NF** State: **Minnesota** Region: **9**

Mission Type: **Survey/ Observation** Procurement: **Fleet**

Aircraft Type: **DeHavilland DHC2**

Narrative: USFS DeHavilland DHC-2 Beaver float plane experienced a vibration and trace of oil on the windshield while conducting a forest insect survey at 3,000 ft AGL on the east side of the Superior National Forest. The pilot notified forest dispatch that he was diverting to Devil Track Lake. As he started to descend, the vibration got worse and began shaking the cowling. Pilot xx implemented a precautionary landing on Northern Light Lake at 1138 hrs without incident. Investigation revealed that the #2 cylinder separated from the case shearing the hold down studs. Damage was also sustained to the piston skirt, and metal went into the engine case. It was determined that the engine would have to be replaced.

Corrective Action: A replacement engine is currently being installed on the Beaver. This field replacement is being done at the boat landing on Northern Light Lake. Expected completion is Sunday evening, 07/08/01. On Saturday and Sunday, 07/07/01-07/08/01, the engine on Beaver 3 (N197Z) was changed at the Northern Light Lake boat landing by Devil Track Seaplane Base mechanics. The operation was completed this morning with the attachment of a hydraulic line. Beaver 3 returned to the Ely Seaplane Base this afternoon, 07/09/01, at 1412 hrs. Since then, Pilot/Mechanic Dean Lee has been taking Beaver 3 on short flights, checking performance and looking for leaks. Beaver 3 is in a restricted use category for 5 hours post engine change. With this afternoons test flights, and a scheduled detection flight tomorrow, Beaver 3 should be up to normal operations by 1300 on Tuesday, 07/10/01.

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SafeCom #: **01-386** Date: **07/30/2001** Time: **1400**

Location: **Landmark Airstrip** State: **Idaho** Region: **4**

Mission Type: **Other** Procurement: **Other**

Aircraft Type: **Maule M5210C**

Narrative: During the Snowshoe Incident the base camp was relocated to the Landmark Airstrip (USFS owned). A request was made and confirmed to close the airstrip and the required X's placed at the runway's end. On 07/30 a small private high wing aircraft was

observed circling the airstrip. At the time, all agency air operations were suspended due to prevailing weather conditions; low ceiling, rain, and reduced visibility. An observant radio operator at the helibase contacted the aircraft on 122.9 and was informed of the pilot's request to land due to IFR conditions. Air Ops was contacted, security notified, and the strip cleared for landing. The aircraft landed safely without incident. The Incident provided the pilot with hospitality at its finest, a sleeping bag, G.I. cot, and a hot and piping meal. The aircraft safely departed the next day without incident.

Corrective Action: RASM Remarks: Kudos to the radio operator for the quick response to the pilot's aid. Weather conditions can change quickly and this was an appropriate response. Great Job!

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SafeCom #: **01-377** Date: **07/13/2001** Time: **1700**

Location: **Cadillac Airport** State: **Michigan** Region: **9**

Mission Type: **Fire Detection** Procurement: **CWN**

Aircraft Type: **Cessna U206A**

Narrative: On July 13, 2001, a Cessna U206G (pontoon landing gear) that was under a CWN agreement with the Huron-Manistee National Forests for wildland fire detection made a precautionary (no flap) landing on a grass runway at the airport in Cadillac Michigan, to avoid a strong crosswind landing on the paved runway after experiencing a failure of the wing flaps to extend. The landing was completely successful, resulting in no damage to the aircraft or property and no injury to the pilot or USFS observer. Upon beginning a normal end-of-flight landing at the Cadillac Airport, the pilot experienced a situation where the wing flaps of the aircraft would not extend. He twice attempted a no-flap landing to the airport's single, paved runway, however the cross wind was strong (17, gusting to 24 knots @ 90 degrees) and the pilot aborted both of the landing attempts. The pilot then decided to make a less risky, no-flap landing on the airport's grass runway. The pilot was knowledgeable regarding the condition of the grass runway (Cadillac is the pilots home airport). The landing on the grass was completely successful. Upon landing, the pilot cycled the flap switch and the flaps extended and retracted perfectly. The flaps operated on the ground but not in the air. When the aircraft was brought to the hanger for inspection/maintenance, it was noticed that the handle to the aft-cargo door was in the "up" (unlocked) position rather than in the "down & forward" (locked) position. The pilot was consulted to determine if he had opened the cargo door after landing (he hadn't) or if he was aware that the handle was in the unlocked position during the flight (he wasn't). (The Cessna U206 has an engineered feature by the manufacturer that incorporates a micro-switch in the doorframe of the cargo door that disables the electric circuit to the flap motor if the aft cargo door is not tightly closed. This is to prevent damage to the right wing flap and/or cargo door that would occur if the flaps were "jammed" into an open cargo door). The pilot said he performed a preflight inspection of the aircraft prior to takeoff. He did not specifically recall checking the cargo door handle (it is usually always down and locked). It is possible that it was missed in the preflight. He did recall, however, that during the flight he and the observer did some shuffling of gear in the back seat, while sitting in the front seats, and it was possible that the door handle could have been inadvertently moved upward (unlocked) during this activity. Upon talking to the observer, he also recalled the shuffling of gear in the back seat.

