



STATE OF WASHINGTON
DEPARTMENT OF COMMUNITY DEVELOPMENT
EMERGENCY MANAGEMENT DIVISION
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April 16, 1993

TO: Local Emergency Management Directors
County Sheriffs

FROM: Joe Murray, Assistant Director

SUBJECT: Helicopter Operations Training Program

The attached Washington State Helicopter Operations Training Program is effective immediately for the training of emergency workers under chapter RCW 38.52 and WAC 118-04.

As you know, the state has not sanctioned helicopter operations training for some time due to a fatal accident involving a volunteer. The goal of this program is to provide for training in this important facet of emergency response while ensuring the safety of our emergency workers. Revised WAC 118-04, which is nearing public announcement, will refer to this program and require its use in the qualification of search and rescue volunteers.

The Emergency Management Division's point of contact for the Helicopter Operations Training Program is Chris Long, the state search and rescue coordinator. He is working with the Washington State Search and Rescue Coordinators Association which is developing lesson plans to support this training program. Your participation to this process is welcome.

JWM:cfl

Attachment

cc: Brian Holmes, Division of Aeronautics
Local search and rescue coordinators

WASHINGTON STATE
HELICOPTER OPERATIONS TRAINING PROGRAM
(For Emergency Workers Under RCW 38.52)

I. PURPOSE:

- A. To increase safety in helicopters operations for emergency workers and aircraft crews.
- B. To describe the process and requirements for planning and conducting helicopter operations training.

II. OBJECTIVES: This program consists of three primary courses (Helicopter Operations Basic, Intermediate, and Advanced Courses) as well as provisions for additional skill-specific training courses. The objectives of this training program are:

A. HELICOPTER OPERATIONS BASIC COURSE:

Upon successful completion of a Helicopter Operations Basic Course, emergency workers will be knowledgeable with and be able to describe general aviation and helicopter safety requirements and practices, fundamental helicopter characteristics, use of helicopters in search and rescue, landing zone safety, and passenger procedures and safety requirements. This course is intended for all emergency workers and is a prerequisite for all other Helicopter Operations Training Courses. This course satisfies the requirement for basic knowledge of helicopter operations in WAC 118-04, Qualifications for Search and Rescue Emergency Workers.

B. HELICOPTER OPERATIONS INTERMEDIATE COURSE:

(Prerequisite: a Helicopter Operations Basic Course.) Upon successful completion of a Helicopter Operations Intermediate Course, emergency workers will be knowledgeable with and be able to demonstrate ground to air communications, approach/departure protocols and safety procedures, passenger procedures, litter (basket/stretchers) loading and unloading, and landing zone operations and safety. This course is a prerequisite for a Helicopter Operations Advanced Course. Enrollment in this course is limited to those emergency workers who may be exposed to working helicopters as passengers or ground party members during actual operations.

C. HELICOPTER OPERATIONS ADVANCED COURSE:

(Prerequisite: a Helicopter Operations Intermediate Course.) Upon successful completion of a Helicopter Operations Advanced Course, emergency workers will have received hands-on experience and be knowledgeable with and able to demonstrate ground to air communications, approach and departure protocols, passenger procedures, litter (basket/stretchers) loading and rigging for hoist, basic hoist procedures, and landing zone

selection, marking, and operation. Enrollment in this course is limited to those emergency workers who may be exposed to or involved with working aircraft in a leadership or technical role during actual operations and is a prerequisite for any additional skill specific training.

D. SKILL-SPECIFIC TRAINING COURSES:

(Prerequisite: a Helicopter Operations Advanced Course.) Objectives for skill-specific training courses will be determined by the sponsoring agency. Enrollment in these courses is limited to emergency workers in a leadership or technical role whose duties require such skills.

III. **DEFINITIONS:**

EMERGENCY WORKER: Consistent with the definition in chapter RCW 38.52.010.

GROUND PARTY: Emergency workers involved in helicopter operations whose duties involve activities in and around the landing zone (e.g., an emergency worker who will load/unload a litter on the landing zone).

HELIBASE: ICS term for a location within the general incident area for parking, fueling, maintenance, and loading of helicopters.

