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OPERATIONS MANUAL

STANDARD INSTRUCTION 02 SPECIALIZED RESPONSE GUIDELINES

SECTION 17 HELICOPTER OPERATIONS

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I. PURPOSE

The purpose of this policy is to give operational personnel guidance on helicopter capabilities, dispatching, landing, and night operations.

II. SCOPE

This policy shall apply to all sworn San Diego Fire-Rescue Department (SDFD) personnel, except lifeguards.

III. AUTHORITY

The fire chief authorizes the information within this policy.

IV. DEFINITIONS

A. Safety Circle: This is the safety zone that provides an obstruction-free area on all sides of the touchdown pad.

B. Touchdown Pad: This is the specific location where the skids or wheels will come to rest.

V. POLICY

Agencies that operate helicopters that are normally available 24 hours a day in the County of San Diego include SDFD, the San Diego Police Department (ABLE), the San Diego County Sheriff's Department (ASTREA), Mercy Air, REACH, and the U.S. Coast Guard.

ABLE and ASTREA are primarily law enforcement helicopters, while the US Coast Guard is primarily responsible for offshore search and rescue. Mercy Air and REACH are available as air ambulances.

Agencies that operate helicopters that are equipped for aerial firefighting (daylight only) include San Diego Sheriff's Department/Cal Fire Monte Vista Unit (MVU) and the U.S. Forest Service (USFS). These helicopters are available for water dropping, personnel and cargo transport on wildland fires only.

A. Requests for Helicopter Support

1. All units requesting helicopter support shall provide:

- a. Helicopter type
- b. Reason for request, for example:

- 1) Aerial reconnaissance
- 2) Air ambulance
- 3) Incident illumination
- 4) Water dropping
- 5) Search and rescue
- 6) Hoist rescue
- 7) Large animal rescue

- c. Geographic location

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- 1) Latitude and longitude (GPS) coordinates, when known
2. Additional information to be relayed to aircraft
 - a. Environmental conditions at the incident site
 - 1) Weather
 - 2) Wind speed
 - 3) Wind direction
 - b. Landing zone information
 - 1) Slope: flat, sloping
 - 2) Material: grass, asphalt, concrete, dirt, wet, dusty
 - 3) Possible weight restrictions
 - 4) Roadway, public or private property
 - c. Hazards
 - 1) For example, trees, wires, light standards, schools, public assemblies
 - 2) Law enforcement, HazMat, or EDT incident

B. Communications with Helicopters

1. Once the helicopter request has been filled, the Metro Zone Emergency Command and Data Center (ECDC) shall contact the incident commander and provide the following information:
 - a. Agency and helicopter type
 - b. Call sign
 - c. Air to ground radio channel
 - d. Estimated time of arrival (ETA)
2. It is imperative that the incident commander or designee monitor the assigned radio channel for updated aircraft position and to provide the helicopter with updated information on the weather and/or incident.
3. Except for dispatch, there shall be only one point of radio contact for the helicopter pilot at any given time.
4. The incident commander or the operations section chief may assign a helicopter to a division/group supervisor or other unit who would then assume the single point of contact for the aircraft.
5. During a wildland fire that involves fixed wing aircraft, Cal Fire will dispatch an air tactical group supervisor (ATGS) to provide airspace coordination and tactical information to the incident commander.
6. If the complexity of the incident expands, an air operations branch director (AOBD) shall be requested to manage the air operations. This position is ground based at the incident command post (ICP).

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C. Night Operations

1. Vegetation Fire Responses
 - a. See [FIREScope nighttime firefighting operations](#) for details of conditions, mission, and initial attack considerations for vegetation fire responses at night.
 - b. Initial attack
 - 1) Response may be delayed due to required weather/crew briefings and risk assessment/analysis (go/no-go checklist) completion.
 - 2) Only pre-designated helispots and airports that have been approved by the air operations battalion chief will be used for water-fill operations.
 - 3) Aerial reconnaissance will be performed prior to each water or suppressant drop in a new location.
 - 4) Prior to any water or suppressant drop, the aircraft siren will be sounded.
 - 5) Night hover-fill may be conducted by Sikorsky S70i FIREHAWK at approved water points
2. Additional safety concerns
 - a. The weather minimums are a 700-foot ceiling and 1-mile visibility at the point of departure, enroute, and at the destination subject to pilot's discretion.
 - b. Wires and dust are a major concern during the daytime and present considerably more of a hazard at night.
 - c. Wet down the area for dust abatement prior to the arrival of the helicopter. Back scatter, or the glare of the landing light reflecting off the dust stirred up by rotor wash during landing, could blind the pilot.
 - d. Do not shine lights at the helicopter while in flight or on the ground as this will destroy the pilot's night vision accommodation, effectively blinding him/her for several minutes. The use of flares, flash photography or TV lighting is prohibited for this same reason.
 - 1) Check for and remove all debris
 - 2) Locate all poles within 200 feet of the site and observe how all lines are connected.
 - a) Main lines running from pole to pole
 - b) Lines coming off poles at lower levels
 - c) Lines crossing roads or direct to buildings
 - e. See [Landing Zones](#) below for more information on site selection.
3. Relay all information regarding the landing site and hazards to the pilot. The pilot may ask you to spotlight poles or wires in the area.

