CHAPTER 50
AIRCRAFT

Aircraft may be used for a wide range of activities, including point to point transport of personnel, equipment, and supplies. Tactical use may include applications such as retardant delivery, helicopter logistical and tactical support, air tactical and lead plane operations, suppression or pre-suppression reconnaissance, and aerial ignition. For more information review the National Aviation Safety and Management Plan at: https://www.fs.fed.us/fire/aviation/av_library/2017-2018%20NASMP%20Approved%2024%20Jan%202017%20Directives%20Hyperlinks%20Updated%2026%20Ja....508_Coverfixed.pdf

AIRCRAFT MOBILIZATION Refer to NMG 50

Units requiring aviation services other than those assigned to them, through preapproved agreements, or within their dispatch boundaries, can order additional aircraft from adjacent units or through NWCC. At preparedness Levels 3-5, NWCC will coordinate aircraft assignment and utilization in the Northwest Area. The control of the aircraft assigned to a unit will remain with the local unit. In situations where the Northwest Multi-Agency Coordinating Group (NWMAC) has been activated, the NWMAC will coordinate with NWCC and local units on allocation and prioritization of aviation resources.

AIRCRAFT SOURCES

Sources for aircraft include agency-owned aircraft, Exclusive-Use and Call-When Needed (CWN) or On-Call Light Fixed Wing Aircraft and Helicopters. These aircraft may be ordered through established dispatch channels. Forest Service CWN helicopter contractors are assigned to a Host Forest Unit for administrative purposes and processing of Flight Invoices. Refer to CWN listings for helicopters and light fixed wing aircraft at website: http://www.fs.usda.gov/detail/r6/fire-aviation/?cid=fsbdev2_027111

DOI Bureaus may use the Office of Aviation Services (OAS) aircraft source list at website: https://www.doi.gov/aviation/aqd/aviation_resources Rental aircraft are signed up by the OAS under an Aircraft Rental Agreement (ARA). Cooperator and military may be utilized provided an agreement and approval are in place. Currently, Forest Service must contact the OAS Flight Coordination Center for assistance with the source list resources: call Vicky Johnston 208-334-9314 or Richard Davis 208-334-9315.

All aircraft and pilots must be approved and carded by either USDA Forest Service (USFS) or Office of Aviation Services (OAS). Passengers of rental or contract aircraft are personally responsible for checking the aircraft and pilot approval certificates. The Aircraft Approval Certificate must be in the aircraft and the pilot must carry a Pilot Approval Certificate. If either is missing or not current, do not use the aircraft.

FLIGHT MANAGEMENT PROCEDURES Refer to NMG 50

All point-to-point flights will be documented on the Aircraft Flight Request/Schedule form (NWMG 80). The pilot or manager is responsible for completion of the form and providing it to their current dispatch prior to take off. Dispatch will be responsible for relaying to receiving units either by fax or electronic mail.

Sterile Cockpit at/near airports: All aircraft with agency communication radios will monitor FAA VHF air traffic frequencies and agency guard frequency (for emergency only) within 5 miles of controlled or uncontrolled airport. A standard protocol for flight following communications related to the sterile cockpit environments is as follows:

Departing aircraft will contact flight follower prior to taxi. (This insures that flight follower is aware of

pending aircraft movement, that radios work, and that the frequencies are correct.)

After taxi, takeoff and when more than 5 miles from airport, aircraft manager or pilot will advise flight follower of position and direction of travel.

Flight manager or pilot will advise flight follower of position and intent to land.

At completion of taxi and prior to shutdown, flight manager or pilot will advise follower that the flight is terminated.

On departure air tankers will stop communicating on agency frequencies after reporting "rolling". All other aircraft will stop operation on agency radios before entering the active runway, or before rolling or before lifting off (helicopters). Once the aircraft has flown 5 miles from the airport resume routine check-in and communication procedures on agency radios.

On arrival all aircraft will cease communicating on agency frequencies (except for emergencies) at a distance of five miles from the airport. The pilot will radio the dispatcher and advise they are either under FAA control or five miles from landing. After landing, and once clear of the active runway, communication with dispatch or the base may resume.

There may be occasions where a wildfire occurs within five miles of an airport making it impossible to maintain the sterile cockpit until departing. Under these circumstances, the departing aircraft shall maintain a sterile cockpit until departing the traffic pattern and reaching final altitude. At this time the aircraft may resume any "mission required" communications on agency frequencies. The pilot will continue to monitor FAA VHF air traffic frequency until engaged in the firefighting activity but should continue to monitor the FAA frequency.

Upon completion of the wildfire mission or after being released, the pilot shall immediately select and monitor the FAA frequency, if not already monitoring it, and maintain a sterile cockpit until aircraft has taxied to stop.

In addition to responsibilities in NMG 50 the Sending Units are to:

- Ensure that all personnel are properly briefed on flight following procedures
- Ensure all personnel are familiar with aviation safety requirements prior to being transported in fixed-wing or rotor-wing aircraft
- Order an approved/carded aircraft from a vendor that meets safety/performance requirements and cost effectiveness for transport of personnel/cargo. Ensure the pilots file an FAA VFR or IFR flight plan.
- Flight following the aircraft to its final destination in communication with the pilot and/or flight manager. Advise the pilot of any exception to routine flight following procedures: i. e. alternate telephone numbers, etc.
- Obtain ATD (Actual Time of Departure) from initial departure airport, from pilot/vendor or flight manager.
- Communicate to NWCC through established dispatch channels all flight plans that cross dispatch zone boundaries.
- Notify receiving units and NWCC of any delays/advances of a flight plan exceeding 30 minutes.
- Initiate search procedures for overdue aircraft. Utilize agency Aviation Mishap Response Plan as appropriate and notify NWCC of overdue aircraft.
- Advise Unit Aviation Manager when pilot/or fight manager do not comply with their responsibilities

as outlined in the unit aviation plan.
- Initiate an aircraft SAFECOM report if appropriate.

In addition to responsibilities in NMG 50, the Receiving Units are to:
- Notify the sending unit of any aircraft that has not arrived within 30 minutes of ETA. If problems are encountered contacting the sending/originating unit, contact NWCC.
- Assist in the search for overdue aircraft. Advise NWCC of action taken.

AUTOMATED FLIGHT FOLLOWING (AFF) PROCEDURES Refer to NMG 50

AIRCRAFT ACCIDENT/INCIDENT REPORTING

Personnel shall report immediately all aircraft accidents/ incident to appropriate agency/department officials.1-800-4-MISHAP (1-800-464-7427) SAFECOMS are to be submitted through interagency webpage: https://www.safecom.gov/

Internal follow-up phone calls must also be immediately made to the appropriate Agency State or Regional Aviation Manager or Regional Aviation Safety Manager (USFS).

