

Chapter 1

1. II Added: *For aviation operations utilizing Active Duty/Reserve Military helicopters, and National Guard units officially “federalized” by DoD, refer to Chapter 70 of the Military Use Handbook for specific policy and procedural information.*

The use of National Guard units for federal firefighting purposes within their state must be outlined in national, regional, state or local agreements and Memorandums of Understanding (MOUs) between federal agencies and the specific National Guard units.

Exceptions to the IHOG may only be authorized through agency specific procedures.

Chapter 2

2. II.B Changed: *Project* to *Resource*

2. Chart 2-1 Changed: *Project* to *Resource*

Deleted: “*Helicopter Flight Manager*” from Prerequisites

In Project Helicopter Manager Row, IHOG Training Requirements Column replaced: “*Helicopter Manager Training*” with “*S-372, Helicopter Manager Training*”.

Deleted: “*Helicopter Safety*”

In currency column Changed: “*Helicopter Manager Workshop*” to “*RT-372*”, Added: *function as every three years*

2. Chart 2-2 Helicopter Flight Manager Added: *Refer to IAT Management Qualification Guide*

In Helicopter Passenger row, IHOG Training Requirements column Replaced: “*Helicopter Safety*” with “*Helicopter Safety Briefing*”.

Chart Footer Changes. ~~*The Project Helicopter Manager must have met the training requirements of the Project Flight Manager.*~~

²¹*Position supervises operations involving transport of groups of personnel or cargo from/to unimproved landing sites, external load operations, or other complex special-use project operations.*

³²~~*For Resource missions' special missions such as Law Enforcement, Animal Net Gunning, Eradication, or Tagging, the S-217271 and/or S-372 courses should be tailored to the type of operation being conducted. However, S-217 the course must be maintained to meet the NWCG course length requirement. as a 32-40 hour course.*~~

⁴³~~*Individual supervises*~~ *non-recurring* missions limited to point to point transport of personnel from one ~~developed heliport~~ *helibase*/airport to another ~~developed heliport~~ *helibase* /airport, low and high level reconnaissance, and landings or takeoffs at unimproved sites; The Helicopter Flight Manager is not expected to fulfill all the duties of a qualified ~~Project~~ Resource Helicopter

~~Manager overseeing a complex helicopter flight operation.~~ Rather, he/she is the government representative who coordinates with the pilot regarding the safety and efficiency of the flight.

~~⁵Refer to agency for description of this course~~

2. Chart 2-3 Changed: ~~Project~~ to **Resource**

Second Box, NOTE, Replaced with: *For all positions below, prerequisites include successful training assignments on incidents or projects and the completion of a National Interagency Incident Management System (NIIMS) Position Task Book. If no Resource Training/Currency and a Resource Task Book exists for the position then Agency prescribed documentation should be established.*

Replaced current footnote with: ** NIIMS Position task books are not currently available for the noted positions.*

In Helibase Manager Row Deleted: "~~Helispot Manager~~"

In Helispot Manager Row, Prerequisites Column Deleted ~~Loadmaster and Parking Tender~~ and Replaced: with: "**HECM**"

In Deck Coordinator Row, Prerequisites Column Replaced: ~~TOLC~~ with: **ABRO**

2. Chart 2-4 in bottom box Added: *The minimum required staffing levels must be filled with **fully qualified personnel**. Trainees maybe ordered in addition to the standard module configuration*

In Type 3 Helicopter Row, FAA Standard Category Temporarily Designated for Limited Use Column, Replaced blacked out box with: **Manager only ****

2.III Below paragraph "Limited Use Designation" Added: *Limited Use Type III Helicopter designation: Standard category Type III Helicopters may be temporarily designated and used as "limited use", thus not requiring a standard module. A Helicopter Manager is all that is required. The following missions are authorized for Limited Use Type III Helicopters:*

- *ATGS- Air Attack Group Supervisor*
- *HLCO-Helicopter Coordinator*
- *PSD- Plastic Sphere dispenser*
- *Infrared and aerial mapping*
- *Bucket Operations*
- *Cargo Operations*

The appropriate agency Aviation Manager at the State, Area, or Regional level must grant approval on a case-by-case basis.

*Limited Use Type III Helicopters **are not** included in the option of managing two helicopters with one Helicopter Manager.*

2. III Paragraph just below the "IMPORTANT NOTE:" Replaced current paragraph which starts with "State and Local agencies" With: *State and Local agencies may have other*

minimum requirements for personnel and aircraft. Alaska agencies such as the Alaska Fire Service (AFS) have different staffing requirements when operating in Alaska. However, at a minimum, a Manager must be ordered and assigned to all Exclusive Use and Call When Needed Helicopters in Alaska

IMPORTANT NOTE: Delete “~~5) Aerial supervision is being provided.~~” Deleted: “CWN Fire” so reads just “Helicopter Manager”, Changed: “HEMG” to “*Helicopter Manager*”

2. III.A. Fourth bullet, Removed: “~~Call-When-Needed~~” from in front of “~~Project Helicopter Manager for complex, special-use projects.~~”

The duties and responsibilities of the Helicopter Manager, ~~CWN Manager, Exclusive Use Manager, and Project Helicopter Manager~~ are as follows.