HELICOPTER OPERATIONS: Working with, in, and around helicopters in a safe and prudent manner.

HELICOPTER PARENT ORGANIZATION: The military, governmental, or private organization that owns and/or operates a helicopter.

HELIRESCUE: Rescue and evacuation of stranded, injured or ill persons where a helicopter is the primary vehicle.

HELISPOT: ICS term for a location where a helicopter can take off and land.

INCIDENT COMMAND SYSTEM (ICS): An on-scene functional management system which is a component of the National Interagency Incident Management System. The system provides commonality in organization, terminology, and procedures. The organizational structure can expand and contract based on requirements of the situation.

LANDING ZONE (LZ): 1) General term for an area designated for helicopters to land and load and/or unload passengers and/or cargo. The area must be free of obstructions and debris. It may or may not be prepared in advance. Major considerations are type aircraft to be landed, size, surroundings, shape, slope, and surface. 2) Military term for a specified area used for landing and unloading helicopters. Refers to the destination site when used in context with **PICK-UP ZONE (PZ)**.

LOCAL CHIEF LAW ENFORCEMENT OFFICER: The chief law enforcement officer of a political subdivision of the state (RCW 38.52.010). The person legally responsible for local search and rescue activities (RCW 38.52.400).

PICK-UP ZONE (PZ): Military term for a specified area used to load passengers and/or cargo for transport by helicopter. Refers to the departure site when used in context with **LANDING ZONE (LZ)**.

SPONSORING AGENCY: Local government, law enforcement, or state agency which sponsors a helicopter operations training course.

STATIC HELICOPTER: A rotary wing aircraft with engines off or a mock-up of a helicopter.

TRAINING EVENT: An activity designed to increase emergency worker knowledge, skills, and proficiency which has been approved by the Emergency Management Division and for which a training event number has been issued.

TECHNICAL ROLE: Operational assignment which requires an emergency worker to have detailed knowledge and demonstrated ability in special helicopter operations skills such as landing zone selection, marking, and operations; rigging for hoist; hoist operations; short haul; etc.

WORKING HELICOPTER: Rotary wing aircraft with engines running, rotors turning, etc., whether on the ground or in flight.

IV. **RESTRICTIONS:**

- A. Helicopters operated by active duty, reserve, or national guard military organizations of the United States and Canada and helicopters operated by other federal, state, provincial, or local government agencies of the United States and Canada are authorized for use in this training program.
- B. Privately-owned helicopters such as those performing hospital-related aviation ambulance services and those helicopters performing under a government contract or authority may be authorized for use in this training program upon submittal of a written training plan, the pilot's name(s) and licenses, and the type helicopter. This information is in addition to the required Training Mission Request, Form DEM-079 or equivalent. Information will be retained on file by the Emergency Management Division and can be referenced in future requests.
- C. Orientation or other general training flights for emergency workers are authorized as a part of this program only when specifically warranted by their duties or assignments. Prior written permission of the state search and rescue coordinator is required. This authorization is in addition to any requirements imposed by the helicopter parent organization.
- D. Helicopter Basic, Intermediate, and Advanced Courses will normally be conducted during daylight hours. Skill-specific training in helicopter night operations may be

requested for emergency workers in a leadership or technical role whose duties or assignments require such skills. The Department of Transportation, Division of Aeronautics Spotter/Observer training program may include night flying training activities.