Reports to the FAA may be made directly with the Western Region Operations Center at 425-227-1999. This is a 24 hour number for Accident and Incident Response.

OVERDUE AND MISSING AIRCRAFT

If an aircraft fails to arrive at its destination or fails to check in on the prescribed interval, initiate the Interagency Mishap Response Guide and Checklist.

AIRTANKERS Refer to NMG 50

There are 5 types of airtankers:

TYPE	CAPACITY (minimum)
VLAT	8,000 gallons or more
TY1	3000 to 7,999 gallons
TY2	1800 to 2,999 gallons
TY3	800 to 1,799 gallons
TY4	Up to 799 gallons

AIRTANKER USE in OPTIONAL and POST SEASON PERIODS Refer to NMG 50

AIRTANKER DISPATCHES (LOADED VS EMPTY)

Ordering Units may request air tankers loaded or empty. Some aircraft have capabilities and flight limitations which may preclude the dispatch of loaded air tankers (two (2) hour maximum flight when loaded, except for the VLATs).

AIRTANKER BASES Refer to Airtanker Dispatch Guide Map, NWMG 80

Northwest Airtanker Bases have Host Dispatch Centers and associated units. The units listed in the following table may order air tankers directly from the Host Dispatch Office.

Units outside this association may order these aircraft as specified in Northwest Area Neighborhood Concept, NWMG 10 to the dispatch offices identified as follows:

BASE	HOST	UNITS
Medford	RVC	UPF, EIC, KFC, SUF, KNF (R-5), SRF (R-5), LFC, MED, CBD, ROD, ORS, CDF THRU KNF/SRF, NZF WITH FOLLOW UP NWC
Redmond	COC	EIC, MAF, CCC-MHF, SUF, COC, LFC, SAD, BIC, VAD, ORS, KFC, GPF, UPF, WSA
La Grande	BMC	MAF, UMF, WWF, ORS, BIC, PAF(R-4), NPF(R-1), VAD
Klamath Falls	LFC	COC, RRF,LFC, KFC, CNP, BNP, UKR, UPF, ORS, KNF(R-5) NZF WITH FOLLOW UP THRU NWC, CDF (IA ONLY)
Moses Lake	CWC	COF, PSC, CCC-GPF, CWC, COA, YAA, SPA, SPD, CDP, COR, LPR, TBR, WAS, IPF(R-4)

Host Base Dispatcher will send the Billing Forest a copy of the Resource Order, with estimated costs as soon as completed. For USFS incidents, the Billing Forest is referred to as “Fire Forest”. See more about Fire Forest Concept in NWMG 10. Host Base Dispatchers should refer to Forest Service Handbook 6509.11K for billing procedures to USFS Units and Cooperators.

STATE COOPERATOR AIRTANKERS

The State of Oregon Department of Forestry has contract DC-7 airtankers. **These airtankers are not approved to be used on federal land** or under a federal agency’s operational control, except as stated below**.** Refer to Oregon Department of Forestry Air Tanker Operations Plan.

USE OF NON-FEDERALLY APPROVED AIRCRAFT

Under Clause 27 of the 2015 Master Cooperative Fire Protection Agreement, Independent Action, any agency may assign its respective aircraft to an incident in which a wildfire is deemed a threat to lands under its jurisdiction. In such instances, the resulting interagency mix of aircraft sharing the same airspace is allowed as long as common communications, command/control, and on-scene operating procedures exist to ensure a safe and efficient aviation operation.

If the decision is made to use an unapproved aircraft, the Line Officer must call the State Office/Regional Office (SORO) Duty Officer (503-808-2775) and advise him/her of the risk-informed decision, and document the decision. The SORO Duty Officer will then contact the Coordinator on Duty at the NWCC to notify them of the decision. The local dispatch center, in coordination with the NWCC, will attempt to replace the unapproved aircraft with an approved federal aircraft as soon as possible and make the appropriate notification.

The ODF DC7 airtankers may be used on Bureau of Land Management (BLM) and Forest Service lands in Oregon without prior Federal Line Officer approval only *on incidents managed under State and Federal*

unified command in which the State retains operational control when utilizing ODF airtankers to protect its interests.
For additional questions please contact Aaron Schoolcraft, Pacific Northwest/Alaska Regional Aviation Officer, at 503-808-2359 or aschoolcraft@fs.fed.us, or Kurt Kleiner, BLM State Aviation Manager, at kkleiner@blm.gov or 503-808-6593

MODULAR AIRBORNE FIREFIGHTING SYSTEMS (MAFFS) Refer to NMG 50

SINGLE ENGINE AIRTANKERS (SEATS) Refer to NMG 50 and Interagency SEAT Operations Guide

LEAD PLANES Refer to NMG 50
Lead planes are considered National Interagency Resources. Three USFS leased lead planes based out of Redmond:

Tail #	Make/Model	Passenger	Flight Rate Per hour
N64GT	King Air 90	6	$652.00
N556MC	King Air 200	8	$767.00
N904JG	King Air 90	6	$652.00

The Aerial Supervision Module (ASM) is a fixed wing platform with two (2) crew members who perform air attack and lead operations. They are trained to work as a team.

NORTHWEST LEAD PLANE/ASM PILOTS

PILOT	CALL SIGN	STATUS	HOME BASE
	Lead 6-2	L-M-A	Redmond
Trevor Stellrecht	Lead 6-3	L	Redmond
Ron Vail	Lead 6-4	L-M-A-C	Redmond
Karl Olson	Lead 6-7	T	Redmond
Status Legend: **L= Lead plane Qualified M=MAFFS Qualified A=Qualified ASM and Lead plane I=Mission Instructor C= Mission Check Pilot and Instructor T= In training**			

For a list of all Lead Plane and ASM Pilots refer to:
http://www.nifc.gov/nicc/logistics/aviation/Lead_Planes.pdf

AIR ATTACK PLATFORMS

HOST	LOCATION	ATGS	AIRCRAFT
BMC	La Grande	Larry Aragon	N22N
COC	Redmond	Vacant	N37H
CWC	Wenatchee	Pat McCabe	N31WD
LFC	Lakeview	Danny Williams	N93ME
RVC	Medford	Mike Demello	N690JK

SMOKEJUMPER AIRCRAFT
All smokejumper aircraft in the Northwest Area will be identified by using the Aircraft Identifier listed below. For a list of all Smokejumper Aircraft refer to:
http://www.nifc.gov/nicc/logistics/aviation/Smokejumper_Aircraft.pdf

AIRCRAFT ID	TAIL #	TYPE	BASE	FLIGHT RATE
Jump 78	N178Z	Sherpa	Redmond	$2280.00/hr.
Jump 73	N173Z	Sherpa	Redmond	$2280.00/hr.
Jump 09	N109BH	Casa 212	Winthrop	$1708.00/hr.