2. 3.C, D, E, Replaced: ~~project~~ with *Resource*

2. Exhibit 2-1 Deleted:

2. Exhibit 2-2 Deleted:

2. IV Deleted: ~~Refer to Exhibit 2-1 for a depiction of where the helibase organization fits into the overall aviation organization within the Incident Command System (ICS), and to Exhibit 2-2 for the Helibase Organization Chart itself.~~

2. IV.A.1 Entire Chapter Replaced: “~~Project Air Safety Plan~~” with “*Project Aviation Safety Plan*”

2. IV.A.16 second bullet: Added: *Individual knowledge and skill levels vary, every effort should be made to assign the most capable person based on the complexity and nature of the assignment.*

2. IV.B *Helispot Manager (HESM). The Helispot Manager is supervised by the Helibase Manager and is responsible for providing safe and efficient management of all activities at the assigned helispot. ~~When assigned, HECM manage helispots and are under the supervision of the Helibase Manager. Helicopter crewmembers when functioning as a helispot manager are responsible for providing safe and efficient management of all activities at the assigned helispot.~~*

~~The Helispot Manager’s duties and responsibilities are as follows Management of the helispot involves the following duties and responsibilities. (Refer to Appendix B for instructions on completion of referenced forms):~~

~~2. Ensure that qualified helicopter ~~operations~~ crewmembers are assigned to assist in~~

2. IV.D *Parking Tender (PARK).*

After (see Chapter 11) add: *Communication with the pilot may be done either through hand signals or by way of radio communication. Positive communication over the radio by the Parking Tender via a patch cord and flight helmet is the preferred method.*

2. IV.E *Loadmaster (Personnel or Cargo) (LOAD).*

2. IV.F ~~Aircraft Timekeeper (ATIM).~~

2. V.C.1 ~~Law Enforcement Helicopter Manager.~~ All law enforcement aviation operations utilizing helicopters shall, depending on the mission profile, be conducted either by a fully-qualified ~~Project~~ **Resource or Fire Helicopter Manager**

2. ~~Law Enforcement Helicopter Crewmember~~
3. ~~Law Enforcement Helibase Management.~~

2. V.F ~~Military Helicopter Manager Management: Refer to Chapter 70 of the Military Use Guide for further information.~~ **For aviation operations utilizing Active Duty/Reserve Military helicopters, and National Guard units officially “federalized” by DoD, refer to Chapter 70 of the Military Use Handbook for specific policy and procedural information.**

The use of National Guard units for federal firefighting purposes within their state must be outlined in national, regional, state or local agreements and Memorandums of Understanding (MOUs) between federal agencies and the specific National Guard units

2. V.G 1. ~~ACETA Project Helicopter Manager.~~ The Helicopter Manager of an ACETA operation shall meet the requirements for a ~~Project~~ **Resource Helicopter Manager**

Chapter 3

Tab Changed: “Operation” to “Operational”.

3. II.C.2.c Last paragraph, Added: *Use the attached chart and the attached completed Risk Assessment Worksheet as an example.*

3. Chart 3-2 Added: the rest of the Risk Assessment Worksheet

3. II.C.3 First paragraph, Added: *During mission planning risk, decisions should be made at a level of command that corresponds to the degree of risk. The Pilot and or Helicopter Manager will have the authority to decline the mission in question. Helicopter manager, with concurrence from the pilot, will have final decision to proceed with the mission ...*

3. II.D.1 Added: “See Exhibit 3-4 for an example of a Rapid Risk Assessment”. (Add new Exhibit 3-4 12 Steps to a Safe Flight)

3. III.B2 First bullet, Changed: “~~within 500 feet~~” to “*below 500 feet AGL*”.

3. IV.I Replaced: “~~Job Contract Flights~~” with “*End Product Contracts*”.
First paragraph Inserted: *End Product Contracts are contracts that may use aircraft but are primarily written to obtain another end product or service. This is usually acres seeded, horses gathered, acres sprayed, etc... The use of aircraft is incidental to the product or services contracted. Refer to agency policy for further information.* Deleted: 2.IV.I. 1, 2. and 3

3. V.B.2.c. (4) Added: “Unit” to “Aviation Manager”.

3. V.E.1 and 2.V.F.1 Deleted: The whole paragraph that refers to and describes IHAPI.
3. V.J.1 Replaced: In second sentence “~~should construct~~” with “*shall obtain*”.
3. V.L. Added: “*For contractor personnel, limitations are stated in the procurement document and must be followed*”. Deleted: “~~Methods of tracking are discussed in Appendix A.~~”
3. Exhibit 3-3 Load Calculations and Weight and Balance title sentence, Remove: “~~and Weight and Balance~~”.
- Changed last sentence to “*The Helicopter Manager shall ensure that manifests and load calculations are completed properly*”.

Chapter 4

4. IV.C Deleted second paragraph “~~However.....~~” And replaced with: *See procurement document for FM radio Requirements.*
4. V Deleted: 2nd bullet 2nd 3rd and 4th paragraphs...” Deleted: “~~Studies of..... listening~~”
4. V.B.2 Deleted the last paragraph: “~~TOLC should answer to the call sign of “CONTROL.”~~”
4. 5.D.1- 6 ...~~Air Tactics~~ *Tactical* Group Supervisor...
4. Exhibit 4-1 Deleted
4. Exhibit 4-2 Deleted

Chapter 5

- All Changed all references of “OAS” to “*Aviation Management Directorate (AMD)*”

Chapter 6

6. VIII Helicopter Flight over Congested areas. Added: *The Federal Aviation Regulations governing flight over congested areas is dependent on the type of operation being performed. Part 91 would typically apply to flight operations by government owned or operated aircraft, Part 135 to vendor aircraft, and Part 133 to all external load operations.*
6. IX Lockdown of Controls. Added: *Specific direction may be provided by the procurement document. In general, when trained ...*
6. X Military Helicopter Limitations. Removed: “~~additionally~~” in the third paragraph, change “~~may~~” to “*might*”

Chapter 7

7. 1.C Military Helicopters. Standard military methods for determining performance such as the Performance Planning Card (PPC) may be used. *For aviation operations utilizing Active Duty/Reserve Military helicopters, and National Guard units officially “federalized” by DoD, refer to Chapter 70 of the Military Use Handbook for specific policy and procedural information.*

The use of National Guard units for federal firefighting purposes within their state must be outlined in national, regional, state or local agreements and Memorandums of Understanding (MOUs) between federal agencies and the specific National Guard units.