V. PROGRAM IMPLEMENTATION:

- A. This training program is effective upon publication.
- B. Coordination of the Helicopter Operations Training Program is the responsibility of the search and rescue coordinator, Washington State Emergency Management Division.
- C. The state search and rescue coordinator will work with helicopter parent organizations, the Washington State Division of Aeronautics, and other agencies and organizations to develop a model program of instruction which safely meets required training objectives. This does not preclude local jurisdictions from developing and implementing their own program of instruction so long as the requirements specified in this training program are met.
- D. Training conducted within the 24 months preceding the implementation date of the Helicopter Operations Training Program may be used to satisfy the requirements of this program if the local chief law enforcement officer or designated representative certifies that the training conducted meets the requirements for the specified course(s) in the Helicopter Operations Training Program and so annotates local emergency worker records.
- E. Effective 24 months from the date of implementation of this program emergency workers will be required to have completed Helicopter Operations Training Course(s) required by their duties or assignments before participating in helicopter operations during actual missions. Specifically:
 - 1. All field and support qualified search and rescue emergency workers will have completed a Helicopter Operations Basic Course.
 - 2. Emergency workers who are passengers or ground party members will have completed Helicopter Operations Basic and Intermediate Courses.
 - 3. Emergency workers who are in a leadership or technical role involving helicopters will have completed Helicopter Operations Basic, Intermediate, and Advanced Courses.
- F. It is the responsibility of the sponsoring agency desiring to conduct a helicopter operations training course to make contact with a helicopter parent organization to coordinate arrangements for the particular planned training activities (See Appendix 1 for a listing of military agencies who have expressed an interest in conducting helicopter operations training in accordance with this program).

VI. SELECTION FOR HELICOPTER OPERATIONS TRAINING:

- A. Helicopter Operations Basic Course: This course is intended for all emergency workers. It satisfies the requirement for basic knowledge of helicopter operations in WAC 118-04, Qualifications for Search and Rescue Emergency Workers, and is a prerequisite for Intermediate and Advanced Courses and any skill-specific training.
- B. Helicopter Operations Intermediate and Advanced Courses: Emergency workers must be recommended by the local chief law enforcement officer and/or local emergency management director or their designed representative(s). Recommendations must be based on the following criteria:
 - 1. Trainees must be registered emergency workers.
 - 2. Trainees must be certified by their local jurisdiction in accordance with the basic qualifications in WAC 118-04 for their classification. Novice personnel may only participate in a Helicopter Operations Basic Course.
 - 3. Trainees must attend and successfully complete a Helicopter Operations Intermediate Course prior to attending a Helicopter Operations Advanced course.
 - 4. Training will be limited to those emergency workers most likely to be involved in helicopter operations during actual missions.
 - a) Enrollment in a Helicopter Operations Intermediate Course is limited to those emergency workers who would be exposed to working helicopters as passengers or ground party members during actual operations.
 - b) Enrollment in a Helicopter Advanced course is limited to those emergency workers who would be exposed to or involved with working aircraft in a leadership or technical role during actual operations.
- C. Skill-specific training: Additional skill-specific training (i.e., night operations, helicopter rappelling, hover boarding, helo-jumping, helo-casting, one-skid landing, etc.) will only be undertaken by emergency workers in a leadership or technical role whose duties require such skills and then only after successfully completing a Helicopter Operations Advanced Course.

VII. TRAINING COURSES:

A. HELICOPTER OPERATIONS BASIC COURSE:

The sponsoring agency will sponsor a classroom training course that provides an overview of the use of helicopters in search and rescue operations.

This course is intended for all emergency workers. It satisfies the requirement for basic knowledge of helicopter operations in WAC 118-04, Qualifications for Search and Rescue Emergency Workers.

1. **Location:** Location for the Helicopter Operations Basic Course will be determined by the sponsoring organization.
2. **Instruction:** The course will be based on the texts referenced in Appendix 2 or similar documents. Course syllabus will be reviewed by the Emergency Management Division prior to approval of the training request.
3. **Duration and Sequence of Events:** The length of the course will be determined by the sponsoring organization with final approval by the Emergency Management Division. The course should be no less than one hour in length.
4. **Supervision:** A representative of the sponsoring agency will be present during all training activities and will be in overall control of all participating emergency workers.
5. **Areas of emphasis:** Training in the following subjects will be included as a minimum in a Helicopter Operations Basic Course:
 - a) General aviation and helicopter safety requirements and practices.
 - b) Fundamental helicopter characteristics.
 - c) Use of helicopters in search and rescue.
 - d) Landing zone safety.
 - e) Passenger procedures and safety requirements.
6. **Evaluation:** A suitable evaluation will be conducted following the course to ensure that participants have met course objectives.

B. HELICOPTER OPERATIONS INTERMEDIATE COURSE:

The sponsoring agency will sponsor a training course designed to provide participants with the knowledge and skills required for helicopter operations. This course is intended for emergency workers who will be exposed to working helicopters as passengers or ground party members during actual operations.