Corrective Action: CWN pilots and USFS fire detection observers will immediately notify the Zone Communication Center manager and/or Forest Aviation Officer whenever there is an event involving aircraft safety (this was not done in this situation). The Forest FAO will have a meeting with all forest and contract personnel involved with aviation management ASAP, and this topic will be reinforced. All pilots will be reminded to go through all checklist procedures without fail. Detection flight observers will be reminded to be careful when moving equipment inside an aircraft. Aircraft involved in a similar situation will be taken out of service until situation has been determined to be safe by an agency aviation specialist. No further action.

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SafeCom #: **01-308** Date: **07/13/2001** Time: **1430**

Location: **Rush Fire** State: **California** Region: **5**

Mission Type: **Fire, Passenger Transport** Procurement: **Contract**

Aircraft Type: **Sikorsky 58T**

Narrative: Helicopter H506 was dispatched to a fire from the Redding Airport showing an ETA of forty minutes to the Rush fire. Upon arrival at the Rush Incident, a recon of the fire was made. The smoke on the fire showed very little wind if any at all. It was determined that the fire was at 6500 feet and 23c. A quick reference to the load calculation confirmed with performance planning and manifest that the aircraft was within allowable payload with the current environmental conditions. After evaluating the fire a landing site was identified below the fire. The landing site was a meadowy bowl configuration with one way in and one way out. Hazards were identified as small sapling trees to the right and large timber to the left. Sky conditions were clear with unrestricted visibility. An aerial recon and power check were performed over the landing site (approximately 100ft above site). The site was identified as an OGE site. Upon decent into the landing site at approximately 25-30ft (passing below the barriers) the rate of decent increased, the pilot was unable to arrest the rate of decent, due to the barriers. (One way in one way out). At that time the pilot stated, "Max power. Every one hold on." Crew immediately upon notification by pilot of possible aircraft emergency, assumed crash positions, aircraft descended rapidly contacting the ground in a level attitude. The aircrafts struts absorbed the majority of the impact, pilot lowered collective and aircraft came to rest on a 5-degree slope. A normal aircraft shutdown was performed. Crew vacated the aircraft without injuries. An adjacent forest helicopter flew out the flight crew. The mechanic was flown into the landing site to inspect the aircraft for damage. No visible damage was found. Pilot and mechanic flew the aircraft back to Trinity Base for a more comprehensive inspection. Aircraft could have been put back in service that evening but contractor elected to perform more maintenance inspections and put aircraft back in service the next morning. Aircraft was test flown, engine topping, auto rotation RPM, torque control unit and defueled for fuel calibration, all were found to be within limits. A debriefing was held the following morning with pilot and all helishot personnel as to the events of the incident.

Corrective Action: 1) Understand that even when allowables show that you are in the OK to land, take into consideration topography, landing site selection and other environmental factors (bowl shaped landing site, dead air hole.) 2) Could have taken part of the crew down to a IGE landing site, off loaded non pertinent gear and personnel not essential to the mission. Helicopter manager suspected a hard landing. Extensive inspection of the

helicopter was made and no damage or any other problems found. Helicopter was returned to service at 0900 the following morning by Redding maintence inspector. No further action required. RASO, R-5

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SafeCom #: **01-435** Date: **07/30/2001** Time: **2030**

Location: **Big Timber/ Whisker Fire** State: **Montana** Region: **1**

Mission Type: **Fire, Passenger Transport** Procurement: **CWN**

Aircraft Type: **Aerospatiale 315B**

Narrative: On a return trip from the fire after delivering a camp manager the pilot was about three miles out from the airport when he felt a shudder from the aircraft. He immediately landed and shut down at the airport and inspected the aircraft. He discovered a large dent in the right side vertical stabilizer in front of the tail rotor. Upon further investigation it appears that something either exited the aircraft via the door on the Pilot side (door was off) or blew out of the left hand basket. The helitack on the site all confirmed that they had checked the baskets. The person who was flown out confirmed that all of his gear was accounted for. This was a very active helibase that day. Troop shuttles and sling work was done for the entire day and this was the last flight of the day for the helibase. After looking over the scene it appears that the dent was caused by something that hit the tail rotor and then hit the stabilizer making the dent The Aircraft was down for one day and back in service on the 1st of August.