7. 3.A Added to the end of the paragraph: *If the electronic format is used for actual helicopter operations, the form must be printed out in black and white, then signed by the pilot and helicopter manager, and retained*

7. 3.B.2 Chapter 7, III.B.2 (new page 7-3)

Requirement for a New Calculation. A new load calculation is required when there is a change of:

- +/- 5 degrees Celcius. in temperature, or
- +/- 1,000 feet change of altitude, or
- ~~+/- change in~~ *When the Helicopter* Operating Weight ~~such as~~ changes *(such as changes to the helicopter Equipped Weight, changes in flight crew weight or an increase of more than five gallons a change in fuel load).*

{A decrease in fuel load at the same temperature and elevation will, of course, increase allowable payload; a new calculation may be completed to reflect this increased capability or it may be reflected on the Passenger/Cargo Manifest Book.}

Added to the end of the sentence in parenthesis in the last bullet: *or may be reflected on the Passenger/Cargo Manifest Book.*

7. 3.B.5 Deleted: “...or, except for OAS issued cards, the agency issued Aircraft Data Card.”

Deleted the 3rd Caution “~~Caution: The agency Aircraft Data Card may not.....~~”

7. III.B.10 Replaced: “~~Caution: the amount of ground effect that a certain...~~” with a second “Safety Alert” that reads: *The HOG E allowable weight calculation should be utilized on a routine basis for internal loads when the destination is unknown, or is known to be or has been designated as a HOG E site. Ground effect will dissipate over rough, sloped, or vegetated ground. Since there is nothing precise about ground effect, power requirements (load capability estimates) should always be conservative.*

Remember, if the helicopter is inadvertently loaded for HIGE and the landing site requires an HOG E capability, the aircraft may settle and possibly crash if the pilot attempts the landing. See Chapter 7, Section III.B.13 f or additional information and requirements

7. III.B.11 Replaced with: *The Government Weight Reduction is required for all “non-jettisonable” loads. The Weight Reduction is optional (mutual agreement between Pilot and Helicopter Manager) when carrying jettisonable loads (HOGE-J) where the pilot has total jettisonable control. The appropriate Weight Reduction value, for make and model, can be found in the current helicopter procurement document.*

7. III.B.12 Replaced: “~~12. Take-off and Landing Limitations~~”. With *12. Gross Weight Limitations. Enter applicable gross weight limit from Limitations Section of the basic Flight Manual or the appropriate Flight Manual Supplement. This may be Maximum Gross Weight Limit for Take-off and Landing, a Weight/Altitude/Temperature (WAT) limitation or a Maximum Gross Weight Limit for External Load (jettisonable). Limitations may vary for HIGE, HOGE and HOGE-J.*

7. III.B.13 Replaced the 1st paragraph with: *Although HOGE should be used to calculate allowable weight the first time flying into an unknown landing site, in certain instances, particularly on initial attack where fuel and allowable load are pre-calculated each day, environmental conditions at the landing site may be more severe than were estimated on the load calculation*

Deleted: “~~It is imperative in these situations that supplemental load calculations be completed in the air while en route to the lower landing site.....~~”

7. III.B.13 Caution box Deleted: “~~60%~~”

7. IV Replaced 1st. paragraph, last sentence with: *This listing of passengers and cargo may be accomplished on the load calculation form, on the Interagency Helicopter Passenger/Cargo Manifest, or; handcrews may provide a pre-completed crew manifest utilizing their own format, this practice is acceptable as long as the information on the form is accurate and verified.*

Replaced 2nd to last paragraph with: *A copy of the passenger list must remain at the departure base; if there are no personnel to receive manifests at the departure base and no verbal relay exists, a copy of the manifest must be left in a visible, easily accessible place.*

In the last sentence, Deleted: “~~as well as the crew manifest form.~~”

Chapter 8

8. II.C.2 Replaced entire paragraph with: **2. Lakes or Rivers.** *Bodies of water, with their less-than-solid surfaces, may seriously reduce the benefits of ground effect. A Helibase or helispot should offer a take-off and landing profile that will not place an aircraft loaded for “In-Ground-Effect” over water before sufficient airspeed and lift is achieved. Depth perception can also be a problem for overwater portions of approach or departure routes*

8. III.C.6 Deleted: “~~If further strengthening of the pad is needed.....~~”

8. Chart 8-2 Added: asterisk and footer.

Fire Extinguisher located at each pad*	Required	Required	Required
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“Refer to Chart 9-7 on page 9-15 for specific fire extinguisher requirements.”

8. IV.B “numbered ~~and~~ or identifiable from the air.....”

8. IV.B.3 Known hazards outside the safety circle such as poles, pipes, and high vegetation should be marked with colored ribbon or other means. Known hazards must also be marked on the hazard map at helibases and on Form HBM-2, ~~Helispot Information~~ **Aviation Locations Summary**, which identifies hazards. An example is found in Appendix B, pg B-19, and exhibit B-6: Helibase Facilities, Hazard, and Flight Route Map.

Chapter 9

9. Chart 9-1 and Chart 9-2 Replaced charts with:

General Requirements (all occupants):

<i>All Helicopter Flights</i>	<i>Nomex Clothing (long-sleeved shirt & pants, or flight suit) Nomex and/or Leather Gloves Approved Aviator Flight Helmet All-leather Boots Hearing Protection</i>
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Exceptions or Additional Requirements (all occupants):

<i>Reconnaissance Over Water- Beyond Gliding Distance from Shore</i>	<u><i>Additional Requirements:</i></u> <i>-Personal Floatation Device (PFD)</i>
<i>Reconnaissance Over Water- Extended</i>	<u><i>Additional Requirements:</i></u> <i>-Personal Floatation Device (PFD) -Anti-Exposure Garments -Raft & Kit</i>
<i>Individual Not Restrained by Installed Aircraft Restraint Systems (Spotter, Cargo letdown, Cargo Freefall, ACETA, PSD, etc.)</i>	<u><i>Additional Requirements:</i></u> <i>-Approved Auxiliary Restraint Harness/Tether</i>
<i>Extreme Environmental Conditions (wet, boggy, extreme cold, etc.)</i>	<u><i>Exception:</i></u> <i>-Rubber/Synthetic Footwear or Clothing *Requires specific agency waiver to policy</i>
<i>Rappel, Short Haul, Cargo letdown, Aerial Ignition</i>	<i>Refer to Applicable Specialty Guide/Handbook for specific PPE requirements.</i>
<i>Firefighter</i>	<u><i>Exception:</i></u> <i>-May wear a hardhat with chinstrap in lieu of an aviators flight helmet <u>only</u> when being transported as passenger during fire operations from an established, managed helispot/helibase to another established, managed</i>