AERIAL SUPERVISION

AERIAL SUPERVISION ROLES AND RESPONSIBILITIES

There are five types of aerial supervision resources and six aerial supervisor classifications. Although these positions are unique, they share the common purpose of facilitating safe, effective, and efficient air operations in support of aerial/ground operations and incident objectives.
In the Northwest Area the following resources will be considered Tactical Aviation Resources: Airtanker, Heli-tanker, SEAT, Lead Plane, ASM, Air Attack Platform, Smokejumper, Rappel and Heli-tack Operations ordered from neighboring geographic units utilizing the border agreements for initial attack without going through NICC. Resources are ordered using the Tactical Aviation Resource Order form (TARO) with a follow up order in ROSS. Refer to NWMG CH80, Forms.

On Dispatch of Tactical Aviation resources, the Host Dispatch Office will send a commit message to all NW area units and NWCC using electronic mail.

Tactical aviation resources will be ordered based on the closest forces concept. Units requesting tactical aviation resources will provide the following information on the TARO and/or in ROSS.

1. Legal Description of fire.
2. Latitude and Longitude of fire.
3. Radio Frequencies to be used.
4. Ground Contact and/or air attack call sign.
5. Flight Hazards (Military Training Routes, Special Use Airspace etc.).
6. Other Aircraft in area.
7. Reload Base for Air tankers, SEATS, and Heli-tankers Site.
8. 2 VOR's and DME

AERIAL SUPERVISION REQUIREMENTS

The use of a lead plane or ASM greatly increases the effectiveness, economy, and safety of air operations. The following table is found in Chapter 3 of the Interagency Aerial Supervision Guide which is available at: https://www.nwcg.gov/sites/default/files/pms505.pdf

Aerial Supervision Requirements
When aerial supervision resources are co-located with retardant aircraft, they will be launched together on the initial order to maximize safety, effectiveness, and efficiency of incident operations. Incidents with three or more aircraft assigned will have aerial supervision ordered. Federal policy dictates additional requirements as listed below.

Incident Aerial Supervision Requirements ***ASM can perform all LEAD missions.			
SITUATION	**HLCO**	**LEAD**	**ATGS / ASM*** **
Three or more aircraft assigned to incident	If no ATGS AND only rotor wing	If no ATGS AND only fixed-wing	ORDERED

Airtanker (Multi-Engine) Drops conducted between 30 minutes prior to, and 30 minutes after sunrise, or 30 minutes prior to sunset to 30 minutes after sunset.	N/A	REQUIRED IF NO ATGS	REQUIRED IF NO LEAD
MAFFS / VLAT	N/A	REQUIRED	N/A
Airtanker not IA carded	N/A	REQUIRED	N/A
Level 2 SEAT operating on an incident with more than one other tactical aircraft on scene.	N/A	REQUIRED IF NO ATGS	REQUIRED IF NO LEAD
Foreign Government Aircraft	N/A	REQUIRED IF NO ATGS	REQUIRED IF NO LEAD
Congested Area Fight Operations	CONSIDER	ON ORDER	REQUIRED
Periods of marginal weather, poor visibility or turbulence.	REQUIRED IF NOT ATGS	REQUIRED IF NO ATGS	REQUIRED
Military Helicopter Operations	ON ORDER	N/A	REQUIRED
Night Helicopter water dropping operations with 2 or more helicopters.	N/A	N/A	ORDERED
When requested by airtanker, helicopters, ATGS, Lead, ATCO, or ASM.	REQUIRED	REQUIRED	REQUIRED

Definitions of key aerial supervision terms

- **Required**: Aerial supervisory resources that shall be over the incident when specified air tactical operations are being conducted.

- **Ordered**: Aerial supervisory resources shall be ordered by the incident host. (Air tactical operations may be continued while the aerial supervision resource is enroute to the incident. Operations can be continued if the resource is not available).

TACTICAL AVIATION RESOURCES PRIORITIZATION

The criteria listed below will be used to set prioritization of airtankers, SEATs, and Heli-Tankers. When requesting one of the above resources, the requesting unit will note the appropriate criteria number **and** threat on the resource order in the Special Needs box in ROSS.

Airtanker, SEATs, and Heli-Tanker Criteria for Prioritization.

1. Imminent threat to human life;
2. Imminent threat to communities, communities' infrastructure, historically significant cultural resources, commercial businesses and principal residences;
3. Threats to other structures and improvements such as seasonal homes, cabins and high value outbuilding;
4. Threats to natural resources;
5. Threats to low value structures.

TACTICAL AND RECONNAISSANCE AIRCRAFT Refer to NMG 50

HELICOPTERS

HELICOPTER TYPES

TYPE	PASSENGERS	OR LOAD CAPACITY
1	16 or more	5,000 lb.
2	10-15	2,500 lb.
3	5-9	1,200 lb.
4	4 or fewer	600 lb.

HELICOPTERS CALL-WHEN-NEEDED (CWN) Refer to NMG 50

Type 3 helicopters may be ordered through established dispatch channels. Forest Service CWN helicopter contractors are assigned to a Host Forest Unit for administrative purposes and processing of Flight Invoices. Refer to website for CWN listing:
http://www.fs.usda.gov/detail/r6/fire-aviation/?cid=fsbdev2_027111

All agencies may use OAS aircraft source list for hiring type 3 helicopters. AMD website:
https://www.doi.gov/aviation/aqd/aviation_resources
Please note, at time of printing this website is only available through BLM Bison Connect.

CWN Type 1 and Type 2 helicopters are National Resources and are administered by NICC. All ordering of Type 1 and 2 helicopters will be done through normal dispatch channels to NICC. CWN helicopters do not come with a module. When ordering, identify a helicopter manager in the Special Needs box. Helicopter managers and/or modules will meet the assigned helicopter off-site from the incident prior to performing work. Reassignments of these helicopters will require prior approval from NICC.