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4. The pilot may use the selected spot, pick a spot that he/she is more familiar with, or abort the mission.
5. Coordinate all activities by radio prior to landing and with the crew while on the ground.

D. Air Ambulance Request

1. An air ambulance should be requested when:
 - a. Serious medical emergencies located in areas inaccessible to ground ambulance transportation, or where there will be an inordinate delay by land transport.
 - b. Situations requiring transportation of patients to a decompression chamber or other facility with specialized medical resources.
 - c. Serious medical emergencies where emergency medical technicians or paramedics who are treating the patient(s) feel that the helicopter medical team, and/or air transport will be of medical benefit to the patient.
2. Procedure
 - a. Prior to the helicopter request, a primary screening of the incident should take place to determine the appropriateness of the request. The following information should be determined:
 - 1) Number of victims
 - 2) Type and extent of injuries or illness
 - 3) ETA of (land-based) ambulance
 - 4) Estimated time from incident location to closest, most appropriate hospital, including potential traffic delays
 - 5) Expected duration of patient extrication
 - 6) Nearest acceptable landing site and potential hazards
 - 7) Weather conditions
 - 8) Nearby landmarks
 - 9) Address and cross streets
 - 10) Latitude and longitude, if available

E. Landing Zones

1. The size of the landing zone will depend largely on the type of helicopter and the environmental conditions at the proposed landing site.
2. The below listed dimensions are “safety circle” and “touchdown pad” dimensions for the specific type of helicopter that will be landed:

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| | Type 1 Heavy | Type 2 Medium | Type 3 Light |
|---------------|-----------------|------------------|-----------------|
| Safety Circle | 100' diameter | 90' diameter | 75' diameter |
| Touchdown Pad | 30' X 30' | 20' X 20' | 15' X 15' |

3. Site Location

- a. Select sites where bystanders can be easily excluded.
- b. Area 100 feet in diameter, clear of wires, trees, emergency vehicles, signs and loose debris is required.
- c. Approach and departure paths must be clear of high obstructions. Where possible, the departure path should allow for a long, shallow climb into the wind. Up to 800 feet of horizontal travel may be required to clear a 50-foot obstacle when the temperature is high, wind velocity is low, and the helicopter is fully loaded.
- d. The landing zone must be totally free of brush, stumps, fence posts, large rocks and similar obstructions with no more than an eight-degree slope.
- e. Landing areas must be free from all loose materials such as trash, plywood, sheet-metal, etc.
- f. Any objects that may be picked up in the rotor wash and cause damage to the aircraft or injury to personnel on the ground must be removed.
- g. Consider dust abatement as time and personnel allow.
- h. Parks, school playgrounds, and football fields may be ideally suited, but should be selected only when other sites are not available in the area.
 - 1) State law prohibits landing within 1000 feet of schools (grades K through 12) without prior approval.
 - 2) As a public safety agency, we are exempted only if there are no reasonable alternatives and the urgency of the situation warrants.
- i. Radio contact should be maintained between the helicopter and ground crew at the landing site during the landing operation.
- j. One ground crewmember should be dedicated to maintaining contact with the helicopter and to the immediate safety of the landing zone.
- k. Landing sites at night:
 - 1) Wet down the area for dust abatement prior to the arrival of the helicopter. Back scatter, or the glare of the landing light reflecting off the dust stirred up by rotor wash during landing, could blind the pilot.

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- 2) Do not shine lights at the helicopter while in flight or on the ground as this will destroy the pilot's night vision accommodation, effectively blinding him/her for several minutes. The use of flares, flash photography or TV lighting is prohibited for this same reason.
- 3) A flare may be placed 75-100 feet downwind of the landing zone, a vehicle may be positioned 100 feet downwind of the landing zone with its headlights shining into the wind and illuminating the landing zone.
- 4) Car headlights on low beam at the four corners of the landing area can be helpful in marking a site which is not easily identifiable. Since the pilots may be wearing night vision goggles (NVG) check with them first.

F. Helicopter Safety Considerations

1. Always approach the helicopter from the front.
2. Never approach the helicopter until signaled to do so by the pilot.
3. Use caution when approaching the helicopter when the blades are in motion.
4. At no time is anyone permitted near the tail of the helicopter.
5. No smoking or running within 50 feet of the helicopter.
6. Do not assist the flight crew in opening or closing helicopter doors unless asked to.
7. The flight crew will direct loading and unloading of equipment and patients.
8. Crowds must always be kept back 100 feet from the helicopter.
9. Do not shine spotlights or other bright lights (flashbulbs, television camera lights) into pilot's eyes during night operations.
10. Secure all loose material on the patient (sheets, clothing, etc.) which may be caught in rotor wash.