	<p><i>helispot/helibase.</i></p> <p><i>"A helibase/helispot is considered to be a managed when there is a helicopter crewmember or helispot manager in place on the ground before the passengers are delivered to the Helibase/Helispot".</i></p>
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CHART 9-2: Requirements for Personal Protective Equipment – **Ground Operations**

General Requirements:

<p><i>All Government Personnel – While Working Around Operating Helicopters or When “On the Deck” when Helicopters are Operating</i></p> <p><i>*It is at the discretion of the Helibase Manager, Deck Coordinator or Helicopter Manager to establish the appropriate level of PPE on the ground when no active helicopter operations are being conducted or for positions not assigned to the deck.</i></p>	<p><i>Nomex Clothing (long-sleeved shirt & pants, or flight suit)</i></p> <p><i>Hardhat with Chinstrap (or approved aviator flight helmet)</i></p> <p><i>Nomex and/or Leather gloves</i></p> <p><i>All Leather Boots</i></p> <p><i>Eye protection</i></p> <p><i>Hearing Protection</i></p>
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Exceptions or Additional Requirements:

<p><i>Longline Hook-up Personnel/ Marshalls</i></p>	<p><u><i>Additional Recommendation:</i></u></p> <p><i>-Aviator helmet with handheld radio adaptor is recommended. Radio contact with pilot is required.</i></p>
<p><i>Helitorch Mixmaster, Helitorch Crewmembers</i></p>	<p><i>Refer to the Interagency Aerial Ignition Guide for specific PPE requirements.</i></p>
<p><i>Government Fuelers</i></p>	<p><u><i>Additional Requirement/Exception:</i></u></p> <p><i>-Must wear “Non-Static” clothing</i></p> <p><i>-May utilize rubber gloves in lieu of nomex/leather gloves</i></p> <p><i>-Eye & hearing protection required only when in the vicinity of operating helicopters (rapid refueling)</i></p>
<p><i>Contract Fuelers</i></p>	<p><i>Refer to requirements for vendor personnel outlined in the procurement document.</i></p>

9 .III.A.1 *Examples of flight helmets currently approved include the SPH-3, SPH-4, SPH-5, HGU-56P & HGU-84*

*The flight helmet should be equipped with avionics compatible with helicopter avionics specifications. Each helmet should be stored in a helmet bag when not in use, and should be kept clean and free of defects. Clean with mild soap and water only. **Inspect and maintain the flight helmet in accordance with manufacturer’s specifications.***

9 .III.B Consolidate paragraphs: *Hearing protection is required when inside or around operating helicopters. The helicopter flight helmet provides the requisite protection, the addition of earplugs for frequent users of helicopters is recommended. Earplugs are required for firefighters who are not required to wear flight helmets communications flight. Sound barrier ' earmuffs' may be worn in lieu of earplugs while performing ground operations.*

9 .III.C Goggles, *or other approved safety eyewear*, shall be worn while performing ground duties around operating helicopters. A *helicopter flight helmet* with visor down may be utilized in lieu of a hard hat and goggles when radio communications with the pilot is necessary via a radio connected through the helmet.

9 .IV.A.1 Replaced all content with: *Personal Flotation devices (PFD) An inflatable personal flotation device that meets requirements of 14 CFR 91 or inflatable life preserver required by 14 CFR 135 shall be worn by each individual on board the helicopter when conducting operations beyond gliding distance to shore, and during all hovering flights over water sources such as ponds, streams, lakes, and coastal waters. Automatic inflation (water activated) personal flotation devices shall not be allowed.*

Consult agency guidelines for other allowed alternatives.

9 .IV.B.1 Survival kits shall contain at a minimum the items specified in the chart, plus those items required by seasonal, environmental conditions, or by the FAR's *and/or contract requirements*.

9. Chart 9-3, 9-4, 9-5, 9-6 New charts added to mirror national CWN Contract

9. V.A.2 2. Personnel performing special activities *while doors are open or removed* and who need to be in a location other than normal (that is, seated with normal restraint system), must wear an approved harness. The harness must ~~have a quick release system and should be attached to an approved tether and~~ helicopter hard point. See Exhibit 9-1.

9. Chart 9-8 and Chart 9-9 updated to reflect current cache catalog

9. VII.A Deleted all but last sentence should read as: **A. Approval of Helicopters and Pilots for External Loads.** Users should always check each Aircraft Data Card and Pilot Qualifications Card to ensure that the aircraft and pilot are current and authorized to perform the external load mission.

9. VII.D.1. Deleted second sentence: **1. Capacity of Swivels** ~~"The rating must be stamped on the swivel."~~

9. VII.I Caution these bags should not be flown empty due to the potential for tail rotor entanglement. If no cargo is available, 50 pounds of ballast should be placed in the bag. It should be flown at a reduced speed. *"Use according to agency direction"*. Deleted last sentence: ~~"These bags are "single trip only, i.e. use only once"~~.

9. VII.K Added:

1. Longlines.

•If a long line is utilized for water bucket operations then the long line shall be a minimum of 50 feet in length to reduce the risk of bucket or long line entanglement with the tail rotor or tail boom.

- Pilots utilizing long lines with water buckets must be approved for vertical reference long line operations.
- “Tag lines” of less than 50 feet are no longer authorized and pilots that are not approved for longline vertical reference operations must attach the bucket directly to the belly hook during water bucket operations.

9. Chart 10 and Chart 9-11 replaced to reflect new IHOG Forms numbering

Chapter 10

10. I.D Carriage of Government Employees aboard Restricted Category Helicopters. Government employees may not be passengers or aircrew members aboard *helicopters operated as restricted category aircraft.* Deleted the rest of the paragraph.