EXCLUSIVE USE CONTRACT HELICOPTERS Refer to NMG 50

Forest Service Exclusive Use Helicopters may be moved to an alternate base of operations with prior concurrence of the NWCC Emergency Operations Manager. These actions are taken at the direction of the host unit after checking with their Neighboring Units and Cooperators before committing helicopters to other projects.

The following actions require prior approval from the NWCC Emergency Operations Manager:

- Any planned action which makes the helicopter unavailable for dispatch for 30 minutes or more
- Assignment to a project fire
- Placing a backup helicopter on duty
- Reassignment to a new base of operation for 2 or more days
- Pre, post, and regular season “Add-on” helicopters when Agency Exclusive Use Helicopters are dispatched off unit, they will depart with their normal daily staffing unless additional personnel and/or equipment have been authorized.

STATE OF WASHINGTON HELICOPTERS

The State of Washington Department of Natural Resources (WADNR) has USFS inspected and approved helicopters and pilots for transporting external cargo, and conducting bucket operations within specified limitations. USDI agencies may utilize WADNR helicopters and pilots in accordance with OAS acceptance of USFS approval.

Washington DNR pilots and aircraft are "Approved" for use each year by means of a "Cooperator Aircraft Letter of Approval" issued by the USFS Regional Aviation Officer and OAS on dual Agency Letterhead. The letter is required to be carried onboard all WAS aircraft utilized on Federal incidents. This letter lists all approved aircraft, service vehicles, pilots, and authorized missions. Helibase or helicopter managers must use this letter to verify approvals and qualification prior to assignment of any duties.

Washington Department of Natural Resources Manual requirements apply to WADNR personnel and equipment regarding Personal Protective Equipment (PPE), load calculations, flight following and flight/duty limitations. Only the pilot may be onboard during external load operations.

HELICOPTER EMERGENCY MEDEVAC EXTRACTION ORDERING PROCEDURES

If a helicopter medevac extraction (short-haul or hoist) is needed in Oregon or Washington, refer to the Emergency Medical Evacuation information on the NWCC website for contacts, map, and ordering procedures for approved and available interagency and cooperator medevac and extraction resources: http://www.nwccweb.us/logistics/aviation.asp

The Okanogan-Wenatchee NF hosts a short-haul helicopter and crew. For more information, contact Central Washington Interagency Communication Center at 509-884-3473.

Mount Rainer and North Cascades National Parks will have one short-haul resource available between the two parks for local and extended response in Washington. Contact Puget Sound Interagency Communication Center 425-783-6150.

Some years the Oregon National Guard (ORARNG) has been willing to relocate and provide exclusive support for wildland fire operations in Oregon. When the ORARNG is able to provide this service via Oregon Department of Forestry through Op Plan Smokey, ordering protocols for medevac and extraction will be posted on the NWCC website Emergency Medical Evacuation page (see link above).

When approved interagency and cooperator aircraft are not available, refer to the Emergency Helicopter Extraction Source List (EHE Source List) for other capable aircraft and ordering procedures. In Oregon, the county sheriff local to the incident is responsible for emergency rescue responses. When in need of non-interagency resources from the EHE Source List in Oregon, initiate an order by calling 911 in the county in which the incident occurs. In Washington, Forests/Units may coordinate with the local county sheriff or go direct to the Air Force Rescue Coordination Center (AFRCC). AFRCC serves as the single agency responsible for coordinating inland search and rescue activities and can be reached at 1-800-851-3051. Refer to Appendix 4 of the EHE Source List for a checklist of information AFRCC must have before activating any extraction resource. There are no guaranteed time frames for helicopter extractions. Refer to: http://www.fs.fed.us/fire/aviation/av_library/ehe_source_list.pdf

For line personnel emergency medevacs, contact your host dispatch or IMT to coordinate medical transport.

OREGON AND WASHINGTON ARMY NATIONAL GUARD HELICOPTERS

To order Oregon (ORARNG) or Washington Army National Guard (WAARNG) helicopters for work on federal fires, the USFS will place requests through Oregon Department of Forestry or Washington Department of Natural Resources, respectively which then place the request with the respective state's Office of Emergency Management. Refer to JFHO ORNG EMERGENCY OPERATIONS PLAN; OPERATION SMOKEY for specifics on how the ORARNG are activated and ordered.

LARGE TRANSPORT AIRCRAFT Refer to NMG 50

AIRBORNE THERMAL INFRARED (IR) FIRE MAPPING Refer to NMG 50

INFRARED SERVICES/ PACIFIC NORTHWEST
Infrared mapping services are available for use on any wildland fire activity and are obtained through NWCC in accordance with the National Infrared Operation Plan. Requests to NWCC will be via resource order in ROSS and will have a completed Infrared Scanner Request in NIROPS.

AIRSPACE COORDINATION

UNMANNED AIRCRAFT SYSTEMS
UAS or "drones" may be used by federal agencies on incidents and projects in accordance with agency policy, and only with prior planning, consultation, and approval by the respective regional and national level agency Aviation Managers. *Refer to the NWCG Interagency Fire Unmanned Aircraft Systems Operations Guide (PMS-515) found at* https://www.nwcg.gov/sites/default/files/publications/pms515.pdf for more information.

TEMPORARY FLIGHT RESTRICTIONS (TFR) FAR 91.137 Refer to NMG 50
Temporary airspace restrictions will be established when incident related aviation activities present potential conflict with other aviation activities in the airspace.

To prevent congestion of nonessential aircraft over a disaster area, the Unit Dispatcher will:

1. Create a request for the TFR in ROSS under Aircraft, as well as completing the TFR request form.
2. Place the ROSS request to NWCC, along with a faxed copy of the completed TFR request form.

The current TFR request form is available at: http://gacc.nifc.gov/nwcc/content/pdfs/tfr.pdf

The FAA requires that latitude/longitude information for TFR's must be provided in degrees, minutes and seconds, including reference to north latitude and west longitude. If seconds' information is not available, add two (2) zeros to the description. Do not use spaces, commas, or other symbols in the description. Example: ddmmssN/dddmmssW or 450700N/1175005W. The corner points should be listed in a clockwise sequence around the requested TFR *beginning with the northwestern corner* to avoid "bow tie" depictions.
TFRs involving Military Training Routes or *Special Use Airspace* require additional notification of that closure to the scheduling military base.
When restrictions are no longer needed, unit dispatchers will cancel, or downsize the TFR with NWCC.