Corrective Action: This could have been a catastrophic event. The pilot was very lucky. Both helitack and pilots need to continue to be focused on safety and following the procedures for doors off operations. After this occurred we sat down with all involved parties and discussed these procedures again. I feel that some people may have let their guard down being the last run of the day and complacency set in. This just cannot happen during any aircraft operations! This was a busy helibase that day all three aircraft involved in the operation flew close to 8 hrs and maxed out there duty day. We need to stay focused at all times. Central has also instilled a new policy of no door off operations in the Lama. Gallatin FAO RASM: After discussion among the company, manufacturer, and the R-1 Aircraft Inspector, it was determined that the structural integrity of the tail rotor was not compromised but the lower skin on the horizontal stabilizer would need to be repaired or replaced. The horizontal stabilizer was replaced and the aircraft was returned to service.

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SafeCom #: **01-412** Date: **07/31/2001** Time: **1140**

Location: **Mariposa Airport** State: **California** Region: **5**

Mission Type: **Fire, Water Drop-Bucket (helicopter)** Procurement: **Contract**

Aircraft Type: **Bell 212**

Narrative: While doing bucket work, pilot reported a #1 engine chip light and returned to the Mariposa Airport. This was the second light in three days (8 hrs. flight time). Mechanic removed plug and found fine metal particles.

Corrective Action: Per Jerry Burney, flushed system and returned to availability status. Next chip light from #1 engine will most likely result in an engine change. No further action required at this time but A/C will be monitored. RASO, R-5

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SafeCom #: **01-302** Date: **07/11/2001** Time: **1800**

Location: **Swamp Creek Fire** State: **Idaho** Region: **4**

Mission Type: **Fire, Rappel** Procurement: **Contract**

Aircraft Type: **Aerospatiale 350B2**

Narrative: During Rappel operations on the Swamp Creek Fire, Helicopter 193 was bringing in a second load of rappellers. Once over the rappel site, the spotter, communicating with the pilot proceeded with the external cargo let down operation. At the count of three, the load did not release. Spotter looked under the aircraft at the hook and saw nothing out of the ordinary and preceded with another three count. Again the load did not release. It appeared there was an electrical failure of the hook. The pilot then switched to the manual release and on a three count the load released and the rappel mission was completed without further incident. The aircraft landed and shut down after the rappel. The electrical hook was again checked and the electrical hook failure was confirmed. The aircraft returned to the helibase and the mechanic was notified.

Corrective Action: RASM Remarks: Performing follow-up, 7-13-01.Further follow-up: Technician troubleshot system and found a defective 2.6 amp fuse, no other problems found and the hook functioned normally. Helicopter manager put the helicopter back into contract service. Additional info, this was a Breese Eastern Model A25LT hook. Regional Airworthiness Inspector was informed. Good communication skills between pilot and crew, GREAT JOB following procedures! No Further Action.

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SafeCom #: **01-373** Date: **07/25/2001** Time: **1500**

Location: **5JO** State: **Oregon** Region: **6**

Mission Type: **Training (Rappel)** Procurement: **Contract**

Aircraft Type: **Bell 212**

Narrative: At 1500 on Wednesday, July 25 helicopter 508EH departed the Forest Service helibase to conduct proficiency rappels at the John Day airport. On board were the pilot