10. I.F.4 Restricted Category Helicopters. Carriage of news media aboard restricted category aircraft is specifically prohibited ~~unless authorized at the State, Area, or Regional level on a case-by-case basis.~~

10. V.B Moved bullets from 10. V.A. to 10. V.B

B. Manifesting Personnel. *The manifesting process tracks personnel being transported and ensures that allowable payload limitations are not exceeded. Consult Appendix A for instructions on completion of Form HCM-9, Interagency Helicopter Passenger/Cargo Manifest.*

The manifestor will need:

- Full name of each person being transported
- Weight of each person with personal gear
- Weight of additional tools and equipment
- Destination of personnel and/or cargo
- The person in charge should maintain control of personnel at all times.

10. V.G G. Unloading Procedures.

- Off-loading during shutdown of helicopter should be avoided.
- Wait for Pilot, helicopter crewmember, or other authorized personnel to give clear signal for offloading.
- Doors should be... etc. etc. remainder of section unchanged
- Maintain tight control of all personal items. *If an item is lost, do not go after it.*

10. VI.A ~~A. Incident Operations. All military helicopters should be staffed with a Military Helicopter Manger (see Chapter II), who functions as a member of a joint military/civilian flight crew. The Military Helicopter Manager will assist the military Crew Chief in loading and unloading passengers and cargo, conducting passenger briefings, manifesting passengers, and ensuring the use of required PPE.~~ *For aviation operations utilizing Active Duty/Reserve Military helicopters, and National Guard units officially “federalized” by DoD, refer to Chapter 70 of the Military Use Handbook for specific policy and procedural information.*

The use of National Guard units for federal firefighting purposes within their state must be outlined in national, regional, state or local agreements and Memorandums of Understanding (MOUs) between federal agencies and the specific National Guard units.

10. Exhibit 10-2 Changed entire briefing:

HELICOPTER PASSENGER BRIEFING (FRONT)

Pilot or designated Helitack must brief all passengers prior to flight

1. **Personal Protective Equipment:** (See IHOG Chart 9-1 for requirements)
 - Nomex Clothing (long-sleeved shirt & pants, or flight suit)
 - Approved Helicopter Flight Helmet
 - All-Leather Boots
 - Hearing Protection
 - Nomex and/or Leather Gloves
 - Survival Equipment as applicable (PFD, Life Rafts, etc.)
2. **NO Smoking:** Rules in and around aircraft
3. **Approach and departure paths:**
 - Always approach and depart from the down slope (lower) side as directed by Pilot/Helitack
 - Approach and depart helicopter in a crouch position, do not run
 - Keep in pilot's field of vision at all times
 - Stay clear of landing area when helicopters landing or departing
 - Stay away from the main and tail rotors. Do not chase any item that has become unsecured
 - Never go near the tail of helicopters
4. **Tools and Equipment:**
 - Secure hand tools and equipment awaiting transport
 - Make assignments for carrying tools/equipment to/from helicopter
 - Carry tools/long objects parallel to the ground, never on shoulder
 - All tools and equipment loaded/unloaded by qualified personnel
 - Portable Radios turned off
5. **Helicopter Doors:** Location and normal operation

HELICOPTER PASSENGER BRIEFING (CONTINUED)

6. **In-Flight Discipline:**
 - Follow the instructions of pilot
 - Loose items inside of aircraft secured and manageable
 - All baggage secured in aircraft or cargo compartment
 - Never throw any object from the helicopter
 - No movement inside aircraft once seated
 - Keep clear of the flight controls at all times
 - Unbuckle only when directed to do so by Pilot or Helitack
 - Leave doors closed, wait for Helitack personnel to unload
 - Know location of first aid kit, survival kit, fire extinguisher, ELT (Emergency Locator Transmitter), fuel and battery shutoff switch location and operation, radio operation, oxygen use (if available)
7. **In-Flight Emergency Procedures**
 - **Emergency Exits:** Location and normal operation
 - Follow instructions of Pilot/Helitack personnel
 - Snug seat belt and shoulder harness; secure gear
 - **Emergency Seating Position WITH SHOULDER HARNESS (four point OR single diagonal strap):** sit in full upright position with head and back pressed against seat and use arms to brace in position. If time permits and so equipped, lock the inertial reel

- **Emergency Seating Position WITH LAP BELT ONLY:** bend over as far as possible and hold onto your legs
- Assist any injured person who cannot leave the aircraft
- Move clear of the aircraft only after rotor blades stop or when instructed to do so by the pilot or helicopter crew
- Assess situation, follow pilot/helicopter manager instructions, render first aid, remove first aid kit, survival kit, radio, ELT and fire extinguisher

Chapter 11

11. II.A ~~“hover hook up person”~~

11. V.B second bullet Replaced with: *Personnel who engage in the transport of hazardous materials via aircraft must have been trained in Hazmat, have a current exemption and a Hazmat Response Guide on board.*

11. VI Added following the last paragraph: *For aviation operations utilizing Active Duty/Reserve Military helicopters, and National Guard units officially “federalized” by DoD, refer to Chapter 70 of the Military Use Handbook for specific policy and procedural information.*

The use of National Guard units for federal firefighting purposes within their state must be outlined in national, regional, state or local agreements and Memorandums of Understanding (MOUs) between federal agencies and the specific National Guard units

11. XI.C Caution Replaced with: *The chief reason to use swivels is to prevent line twisting. Swivels allow multiple net loads to rotate independently in flight without twisting the leadline or longline. When using multiple nets loads, a swivel must be placed between the leadlines and the remote or belly hook. A swivel should also be in place for each net. Some specialized loads, such as a helitorch may be flown without the need for swivels*

Added new bullet under the Caution box: *An acceptable practice is a longline without a remote. A swivel is still required at the bottom of a longline and is the cargo attachment source. This may be used as a standard practice if personnel are available at both ends of the operation.*

11. XI.C.1 Added bullets: *Do not weave purse strings through the net. The net will not cinch properly and the net will be exposed to excessive wear.*

A swiveling Cargo hook may be used in place of a separate swivel on some missions such as Bale Bombing, when a swivel can't be used since a lead line is usually hooked to the cage on the longline.