MILITARY TRAINING ROUTES AND SPECIAL USE AIRSPACE
Military Training Routes and Special Use Airspace often present conflicts with incident related aviation. Aviation activities will be identified by local units and the DOD units will be contacted for deconfliction. When requesting the interruption of MTR/MOA, Unit Dispatchers need to contact the scheduling activity/agency. For Military Training Routes, phone numbers of all scheduling activities are located in DOD AP-1B. For Special Use Airspace (Military Operations Areas, etc.), the name of the controlling FAA ARTCC is found on the appropriate aeronautical sectional chart. Local unit dispatch centers have direct contact numbers for specific military airspace managers for the purpose of deconflicting each SUA. Refer to NMG 50 and the Interagency Airspace Coordination Guide for

more information: http://www.airspacecoordination.net *(Note: This document will be posted to the NWCG website after final edits and publication are completed by June, 2018).*

AIRSPACE COORDINATION

It is essential that all personnel involved in flight planning and aviation operations read, understand, and implement the procedures outlined in the INTERAGENCY AIRSPACE COORDINATION GUIDE Chapter 2 Roles and Responsibilities located at: www.airspacecoordination.net.

It is the Incident's HostUnits responsibility to initiate de-confliction procedures for flights involving Military Training Routes or Special Use Airspace also as outlined in Chapter 2.
Knowing and applying the appropriate procedures will enhance aviation safety when our use of the National Airspace System is coordinated with the FAA, DoD, and other users.

AIRSPACE BOUNDARY MANAGEMENT PLAN

Aerial operations on, or adjacent to agency/cooperator boundaries and areas where a neighboring agency/cooperator provides fire suppression on lands administered by the adjoining agency/cooperator (mutual aid, shared or exchanged initial attack areas or zones) require increased management and coordination. The requirement for increased management and coordination is due to the possibility of two or more agencies/cooperators conducting simultaneous, uncoordinated aviation operations within those areas that would unknowingly put the responding aircraft within close proximity to one another, placing aircraft and crews at risk. The purpose of this plan is to identity such boundaries and initial attack zones and provide a means of communication, coordination, and airspace de-confliction within those areas.

GUIDELINES & PROCEDURES

An imaginary 10-mile-wide "neutral air" corridor will center on agency/cooperator boundaries. The neutral air for mutual or exchanged initial attack areas or zones will encompass the whole zone.

- Any agency conducting aerial operations within a corridor or zone will immediately notify the adjoining agency/ cooperator of such operations. This is accomplished to and from dispatch offices prior to the commencement of operations and when operations cease. Examples of aerial operations include recon, fire suppression missions, special aviation projects, resource management flights, helicopter logging, etc.
- Agency aircraft will establish contact on the assigned air-to-air frequency. Should contact not be made, the contact air-to-air frequency will be Air Guard 168 .625 MHZ. This frequency will be designated for initial contact and coordination between converging aircraft within corridors and zones only when contact is not otherwise possible. Because this frequency is programmed as the default receive frequency in all agency and contract aircraft FM radios, and is intended for initial contact and emergency purposes only, it is imperative that this frequency not be used for tactical or logistical purposes . If Air Guard is used to establish initial contact, aircraft are expected to switch to an alternate frequency (e.g. the local or incident air-to-air frequency, etc.)
- When aircraft from two or more adjoining agencies/cooperators are being committed to the same general area of a corridor/zone:
    - Considering complexity, dispatch an Air Tactical Group Supervisor (ATGS)
    - Approaching aircraft will establish air-to-air frequency contact prior to entering the area
    - Aircraft rely upon dispatch centers for current relevant information. Therefore, coordination between dispatch centers must occur prior to dispatch.
- When an aircraft is dispatched to an incident within a corridor/zone and no other aircraft are known to be present the approaching aircraft will:
    - Attempt to establish contact on the assigned frequency. If unsuccessful, Air Guard

frequency 168 .625 MHZ will be used.
- Perform a high-level recon prior to low-level.
- Practice “see and avoid”.

- The dispatch initiating the flight will notify and coordinate with the adjoining agency/cooperator dispatch.
- Temporary Flight Restrictions (TFRs) within or in close proximity to corridors/zones will be coordinated and information shared between the responsible dispatch offices.

AVIATION BOUNDARY OPERATIONS CHECKLIST
The boundary zone between adjacent jurisdictional agencies has the potential for conflicted airspace when more than one center or agency dispatches aviation resources to these areas.

The definition of boundary zone area for the purposes of conflicting airspace will be defined as an area five (5) nautical miles either side of jurisdictional boundaries.

Aviation Dispatchers are responsible for assuring that agency aircraft dispatched to initial or extended attack incidents leave their bases with accurate mission information.

IF AIRCRAFT ARE CROSSING OR WORKING IN CLOSE PROXIMITY TO UNIT BOUNDARIES, USE THE FOLLOWING CHECKLIST:

HAVE NEIGHBORING DISPATCH CENTERS BEEN NOTIFIED OF YOUR RESPONSE? Yes No

HAVE COMMON FREQUENCIES BEEN ASSIGNED TO ALL RESPONDING AIRCRAFT? Yes No

IF EXTENDED ATTACK, HAVE DISPATCH CENTERS AGREED ON THE SINGLE ORDER POINT FOR INCIDENT RESOURCES? Yes No

ARE FLIGHT CREWS AWARE OF ORDER POINT AND FLIGHT FOLLOWING CENTER? Yes No

DO YOU HAVE AN EXISTING TEMPORARY FLIGHT RESTRICTION (TFR) ON YOUR UNIT? HAVE YOU NOTIFIED COOPERATING AGENCIES? Yes No

ARE THERE MILITARY TRAINING ROUTES, (MTR) OR SPECIAL-USE AIRSPACE (SUA) IN THE INCIDENT AREA? HAVE FLIGHT CREWS BEEN INFORMED? Yes No

AIRCRAFT WILL NOT BE DISPATCHED UNTIL CHECKLIST HAS BEEN COMPLETED AND INITIALED BY AIRCRAFT DISPATCHER.

NEWS MEDIA AIRCRAFT

Manned aircraft carrying properly accredited news media are legally allowed inside a Fire TFR after filing a flight plan and coordinating entry with the Incident Air Operations supervisor (ATGS or AOBD) in accordance with 14 CFR 91.137 (c.). Access to TFRs by media UAS still requires additional permits and waivers issued to the media by the FAA.