The presenter must have sufficient interaction with the participants to be assured that they can function safely in a controlled training environment with, in, and around working helicopters.

The course will as a minimum include student familiarization with a static helicopter.

1. **Location:** Location for the Helicopter Operations Intermediate Course will be determined by the sponsoring agency in coordination with the helicopter parent organization.

The area must be a manageable environment which permits control of inadvertent access by unauthorized persons yet allows students safe access to the training.

2. **Instruction:** The course will be based on the texts referenced in Appendix 2 or similar documents. Course syllabus and instructor qualifications will be reviewed by the Emergency Management Division prior to approval of the training request.
3. **Duration and Sequence of Events:** The length of the course and the sequence in which training activities are presented will be determined by the sponsoring agency in coordination with the helicopter parent organization with final approval by the Emergency Management Division. The course, when conducted in conjunction with a Helicopter Operations Basic Course, should total no less than three hours in length for both courses.
4. **Supervision:** A representative of the sponsoring agency will be present during all training activities. The sponsoring agency representative will be in overall control of all participating emergency workers and will be responsive to the aircrew in all matters pertaining to safety in and around the aircraft.
5. **Areas of emphasis:** Training in the following subjects will be included as a minimum in a Helicopter Operations Intermediate Course:
 - a) Ground to air communications (radio, hand, and other signals as appropriate).
 - b) Approach/departure protocols (what to expect from the aircrew, and what the aircrew expects from the ground party and/or passengers).
 - c) Passenger procedures.
 - d) Litter loading and unloading.
 - e) Basic hoist operations including tag line operations.
 - f) Safety concerns and procedures.
 - g) Landing zone operations and procedures including special considerations for aircrews employing Night Vision Goggles (NVG).
6. **Evaluation:** A suitable evaluation will be conducted following the course to ensure participants have met course objectives.

C. HELICOPTER OPERATIONS ADVANCED COURSE:

The sponsoring agency will sponsor a training course designed to provide participants with the knowledge and skills required for helicopter operations. This course is intended for emergency workers who will be exposed to working helicopters while in a leadership and/or technical role during actual operations.

The presenter must have sufficient interaction with the participants to be assured that they can function safely in a controlled training environment with, in, and around working helicopters.

The course will include student hands-on experience with a working helicopter.

1. **Location:** Location for the Helicopter Operations Advanced Course will be determined by the sponsoring agency in coordination with the helicopter parent organization.

The area must be a manageable environment which permits control of inadvertent access by unauthorized persons yet allows students safe access to the training.

2. **Instruction:** The course will be based on the texts referenced in Appendix 2 or similar documents. Course syllabus and instructor qualifications will be reviewed by the Emergency Management Division prior to approval of the training request.
3. **Duration and Sequence of Events:** The length of the course and the sequence in which training activities are presented will be determined by the sponsoring agency in coordination with the helicopter parent organization with final approval by the Emergency Management Division. The course should be no less than four hours in length.
4. **Supervision:** A representative of the sponsoring agency will be present during all training activities. The sponsoring agency representative will be in overall control of all participating emergency workers and will be responsive to the aircrew in all matters pertaining to safety in and around the aircraft.
5. **Areas of emphasis:** Training in the following subjects will be included as a minimum in a Helicopter Operations Advanced Course. Participants will receive hands-on training and will be knowledgeable with and able to demonstrate:
 - a) Ground to air communications.
 - b) Approach and departure protocols.
 - c) Passenger procedures.
 - d) Litter (basket/stretcher) loading and rigging for hoist and short haul.
 - e) Basic hoist procedures including tag line operations.
 - f) Short haul operations.
 - g) Landing zone selection, marking, operation, and safety including special considerations for aircrews employing Night Vision Goggles (NVG).

6. **Evaluation:** A suitable evaluation will be conducted following the course to ensure participants have met course objectives.

D. SKILL-SPECIFIC TRAINING:

The sponsoring agency may sponsor courses designed to train participants in special skills such as helicopter night operations, helicopter rapelling, hover boarding, helo-jumping, helo-casting, one-skid landing and boarding, etc. These courses are intended for emergency workers in a leadership or technical role whose duties require such skills and then only after successfully completing a Helicopter Operations Advanced Course.