Changed bullet from: *When carrying multiple nets in on load, ~~always have one ride lower than the other~~* to *“it is recommend have one lower than the other”*. Deleted the rest of the paragraph.

11. XI.C.3 Added to Caution: *Drogue chutes or tails will only be used on longline loads.*

11. Xi.C.8 1st Gray Box: *Logs or poles will usually fly better ~~with~~ “when” a tail is installed.*

11. XII.B Added New Caution: *Some operators want to test manual release only once per day; they say that more tests per day put undue stress on cable and are unnecessary. If this is the case, those manual releases may be checked one time per day.*

11. XII.E Added To beginning of REMEMBER sentence: *On single net loads, place the swivel....*

11. XII.C Added to Footnote: ² *Longline training is covered in either of the following courses: S-271 or A-219.*

11. XII.D Added: *D. External Load Operations. Landing zone rotor clearance standards for external load operations where aircraft must descend below any obstacles/barriers.*

1. *The performance of external load missions must be contingent upon proper assessment and preparation of the delivery site by first removing and mitigating hazards.*
2. *The selection of dip/snorkel sites may require concurrence of agency personnel such as resource advisors. While it may not be feasible to approve every dipsite, check first.*
3. *In areas of sloping terrain or with obstacles rising to one or more sides of the cargo pickup/delivery area, or dip site, pilot should maintain aircraft clearance from all obstacles in accordance with the landing area safety circle requirements for the type aircraft.*
-The safety circle is generally recognized as 1 ½ times the rotor diameter-
4. *When obstacles present a risk of contact with aircraft or rotor blades, the pilot should decline the mission until hazards are removed, additional line can be added, or a better location can be identified. Pilots have the final say in accepting and/or denying any mission.*
5. *If the helicopter is within ½ rotor diameter of the highest obstacle, the pilot should consider adding another length of line.*

11. XIV.A Changed Note: ~~Normally~~ *Water buckets and longlines will “should” be attached to the helicopter while it is on the ground.....*

Replaced Caution box with: *IMPORTANT CAUTION: Hover hookups to connect electrical power accessories are potentially dangerous and shall should not be performed. If an electrical connection is loose or not functioning, the pilot should land the helicopter to rectify the problem on the ground.*

Moved this Caution to ‘hover hook-up’ section, before ‘longline procedures’.

11. XIV.B Added to 6th bullet: *On approach or departure to the remote hook, the hook-up person shall not step over the longline while attaching the load.*

11. XVI.A.1 Added after the 1st sentence: *“The spotter should be a qualified manager for freefall cargo operations.”*

11. XVI.B Deleted: ~~*The Pilot and aircrew member(s) have been trained in cargo freefall operations.*~~

11. XVI.C.4 Added: *This shall be fastened to an “approved” hard point and the tether adjusted so that the individual cannot break the plane of the doorway*

11. XVI.D Deleted: ~~That lookouts have been posted and their locations are known;~~

Chapter 12

12. I Added to the paragraph between important note and the caution: *trained in the proper use of fire extinguishers and crash rescue tools.....*

12. VI.A Added a reference to *Chart 9-7*

12. VI.B.1 Deleted: ~~in close proximity to the parking tender.~~

Chapter 13

13. III.A Replaced with: *Check with the local aviation manager for additional fuel spill prevention guidelines and requirements in place for various geographic locations due to local or national environmental concerns and constraints.*

13. VIII Exhibit 13-1 Added: *Bonding to grounding rod may not be required.*

13. VIII.C

C. ~~Rapid Refueling. There are two approved methods (Closed Circuit Refueling and Open Port) for fueling helicopters with engine(s) running.~~

~~Closed Circuit Refueling (CCR). This method of refueling uses a CCR system designed to prevent spills, minimized fuel contamination, and prevent escape of flammable fuel vapors.~~

~~Open Port. This method of refueling allows flammable fuel vapors to escape.~~

~~Rapid refueling of helicopters is permitted if requested by the Government, and the Contractor meets the following requirements:~~

~~Rapid refueling procedures in accordance with NFPA 407 are contained in the Contractor's FAA approved Operations Specifications and "rapid refueling" is authorized on the aircraft approval card.~~

~~Notwithstanding NFPA 407, a pilot is seated at the controls of the aircraft during refueling operations.~~

~~The aircraft is shut down every 2 ½ hours of continuous operation.~~

~~Personnel providing onsite fire protection are briefed on the Contractor's rapid refueling procedures.~~

Hot refueling of helicopters is permitted if requested by the Government.

Review the procurement document for requirements prior to any hot refueling operations.

Government personnel shall not refuel Contract aircraft unless the pilot requests Government assistance due to an emergency situation; or when the Government provides the fuel servicing system and dispensing personnel.

13. VIII.E Replaced with:

E. Fuel Servicing Vehicle Driver Qualifications:

Fuel servicing vehicle drivers shall comply with Department of Transportation Safety Regulation Part 390-399, and any duty limitations imposed by the helicopter procurement document (contract). Refer to the appropriate procurement document for specific requirements.

~~E. Service Truck Driver Requirements. These requirements and limitations must be in accordance with requirements in the procurement document.~~

~~1. Knowledge Required. A driver is required for each service truck. The driver must demonstrate an acceptable level of knowledge of correct fueling procedures and of the fueling and safety equipment installed on the fueling vehicle.~~

~~2. Licensing. The driver must possess a current Commercial Driver's License (CDL) with "Tank Vehicle" and "Hazardous Materials" endorsements.~~

~~3. Service Truck Driver Driving Time/Duty Day Limitations. Form HCM-15, Driver (Helicopter Attendant) Driving Time/Duty Day Cumulative Log, shall be used to monitor service truck driver driving time and duty limitations (see Appendix A). The driver is responsible for keeping the government apprised of ground duty limitation status. The service truck driver shall not exceed the following driving time and duty day limitations:~~