AIRSPACE CONFLICTS REPORTING

Violations of airspace restrictions must be reported immediately by telephone to the SEATTLE Air Route Traffic Control Center (ARTCC*). (Note: Salt Lake City ARTCC is the Center to contact for certain areas in far southeast Oregon. Refer to a low altitude IFR chart to determine the location of boundary lines between adjacent ARTCCs.)* The ARTCC can provide immediate response to identify

the reported aircraft and initiate follow-up action. The key is immediate telephone notification! Violations need to be reported immediately to a Unit Aviation Officer (UAO) who will follow normal incident reporting procedures and follow up by submitting a SAFECOM report form. For further information, refer to the Interagency Standards for Airspace Coordination, Chapter 8. http://airspacecoordination.org/guide/index.html

CRITICAL AIRSPACE CONTACTS Refer to NWMG 70

FAA TEMPORARY CONTROL TOWER OPERATIONS

Air Traffic Control Specialists or Mobile Air Traffic Tower (MATC) assistance may be requested from the FAA when Air Operations in support of an incident becomes too complex or unsafe at uncontrolled airports or helibases. Requests will be sent to NWCC via a resource order in ROSS and will be accompanied with a Temporary Tower Request Form completed electronically. Refer to: http://gacc.nifc.gov/nrcc/dispatch/aviation/temporary_tower_request.pdf. See Interagency Standards for Airspace Coordination, A lead time of twenty four hours is requested by the FAA.

Ordering procedures and financial information is outlined within the FAA's Western Service Area agreement. NWCC does not forward the request to NICC but will contact the FAA's WSA Regional Operations Center (ROC) at 425-227-2200 and ask to speak to a duty officer regarding a Temporary Tower order. The ROC will connect NWCC with the appropriate FAA Duty officer. The ROC is the primary point of contact for the FAA for this request. NWCC will forward the Temporary Tower Request Form along with the aircraft resource order to the FAA duty officer at the time of the request. In addition, refer to Chapter 11, of the Interagency Standards for Airspace Coordination for a helpful checklist that aids in the ordering and set up process of a temporary tower. The FAA will order a frequency for the Temporary Tower internally. If the FAA cannot supply radios, the incident COML will need to order radios.

AIRPORT CLOSURES

When the need for an airport closure is identified, contact should be made with the *appropriate* Agency Aviation Manager or Aviation Safety Manager for information and assistance. Reference the Interagency Standards for Airspace Coordination.

BLASTING ACTIVITY

The Department of Defense is concerned that electronic warfare equipment on certain military aircraft could initiate a premature explosion of blasting equipment. Blasting operations using NONEL (Non Electric Blasting Caps) are not at risk; but Fireline Explosives Operations using "EBC" (Electric Blasting Caps) are at risk of premature detonation under a variety of circumstances which could cause debris to affect low flying aircraft. Advance notice (24 hours) of planned blasting activity should be forwarded to appropriate DOD Scheduler. *Local Dispatch centers are also encouraged to request a NOTAM (D) from an FAA Flight Service Station. More information about blasting NOTAMs can be found in the Interagency Standards for Airspace Coordination.*

TEMPORARY EMERGENCY RADIO FREQUENCY ASSIGNMENTS

When the aircraft communication load on a going fire is too congested to be handled by existing fire and air operation networks, temporary emergency frequencies may be obtained from NICC as follows:

1. Unit Dispatcher should request FAA VHF Air to Air frequency through NWCC on an Aircraft Resource

Order in ROSS. NWCC will place the order with NICC to obtain frequencies.
2. When the frequency is no longer needed, notify NWC and the center will close the order with NICC.

DEDICATED RADIO FREQUENCIES Refer to NMG 20 and the Pacific Northwest Interagency Aviation Frequency Guide.

SUNRISE/SUNSET TABLE

These tables should be maintained at the local dispatch center and can be furnished upon request. The tables are available at: http://aa.usno.navy.mil/data/docs/RS_OneYear.php

Select rise/set menu under the Astronomical Applications department. Then select the month, the day, the state, and the city. Click on the Get Data button to generate sunrise/ sunset table. It is also, recommended that you download the data and reformat the files so they will print on a single sheet.

AIRPORT GUIDE

The following airport guide has been prepared as a **reference guide** for dispatchers within the Northwest Area. The purpose of the guide is to assist these individuals in determining suitable airports for mobilization and demobilization of incident personnel. The guide is **NOT** intended to substitute the pilot's responsibility for flight planning. Information about unlisted airports and airfields can be found in local dispatch offices. For official, current airport information, consult the FAA Chart Supplement book which is updated every 56 days and available to download at:
https://www.faa.gov/air_traffic/flight_info/aeronav/digital_products/dafd/