(XXXXX XXXXXXX), the spotter (myself), and four rappellers. The aircraft flew west of runway 17/35 and initiated a high hover power check. I came out of my seatbelt and move to the rear-facing bench so I could see the gauges. With an allowable payload of 1420 lbs. and a manifested weight of 1221 lbs, power indicated was 82 percent. As the pilot moved out of the hover to forward flight I moved to the left door and prepared to ask the pilot if I could open the sliding door. I heard a soft bang and then heard a low whine coming from the aircraft. The pilot asked if it was I making noise. I said, “No, it sounds like we’ve lost a pump,” thinking we had lost a hydraulic pump. I moved back to the rear-facing seat to watch the gauges as the pilot turned the aircraft back toward the taxiway. It took 8 to 10 seconds before the master caution light and #1 engine chip light came on. I turned around and buckled myself into the nearest available seatbelt and indicated to the rappellers to assume the crash position. The pilot turned the aircraft into the wind and headed for the north/south taxiway and performed a run-on landing. As we slid onto the taxiway I looked out the right door and observed smoke coming from the field west of the runway. When the helicopter came to a stop I asked the pilot if it was clear to depart the aircraft. He indicated it was safe to do so and we opened the doors and departed. The rotors were still turning but we had safe egress and I wasn’t sure if there was an engine fire associated with the incident that may have caused the grass fire. The pilot shut the aircraft down and I went and tied in with the base manager to tell him about the grass fire and get initial attack resources started.

Corrective Action: UAO: Great actions by the pilot to get the aircraft on the ground safely. More to follow upon completion of investigation. RASM: Currently, this is being reviewed at the Region as an Incident with Potential and an investigation is under way. RASM: This was reviewed at the Region as an Incident with Potential. The Out Brief report included the following: Technical Update: Preliminary information form Pratt and Whitney: erosion on first stage compressor; compressor blade broke off from first stage and went through rest of engine. #2 engine was inspected, the replacement engine and engines on sister aircraft at the Sled Springs Rappel base were inspected and looked good. Company is issuing a letter to field personnel to look at first stage compressors at 150 hr intervals recommended, but mandatory inspecting every 300 hrs or at 1 year. A full report from Pratt & Whitney will be received when the teardown analysis report is completed. Management Aspects: Training works and pays off as exhibited by the way agency personnel handled themselves during and post incident. Pilot, spotter, and crew handled themselves in an exemplary manner. Personnel on the ground also acted in an exemplary manner. The Forest did an excellent job of evaluating the need and lining up resources for Critical Incident Stress debriefing. The Region made the right decision to handle this as an Incident with Potential from a technical review standpoint.

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SafeCom #: **01-419** Date: **07/30/2001** Time: **1300**

Location: **Chelan Airport/ Union Valley** State: **Washington** Region: **DNR/ USFS**

Mission Type: **Fire, Air-Attack** Procurement: **Contract**

Aircraft Type: **Bell 407**

Narrative: On July 30, 2001, XXXXXX was being used as the air attack platform for the Union Valley Fire. At 1300 the pilot noticed the engine chip light come on and immediately landed at the Chelan Airport, which was being utilized as the helibase for the Union Valley Fire. The mechanic began looking through the possibilities/cause of the chip light and determined that particles found in the oil filter caused the chip light to come on. Upon further investigation we discovered that this had been the third engine chip light to come on in the last forty hours of flight time. I then called XXXX XXXXXX, the Region III Aviation Maintenance Inspector. He had real concerns with the trend of chip lights coming on. His suggestions were to follow the manuals recommendations to remedy a chip light for this specific engine. The oil was then drained and a new filter was installed. The pilot then ran the helicopter for fifteen minutes on the ground, and then took a one hour and fifteen minute flight. No chip light came on during these test runs. Once back on the ground the mechanic pulled all of the chip plugs and discovered metal flakes/residue on one of the plugs. This ship will remain out of service until the situation can be resolved.

Corrective Action: UAO: Proper procedures and processes were followed. Acting RASM: Good follow-up on previous history of chip lights and appropriate use of maintenance procedures. Will close out upon determination of engine status. Aircraft engine has been pulled out of the aircraft for detailed inspection and will be replace/overhauled to satisfactory condition. Engine was replaced and aircraft returned to contract availability by Maintenance Inspector.

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SafeCom #: **01-338** Date: **07/20/2001** Time: **1200**

Location: **Trinity Helibase** State: **California** Region: **5**

Mission Type: **Fire, Helitack** Procurement: **Contract**

Aircraft Type: **Sikorsky S58T**

Narrative: H-506 was dispatched on a support mission of backhaul from the Saloon incident. Upon lift off from Trinity Helibase pilot noticed No.2 engine oil temperature had climbed to red line. We landed immediately and the mechanic checked the oil lines finding no blockage. A new oil cooler was dispatched from the company for removal and replacement of suspected part. Mr. Bill Mcvicker (Maintenance Inspector) was notified and aircraft put unavailable until repairs are made and signed off by appropriate personnel.

Corrective Action: H506 had a new oil cooler installed. The helicopter was "Returned to Contract Availability" on 7-22-01 by Bill McVicker, R-5 maintenance inspector. No further action required. RASO, R-5

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