~~NOTE: Fuel servicing vehicle drivers shall comply with Department of Transportation Safety Regulation Part 390-399, and any duty limitations imposed by the helicopter procurement document (contract). The following Driving/Duty limitations may or may not apply. Refer to the appropriate procurement document for specific requirements.~~

13. X.A Added third bullet: *Refer to Aviation Fuel Management Handbook for additional information.*

13. X.B, C, D Replaced all of B, C, and D with:

B. Personnel Requirements at a Government-Operated Fueling Site. The following personnel are required on a government operated fueling site:

- *Two people are required to conduct the actual refueling of the aircraft (one may be the Fueling Specialist). One person operates the fuel nozzle; the other is required to be near the emergency fuel shutoff valve.*
- *Depending on the size of the operation, the fueling operation may also require the following:*
- *An Aircraft Base Radio Operator*
- *A Parking Tender*

C. Personal Protective Equipment. Government fuelers shall wear protective clothing as required in Chapter 9.

D. Fueling Site Layout. (See Exhibit 13-2) Fueling sites should be laid out according to the following general guidelines: (See Aviation Fuel Management Handbook for additional information)

- *The fueling site should be separate from the main area of helicopter operations.*
- *There should be a minimum of 140 ft separation between Type 1 helicopters if the aircraft are parked nose to tail and 200 ft of separation if parked side by side.*
- *There should be a minimum of 90 feet of separation between aircraft for Type 2 or 3 helicopters.*
- *The fueling equipment at a fixed fueling site (pump, fuel source) should be at least 25 feet outside the rotor disk of the nearest helicopter.*
- *The wind direction must be considered when setting up refueling points. Landing and takeoff directions must be selected to provide a direct or quartering head wind.*
- *Fueling activities generate a considerable amount of vapor. Because the vapor is an explosive hazard, the fueling activity should be situated to allow vapors to be dispersed by the prevailing wind.*

13. Exhibit 13-2 Change Title to: *Government Fueling Site Layout.* Deleted Upper Diagram on this page showing minimum distances

13. X.E, F Replaced E and F with:

E. Equipment Required. Equipment at the typical fueling site consists of the following:

- *A fuel source, which may consist of 55-gallon drum(s), 3 500-gallon collapsible fuel bladders, permanent or temporary tanks, or a fuel tanker.*
- *Pump Assembly.*
- *Filter and separator unit. The filter and the separator must be compatible with the pump assembly.*
- *Hoses, fittings, valves and nozzles. Enough equipment must be available to support the refueling setup that is envisioned; for example a one-point, two-point, three-point or four point set-up.*
- *Support equipment. This equipment will include items such as fire extinguishers, grounding rods, waste pans, five gallon containers of water, and absorbent material.*
- *Fuel sampling kit.*
- *Fire extinguishers should be located at each refueling nozzle and at the pump and filter assembly.*
- *A waste fuel pan should be located at each refueling point to wash dirt off the nozzles. The waste fuel pan or barrel is required to limit fuel spillage. Fuel spills should be handled according to the procedures outlined later in this chapter.*

F. Equipment Setup.

1. Distances. (See Exhibit 13-2.)

- *As stated, the fueling equipment (pump, fuel source) should be at least 25 feet outside the rotor disk of the nearest helicopter.*
- *The fuel source should be downwind of the aircraft exhaust to reduce the explosion hazard.*

13. X.G.3 Replaced from 2nd bullet through caution with:

When pressure differentials are at, or exceeding the manufacturer's recommendations, there is cause for concern. It is a very good indication the filter is holding back water and/or particles.

The following should be performed:

- *Sample fuel in tank*
- *Replace the element*
- *Recheck the pressure differential with new element in place.*

4. Flow Rate. Per specification on pump rating, determine flow rate in gallons per minute (GPM):

- *Recirculate fuel through the nozzle and into tank, and time the GPM.*
- *Substantially reduced flow rates from the minimum specified may be a good indication of a restriction in the element caused by particulate or water contamination. The following should be considered:*
 - *The filter may need to be changed.*
 - *The pump may not meet specifications.*
- *Remove filter element in the single cartridge Velcon or the monitor 3rd stage (inside the Teflon screen) and replace with new element.*

CAUTION: When changing elements, do not touch elements with dirty hands or gloves. Use clean gloves. Leave new element in package until the last step of placing element in canister.

- *Re-check the GPM flow.*
- *While recirculating check total system for leaks.*

13. X.H Replaced with:

H. Inspections and Quality Control. Every possible precaution must be taken to maintain quality assurance for fuel. Items which must be checked and maintained on a daily, weekly, monthly, annual, or as-needed basis are covered in the discussion of Form HCM-3, Aircraft Fuel Facility Inspection Log (in Appendix A). Inspections must be performed on the required basis, unless this is not feasible due to the remote location and infrequent use of a fueling site. In that case, a combination daily, weekly, and monthly inspection shall be performed prior to each use of the fueling site.

1. Daily Inspections. Fuel site and equipment must be visually checked daily for leaks. If found, local procedures for hazardous materials spills should be followed. In addition, check for water or particulate contamination in the fuel source by:

- *Checking the bottom of storage facilities tanks for water, using water draw-off connections (sumps) and a visual test on a water-finding paste (allow the paste to remain in contact with the fuel for 30 seconds). Look for paste to change colors.*
- *Checking for and removing any water from fueler tanks. A water check should also be performed after every reloading of the fuel container, washing of equipment, and after a heavy rain or snowstorm. Utilize the "clear and bright" test explained earlier in this chapter.*
- *Visually checking for particulates as explained earlier in this chapter.*
- *Checking all three-stage and Velcon filter/separator manual water drains for water and other contaminants after each receipt of fuel, as well as on a daily basis. Draw off any accumulation of water.*

- *Checking and recording all fueler and fixed filter and filter/separator differential pressures while under full flow conditions. A graph-type log may be used in plotting differential pressure daily. Any sudden change or decrease in pressure differential may indicate a ruptured filter.*

Chapter 14

14. II Deleted from the last sentence: "...usually by checking carding or approvals"...
14. II.A Replaced: *The aircraft shall be has been* ...
14. VII.A Deleted last sentence of first paragraph: "As stated previously ..."
14. VII.A.2 Replaced with:

Turbine Engine Power Assurance Check. *A Power Check shall be accomplished on the first day of operation and thereafter within each 10 hour interval of contracted flight operation unless prohibited by environmental factors (e.g. weather, smoke). The power assurance check shall be accomplished by the contractor in accordance with the Rotorcraft flight manual or approved (per AMD/USFS maintenance) company performance monitoring program. The results shall be recorded and either kept in the helicopter or at the assigned work location. A current record of the power check will be maintained with the aircraft under the contract and any renewal period.*

Helicopters with power output below the minimum published performance charts shall be removed from service. The below minimum power condition shall be corrected before return to service and contract availability.