The presenter must have sufficient interaction with the participants to be assured that they can function safely in a controlled training environment with, in, and around working helicopters.

These courses will include hands-on experience with a working helicopter.

1. **Location:** Location for a Helicopter Operations skill-specific training course will be determined by the sponsoring agency in coordination with the helicopter parent organization.

The area must be a manageable environment which permits control of inadvertent access by unauthorized persons yet allows students safe access to the training.

2. **Instruction:** These courses will be based on the texts referenced in Appendix 2 or similar documents. Course syllabus and instructor qualifications will be reviewed by the Emergency Management Division prior to approval of the training request.
3. **Duration and Sequence of Events:** The length of a course and the sequence in which training activities are presented will be determined by the sponsoring agency in coordination with the helicopter parent organization with final approval by the Emergency Management Division.
4. **Supervision:** A representative of the sponsoring agency will be present during all training activities. The sponsoring agency representative will be in overall control of all participating emergency workers and will be responsive to the aircrew in all matters pertaining to safety in and around the aircraft.
5. **Areas of emphasis:** As determined by the sponsoring agency.
6. **Evaluation:** A suitable evaluation will be conducted following a course to ensure participants have met course objectives.

E. OBSERVER/SPOTTER COURSE:

The Emergency Management Division considers the course taught by the Department of Transportation, Division of Aeronautics as the standard for observer/spotter training.

VIII. **SAFETY PROCEDURES:** The following safety procedures pertain to both training and actual operations.

- A. The sponsoring agency representative/authorized official (incident commander) is in charge of the landing zone at all times. Instructions will be followed explicitly. This in no way alters the pilots authority and responsibility regarding the safe operation of the aircraft.

- B. Prior to entering the landing zone all personnel (both passengers and ground crew) will receive a safety briefing as follows:
 - 1. Ensure protective clothing and equipment is in place.
 - 2. Secure all loose items (clothing, packs, equipment, etc.).
 - 3. Carry all loads level, especially litters, stretchers, probes, antenna, etc.
 - 4. Do not approach the aircraft until directed by the aircrew.
 - 5. Approach and depart helicopters in the crouch position for extra clearance below the main rotor blade.
 - 6. Approach helicopter from the front, forward of the rear cargo/passenger doors. **DO NOT** go near the tail of the aircraft. (The **ONLY** exception to this rule is for helicopters with rear cargo ramps (e.g., CH46, CH47, CH53) and then **ONLY** at the direction of the aircrew.)
 - 7. On sloping ground, move to or from helicopters on the **DOWN** slope side to avoid the main rotor.

Passengers will additionally be briefed:

- 8. Fasten seatbelts upon entering the helicopter and keep them fastened until the aircrew signals to exit the aircraft.
 - 9. In the event of a forced landing, lean forward, grasp arms under legs, and keep head down until the aircraft comes to rest. Do not exit aircraft until the main rotor stops turning. Follow directions of the aircrew.
- C. Personnel in the landing zone and passengers will wear the following required safety equipment:
 - 1. Protective head gear:
 - a. Standard climbing, caving, swift water, and rescue helmets are acceptable.
 - b. One-half or three-quarter coverage motorcycle helmets are acceptable; full-coverage helmets are not allowed as they restrict peripheral vision.

- c. Hardhats, such as those used by the U.S. Forest Service, with chin strap in place and fastened are acceptable.
 - d. Bumphats are not acceptable.
 - e. Chin-straps will be securely fastened when helmet is worn. Three-point anchor for chin strap is recommended.
 - f. Brightly colored reflective tape on the helmet is recommended.
- 2. Impact resistant eye protection (goggles or glasses with side shields).
 - 3. Hearing protection.
 - 4. Standard field utility uniforms. As a minimum, long-sleeved shirts, pants, and appropriate shoes or boots (no tennis or running shoes) are required. Ground party personnel should wear additional high visibility clothing such as properly secured traffic safety vests.
 - 5. Gloves.
 - 6. If available, the use of fire resistant clothing (i.e., Nomex) is recommended.
- D. Adequate first aid supplies will be readily available as well as a means of communication to summon medical aid.
 - E. All loose items (clothing, packs, equipment, etc.) in and around the landing zone will be secured.
 - F. There will be NO SMOKING (includes observers) except in authorized areas.
 - G. Non-essential personnel (those not directly involved in the training or mission) will remain well away from the landing zone.