OREGON AIRPORT GUIDE

City		Latitude/ Longitude	Elevation	Runway length/width/surface	Nite/ILS Approved	Fuel	FBO (Phone) Available
Astoria	(AST)	46 09/123 52	015	5796/150/ Asphalt	Y/Y	Avgas/Jet	Port of Astoria (503-861-1212)
Baker City	(BKE)	44 50/117 48	3373	5097/100/Asphalt	Y/N	Avgas/Jet	Baker Aircraft (541-523-5663)
Bend	(BDN)	44 05/121 11	3453	5005/75/Asphalt	Y/N	Avgas/Jet	Professional Air (541-388-0019)
Burns	(BNO)	43 35/118 57	4148	5100/75/Asphalt	Y/N	Avgas/Jet	City of Burns. (541-573-6139)
Corvallis	(CVO)	44 29/123 17	246	5900/150/Asphalt	Y/Y	Avgas/Jet	Corvallis Aero Services (541-753-4466)
Eugene	(EUG)	44 07/123 13	365	8000/150/Asphalt	Y/Y	Avgas/Jet	Atlantic Aviation (541-688-9291)
Florence	(6S2)	45 58/124 06	046	3000/60/Asphalt	Y/N	Avgas/Jet	Florence Airport (541-997-8069)
Gold Beach	(4S1)	42 24/124 25	016	3200/75/Asphalt	Y/N	Avgas/Jet	Admin Bldg. (541-247-6269)
Grant Pass	3S8)	42 30/123 22	1125	4000/75/Asphalt	Y/N	Avgas/Jet	Pacific Aviation (541-479-2230)
John Day	(GCD)	44 24/118 57	3697	4500/60/Asphalt	Y/N	Avgas/Jet	Admin Bldg. (541-575-1151)
Joseph	(JSY)	45 21/117 15	4122	5200/60/Asphalt	Y/N	Avgas/Jet	OR Dept. of Aviation (503-387-4880)
Klamath	(LMT)	42 09/121 43	4095	10301/150/Asphalt	Y/Y	Avgas/Jet	Century Aviation Services (541-882-4681)
La Grande	(LGD)	45 17/118 00	2717	5600/100/Asphalt	Y/N	Avgas/Jet	Admin Bldg. (541-963-6615)
Lakeview	(LKV)	42 09/120 23	4733	5306/100/Asphalt	Y/N	Avgas/Jet	Lake County Airport (541-947-4222)
Madras	(S33)	42 00/121 24	2434	5100/75/Asphalt	Y/N	Avgas/Jet	Berg Air (541-475-4899)
Medford	(MFR)	42 22/122 52	1335	8800/150/Asphalt	Y/Y	Avgas/Jet	Jet Center North (541-770-5314)
Newport	(ONP)	44 34/124 03	160	5398/150/Asphalt	Y/Y	Avgas/Jet	Admin Bldg. (541-867-7422)
North Bend	(OTH)	43 25/124 14	017	53321/150/Asphalt	Y/Y	Avgas/Jet	Coos Aviation (541-756-5181)
Ontario	(ONO)	44 01/117 00	2193	4529/100/Asphalt	Y/N	Avgas/Jet	Frazier Aviation (541-889-9197)
Pendleton	(PDT)	45 41/118 50	1497	6300/150/Asphalt	Y/Y	Avgas/Jet	Pendleton Aviation (541-276-3313)
Portland	(PDX)	45 35/122 35	030	11000/150/Asphalt	Y/Y	Avgas/Jet	Atlantic Aviation(503-331-4220)
Redmond	(RDM)	44 15/121 08	3077	7040/150/Asphalt	Y/Y	Avgas/Jet	Butler Aircraft (541-923-1355)
Roseburg	(RBG)	43 13/123 23	529	4600/100/Asphalt	Y/N	Avgas/Jet	West OR Flying Services (541-673-4722)
Salem	(SLE)	44 54/123 00	214	5811/150/Asphalt	Y/Y	Avgas/Jet	Salem Air (541-364-0111)
Sixes	(5S6)	42 51/124 31	214	5100/150/Asphalt	N/N	None	None
The Dalles	(DLS)	45 37/121 09	247	5097/150/Asphalt	Y/Y	Avgas/Jet	Gorge Aviation Service (509-767-0005)
Troutdale	(TTD)	45 39/122 24	039	5399/150/Asphalt	Y/Y	Avgas/Jet	Gorge Winds Aviation (503-661-1044)
Vale	(S49)	43 57/117 15	2249	3872/65/Gravel	N/N	None	None

WASHINGTON AIRPORT GUIDE

City		Latitude/ Longitude	Elevation	Runway length/width/surface	Nite/ILS Approved	Fuel	FBO (Phone) Available
Bellingham	(BLI)	48 47/122 32	170	6701/150/Asphalt	Y/Y	Avgas/Jet	Bellingham Aviation Services (360-676-7624)
Boeing	(BFI)	47 31/122 18	018	10001/200/Asphalt	Y/Y	Avgas/Jet	Signature Flight Support (206-763-0350)
Burlington	(BVS)	48 28/122 25	144	5477/100/Asphalt	Y/N	Avgas/Jet	Corporate Air (360-757-7757)
Chehalis	(CLS)	46 40/122 58	173	5000/150/Asphalt	Y/N	Avgas/Jet	Chehalis-Centralia Airport (360-748-1230)
Chewelah	(1S9)	48 18/117 44	2075	3446/48/Asphalt	N/N	None	None
Deer Park	(DEW)	47 58/117 25	2210	6100/75/Asphalt	Y/N	Avgas/Jet	Deer Park Airport (509-276-3379)
Electric City	(3W7)	47 55/119 04	1590	4200/75/Asphalt	N/N	None	None
Ellensburg	(ELN)	47 01/120 27	1763	5500/150/Asphalt	Y/N	Avgas/Jet	Mid State Aviation (509-962-7850)
Everett	(PAE)	47 54/122 16	606	9010/150/Asphalt	Y/Y	Avgas/Jet	Everett Jet (425-355-6600)
Felts Field	(SFF)	47 40/117 19	1953	4500/150/Asphalt	Y/Y	Avgas/Jet	Western Aviation (509-939-8197)
Hoquiam	(HQM)	46 58/123 56	018	5000/150/Asphalt	Y/Y	Avgas/Jet	Port of Grays Harbor (360-533-9544)
Moses Lake	(MWH)	47 12/119 19	1185	13502/200/Asphalt	Y/Y	Avgas/Jet	Million Air (509-762-2222)
Olympia	(OLM)	46 58/122 54	206	5419/150/Asphalt	Y/Y	Avgas/Jet	Jorgensen Air Service (360-754-4043)
Omak	(OMK)	48 27/119 31	1305	4654/150/Asphalt	Y/N	Avgas/Jet	Terminal (509-826-6270)
Pasco	(PSC)	46 15/119 07	407	7700/150/Asphalt	Y/Y	Avgas/Jet	Bergstrom (509-547-6271)
Port Angeles	(CLM)	48 07/123 29	291	6347/150/Asphalt	Y/Y	Avgas/Jet	Rite Bros. (360-452-6226)
Republic	(R49)	48 43/118 39	2519	3498/60/Asphalt	N/N	None	None
Seattle	(SEA)	47 27/122 18	433	11900/150/Asphalt	Y/Y	Avgas/Jet	ASIG (206-433-5481)
Spokane	(GEG)	47 37/117 31	2372	9000/150/Asphalt	Y/Y	Avgas/Jet	Signature Flight Support (509-455-5204)
Walla Walla	(ALW)	46 05/118 17	1191	6528/150/Asphalt	Y/Y	Avgas/Jet	Sullinair Aircraft (509-529-4243)
Wenatchee	(EAT)	47 23/120 12	1245	5500/150/Asphalt	Y/Y	Avgas/Jet	Executive Flight (509-884-1545)
Winthrop	(S52)	48 25/120 08	1694	5049/75/Asphalt	Y/N	Avgas/Jet	Smokejumper Aviation (509-322-1630)
Yakima	(YKM)	46 34/120 32	1095	7603/150/Asphalt	Y/Y	Avgas/Jet	McCormack Air Center (509-248-1680)