NOTE: Turbine Engine Power Assurance Checks for some aircraft cannot be trended. The reading may be correct or incorrect, or above or below specification, instead of having a numeric value.

See procurement document and Appendix A for more specific information on Power Checks.

Chapter 15

15. V Second paragraph: ~~Chapter 2 contains training, qualification, and experience requirements.~~
- Fourth paragraph: ~~and information in Chapter 2~~ *found in other policy documents.*
15. V.A Deleted the first paragraph in the Note: ~~The TOLC must be qualified Helibase Manager Type II Trainee...~~
15. V.A, B, C, D, F, G, H, (See chapter 2, Chart 2-3, for qualifications and training requirements)
- Deleted non 310-1 mnemonics: ~~ATIM, PARK, LOAD, HESM~~
15. V.G Changed: "required" to "***strongly recommended***" in the note.

15. V.I Changed to: **I. Helispot Manager (HESM).** (~~See chapter 2, Chart 2-3, for qualifications and training requirements~~) Since helispots are physically separate from the helibase, resulting in the inability of the Helibase Manager to oversee and monitor helispot operations, it is essential that the Helibase Manager assign ~~trained and qualified Helispot Managers~~ **Helicopter Crewmember personnel** to supervise these sites. Individual knowledge and skill levels vary, every effort should be made to assign the most capable person based on the complexity and nature of the assignment.

Chapters 7, 8, 9, 10, and 11 and Appendices A and B provide information on load calculations/manifesting, helicopter landing areas, and personnel/cargo transport requirements. ~~The Helispot Manager~~ **Helicopter Crewmembers assigned to manage a helispot are** responsible for providing the Helibase Manager with information for HBM-2, Aviation Locations Summary.

15. VII.A Changed to: Helispot Managers should work and communicate closely with the helibase and ~~Helibase Manager~~ **incident supervisor** for the area on both logistical and tactical needs at the helispot.

15. XV.A Changed to: A. Operations Involving Military Helicopters. Operations involving use of military helicopters can increase the complexity of a helibase operation. ~~Although use is generally addressed in this guide, the Helibase Manager should consult the Aircraft Chapter of the Military Operations Guide for specific policy and procedural information.~~ **For aviation operations utilizing Active Duty/Reserve Military helicopters, and National Guard units officially "federalized" by DoD, refer to Chapter 70 of the Military Use Handbook for specific policy and procedural information.**

The use of National Guard units for federal firefighting purposes within their state must be outlined in national, regional, state or local agreements and Memorandums of Understanding (MOUs) between federal agencies and the specific National Guard units.

Chapter 16

16. III, B Changed to: **B. Helicopter Rappelling And Shorthaul.** All rappel/shorthaul missions conducted by agency law enforcement personnel shall conform to the procedures outlined in the Interagency Helicopter Rappel Guide (IHRG) **or the Interagency Shorthaul Guide whichever is applicable.** Rappellers from other agencies and the military must adhere to their agency requirements.

16. 3.V B Changed to: In certain life threatening emergencies and/or covert operations, it may be necessary for **law enforcement** personnel to ~~ride in unapproved aircraft and/or with unapproved Pilots~~ **deviate from policy for life and death situations.** **This may include PPE deviations, seating configurations, and riding in unapproved aircraft and/or with unapproved Pilots.** These situations usually involve search and rescue or medevac operations being conducted by local authorities using public agency, military, commercial or private aircraft

Chapter 17

17. V.A Changed to: **A. Emergency Operations.** ~~In emergency situations~~ *certain life threatening emergencies* it may be necessary for ~~unqualified personnel to ride in unapproved aircraft and/or with unapproved Pilots.~~ *to deviate from policy for life and death situations. This may include PPE deviations, seating configurations, and riding in unapproved aircraft and/or with unapproved Pilots.* These situations usually involve ~~the potential loss of life or limb where evacuation~~ *search and rescue or medivac* operations being conducted by local authorities using public agency, military, commercial or private aircraft.

NOTE: Don't become part of the emergency! Choose an aircraft capable of meeting performance requirements for the mission.

~~Search and rescue employees are authorized to use unapproved aircraft and Pilots during the emergency phase of the operation when, in the Incident Commander's best judgment, it is deemed necessary to do so to save a life.~~

17. X.A Added to 3rd bullet: *Carry latex gloves for protection from patient body fluids and blood-borne pathogens. Proper body substance precautions should be utilized in transport of the deceased.*

17. X.B Deleted "trained": **B. Transport of Canines.** *All canines shall be either muzzled and secured to a hard point or contained in a restrained portable carrier. Canines shall be transported in the rear of the helicopter and accompanied by a ~~trained~~ handler.*

Appendix A All forms and directions updated

Appendix B All forms and directions updated

Appendix C Crash Rescue Plan added

Appendix D Minor changes in Contracting Personnel description of duties, deleted instructions for FS-122 and OAS -23, referenced CWN Contract and Flight Use Invoice for directions

Appendix E Crew/Base Readiness Evaluation updated

Appendix F Briefing/Debriefing checklist updated

Appendix G Deleted/Reserved

Appendix H No changes

Appendix I Checklist updated

Appendix J Deleted/Reserved

Appendix K Updated

Appendix L Deleted/Reserved

Appendix M *R-44 Diagram added*