IX. RECORD KEEPING:

- A. Training Mission Requests, Form DEM-079 or equivalent, should be submitted so as to arrive at the state search and rescue coordinator's office at least 10 working days prior to a Helicopter Operations Basic, Intermediate, or Advance course or a skill specific training course. The following statement will be included in paragraph 7 of DEM-079:

Personnel participating in this training have met all prerequisites as described in the Washington State Helicopter Operations Training Program.

- B. After action reporting will be completed in accordance with WAC 118-04.

- C. Upon successful completion of a Helicopter Operations Training Course, suitable notification should be entered on the emergency worker's Emergency Worker Registration Card, Form DEM-024 or equivalent, and Emergency Worker Identification Card, Form DEM-025 or equivalent.

X. REFRESHER TRAINING AND RECERTIFICATION:

- A. Refresher training must be successfully completed within two years of completion of Helicopter Operations Basic, Intermediate or Advanced Courses.
- B. To complete refresher training during this period requires that emergency workers retake and successfully complete the primary Helicopter Operations Training Course required by their duties or assignments. Retaking prerequisites for that course is not required.
- C. For those emergency workers who wait or are unable to complete refresher training within two-years, successful completion of the primary Helicopter Operations Training Course required by their duties or assignments as well as all prerequisites for that course is required.
- D. Refresher training in skill-specific subjects must be successfully completed within two years of the initial training or more often if required to maintain proficiency as determined by local officials.

**WASHINGTON STATE
HELICOPTER OPERATIONS TRAINING PROGRAM**

APPENDIX 1

**Military Agencies Expressing Interest
in Helicopter Operations Training Activities**

Commander
Naval Air Station Whidbey Island
Attn: SAR Officer
Oak Harbor, WA 98278-5300

Commander
Washington Military Department
Attn: DCSOPS
Camp Murray MS: TA-20
Tacoma, WA 98430

Commander
304th ARRS/DO
Portland International Airport
Portland, OR 97218

Commander
54th Medical Detachment
Attn: Operations Officer
Fort Lewis, WA 98433-5513

Commander
Thirteenth Coast Guard District
Attn: SAR Officer
915 Second Avenue
Seattle, WA 98174-1067

Commander
Det. 24, (ACC)
106 Taxiway J Road
Fairchild AFB, WA 99011-9548

**WASHINGTON STATE
HELICOPTER OPERATIONS TRAINING PROGRAM**

APPENDIX 2

REFERENCES:

- A. Revised Code of Washington (RCW) 38.52.
- B. Washington Administrative Code (WAC) 118-04.
- C. Washington State Department of Emergency Services Memorandum, February 26, 1973; Use of Aircraft in Training Missions.
- D. U.S. Department of the Army, FM 8-10-6, Medical Evacuation, October 1991.
- E. U.S Department of Agriculture, Forest Service, Helicopter Operations Handbook, July, 1987.
- F. Interagency Helicopter Training Guide, 1983. BLM, USDA Forest Service, BIA, NPS and Office of Aircraft Services.
- G. U.S. Department of Transportation AC 91-32A, Safety in and Around Helicopters, June 21, 1979.
- H. U.S. Department of Transportation DOT/FAA/RD-90/11, Guidelines For Integrating Helicopter Assets Into Emergency Planning, July, 1991.
- I. Civil Air Patrol Regulation 55-1, CAP Operational Mission Procedures, 1992.
- J. Personnel Safety In Helicopter Operations; Helirescue Manual. Stoffel, Robert, and LaValla, Patrick; Olympia, Washington: Emergency Response Institute, Inc. Eleventh printing, March, 1988.
- K. Search and Rescue Fundamentals. LaValla, Stoffel; Olympia, Washington: Emergency Response Institute, Inc. Third Edition, 1990.
- L. Wilderness Search and Rescue. Setnicka, T.J. Boston, MA Appalachian Mountain Club, 1980.