NORTHWEST HELIBASE INFORMATION

Base Name	Latitude/Longitude	Elevation (Feet)	Home Unit	Agency
Burns	43 35 /118 57	4144	Burns	BLM
Chelan	47 52/119 55	1263	Wenatchee	USFS
Clearwater	46 12/117 34	5650	Umatilla	USFS
Ellensburg	47 01/120 31	1760	WA-SES	State of Washington
Enumclaw	47 10/121 59		WA-SPS	State of Washington
Frazier	45 09/118 13	4500	Umatilla	USFS
Ft. Rock	43 26/120 50	4520	Lakeview	BLM
Gerber	42 12/121 08	4930	Lakeview	BLM
John Day	44 24/116 57	3700	Malheur	USFS
Lakeview	42 09/12 23	4209	Lakeview	BLM
Merlin	42 30/123 23	1122	Siskiyou	USFS
Oakridge	43 45/122 30	1420	Willamette	USFS
Olympia	46 58/122 54	206	WA-WAS	State of Washington
Prineville	44 17/120 54	3246	Prineville	USFS Ochoco
Sled Spring	45 47/117 16	4500	Wallowa-	USFS Whitman
Tupper	45 04/119 29	4100	Umatilla	USFS
Vale	44 01/117 00	2190	Vale	BLM
Wenatchee	47 23/120 12	1249	Wenatchee	USFS

AIRCRAFT TYPE AND CAPABILITES GUIDE

Fixed Wing Aircraft Information
Single Engine

Make/Model	Length (ft)	Wing Span (ft)	Cruise Speed (kts/mph)	Payload (lbs)	Number of Seats	Required Runway Length (ft)
Cessna 172	27	36	105/120	600	3	1500
Cessna 180	26	36	140/160	800	3	1500
Cessna 182	28	36	150/170	900	3	1500
Cessna 182RG	28	36	120/140	1100	3	1500
Cessna 185	26	36	109/125	1100	3	1700
Cessna 205	28	36	135/155	900	5	2000
Cessna 206	28	36	130/160	1100	5	1500
Cessna 207	32	36	130/160	1100	6	2000
Cessna 208	38	52	175/180	2500	8-12	2000
Cessna 210	28	37	155/190	1000	6	2000
Cessna 210 (Turbo)	28	37	165/190	1500	6	2500
Piper PA-18 Supercub	23	35	100/115	600	1	500
Piper PA-32R Lance	28	33	135/155	1100	5	2000
Beech Bonanza	26	34	165/190	950	4-5	2000
DHC-Beaver (Floats)	30	48	100/115	1400	6	1700

Twin Engine

Make/Model	Length (ft)	Wing Span (ft)	Cruise Speed (kts/mph)	Payload (lbs)	Number of Seats	Required Runway Length (ft)
Cessna 337 Skymaster	30	38	148/170	600	3	2000
Cessna 340	43	38	182/210	900	5	3000
Cessna 414	36	44	174/200	900	5	3000
Cessna 421 Golden Eagle	34	40	191/220	1600	7-9	3000
Cessna 441 Conquest I/II	39	49	252/290	1400	8	3000
Piper PA-23 Aztec	31	37	174/200	1000	5	2000
Piper PA-31 Chieftain	35	41	217/250	1800	8	3000
Piper PA-31T2 CheyennellXL	37	43	208/240	1300	7	3000
Piper PA-34 Seneca	29	39	190/230	1100	5	2000
Piper PA-42 Cheyenne II	43	48	273/315	2000	11	3300
Piper PA-42 Cheyenne II	43	48	295/340	2000	11	3300
Piper PA-44 Seminole	28	39	165/190	600	3	2000
Beech Craft Baron 55	55	38	187/215	1000	5	2000
Beech Craft Baron 58/P	30	38	187/215	1000	5	3000
Beech Craft King Air 90/100	36/40	50	226/260	1300	6	3000
Beech Craft King Air 200/350	44	55	278/320	2200	9-12	3300
Aero Commander 500	35	45	169/195	1100	5	3000
Aero Commander 690	44	47	247/285	1200	7	3000
Aero Commander 840	44	49	247/285	1600	9	3000
Partenavia P-63	31	39	161/185	1100	5	1600
Islander BN-2	36	49	130/150	2000	10	1500
DC-3 Turbo	58	96	182/210	5900	20-30	2000
Sherpas S-330 (C-23)	58	75	170/195	5000	20	3000
DHC-6 Twin Otter	53	65	148/170	3000	15-19	1500
Casa 212	50	62	169/195	3400	19	2500
MU-II	34	40	300/345	3350	9	1800

Airtankers

Make/Model	Type	Retardant Load (gal)	Length (ft)	Wing Span (ft)	Cruise Speed (kts/mph)
DC-10	1	12000	182	165.4	521/600
BAE-146	1	3000	93.8	86	300/345
MD-87	1	4000	130	107	489/563
C-130 MAFFS	1	3000	99	133	239/275
P2V	2	2082	86	98	195/225
CL-215	3	1300	65	94	164/189
AT802	4	700	35.5	59	160/184

Helicopters

Type I

Make/Model	Length (ft)	Rotor Diameter (ft)	Bucket Size (gal)	Cruise Speed (kts/mph)	Number of Seats
K-Max (K1200)	52	48	900	80/92	N/A
Bell 214 B-1	62	52	660/880	140/160	15-20
Blackhawk UH-60	65	54	660	145/167	14-17
Sikorsky S61N	73	62	900	120/138	N/A
Boeing Vertrol 107	83	50	900-1000	120/138	N/A
Boeing 234 (CH-47)	99	60	3000	135/185	N/A
Sikorsky S-64 Skycrane	89	72	2000	80/92	N/A

Type II

Make/Model	Length (ft)	Rotor Diameter (ft)	Bucket Size (gal)	Cruise Speed (kts/mph)	Number of Seats
Bell 204B UH-1B	55	48	240	90/104	10
Bell Super 204	56	48	324	90/104	10
Bell 205 A-1	57	48	324	90/104	14
Bell 212	58	48	324	100/115	13
Bell 412	56	48	420	110/115	13
Kaman H-43	25	47	324	85/98	N/A
Sikorsky S-58T	42	56	420	90/104	12-18

Type III

Make/Model	Length (ft)	Rotor Diameter (ft)	Bucket Size (gal)	Cruise Speed (kts/mph)	Number of Seats
MD-500 (Hughes)	31	26	96-108	120/138	4
Bell 206 III Jet Ranger	39	33	96-108	97/112	3
Bell L-3 Long Ranger	43	37	96-144	110/127	6
AS-350 D-1 Astar	43	35	108-144	108/124	4
AS-350 B-2 Ecureuil	43	35	240	125/144	5
AS-355 F-1 Twin Star	43	35	108-144	115/132	4
SA-315 B Lamar	43	36	108	80/92	4
SA-316B Alouettelll	42	36	144	80/92	6

This helicopter list needs to be updated to eliminate aircraft we no longer use in the EU and CWN fleet. Other modern aircraft that we currently use, such as the Bell 407, are missing.)