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FIRE SUPPRESSION: SPECIAL EQUIP/RESOURCES,
STANDARD INSTRUCTION 02, SECTION 08

I. LIGHT AND AIR UNIT PROCEDURES

A. Introduction

1. San Diego Fire-Rescue Department Fire Communication Center will dispatch Light and Air units when requested by the incident commander on all fire and other all-risk emergencies where it is anticipated that personnel will be using SCBA respirators for extended periods.

2. Light and Air units will be dispatched as an emergency support resource to refill and replace SCBA cylinders, and provide area lighting as necessary, throughout on-scene emergency procedures.

3. Incident Commanders shall consider the impact of shorting companies at Fire Station 1 and Fire Station 40 when requesting Light and Air units.

   a. The proximity of the incident to stations with cylinder refilling capability should be considered when selecting options for returning units to service.

4. For all non-emergency needs, SCBA cylinder refilling and replacement will be conducted the by station refilling procedures listed in the SDFD Operations Manual S.I. 06, Section VI.

B. Emergency Procedures

1. FCC will use the following procedures when dispatching Light and Air units on emergency responses.

   a. Light and Air will be an automatic response on the following incident types:

      1) Any 2nd Alarm or greater

   b. For all other incidents where Light and Air will be needed it will be requested by the Incident Commander.

   c. CAD will select the closest Light and Air unit for a response.

   d. If a response is in the first-alarm district of Fire Station 1, Light and Air 40 will respond, Code-3, utilizing a crew member on Truck 40.

   e. If a response is in the first-alarm district of Fire Station 40, Light and Air 1 will respond, Code-3, utilizing a crew member on T-1.

f. In the event there is a ***working fire*** in Fire Station 1 first-alarm district and Light and Air 40 is not available, FCC will dispatch Engine 40 or Truck 40 on a Code-3 move-up to Fire Station 1, with a qualified Light and Air operator, for coverage and staffing of Light and Air 1.

C. Light and Air Support Response Matrix

Units Available	Response Type	Incident Location	L&A Response
L&A 1, L&A 40	Working Fire	Not FS1 or FS40 1st Alarm District	CAD selection for closest L&A unit
L&A 1, L&A 40	Working Fire	FS1 1st Alarm District	L&A 40
L&A 1, L&A 40	Working Fire	FS40 1st Alarm District	L&A 1

II. USE OF SPECIAL EQUIPMENT

These instructions are provided as guidelines for use of the following equipment:

A. Chemical Pick-Up:

1. The Chemical Pick-Up units shall be primarily used as an auxiliary piece of equipment for Engine Companies. It is an individual apparatus capable of providing large amounts of dry chemical extinguishing agent.

2. Chemical Pick-Up units may respond alone on fuel spills of a routine nature and not involving a traffic accident. The Chemical Pick-Up units should not respond alone when an incident is above or below the ground floor.

B. Fire Boat:

1. Unless otherwise directed by the SDFD Fire Communications Center, Lifeguard Division and Harbor Police boats will respond, and take immediate action to contain any fire emergency, but will relinquish jurisdiction upon arrival of SDFD fire personnel.

2. At such time, SDFD fire personnel will assume control and direction in any fire emergency. The Incident Commander shall be in command of all personnel including Lifeguard Division and Harbor Police boat crews. The Harbor Police supervisor at Harbor Control will coordinate all procedures involving Harbor Police personnel to insure cooperation between agencies.

3. SDFD may supply staffing to supplement the Lifeguard Division and Harbor Police crew on the patrol/fire boat. Fire personnel may make full utilization of equipment on the Lifeguard Division and Harbor Police boats.

C. Air Drop Requests:

1. Can be made by the Incident Commander through the Fire Communications Center and approved by a Deputy Chief.

D. Crash 28:

1. Crash 28 will respond to Alerts on Montgomery Field, staffed by personnel from Station 28. Crash 28 can respond to plane crashes off the airfield and large flammable liquid spills/fires.

E. Crash 43:

1. Crash 43 will respond to alerts on Brown Field, staffed by personnel from Station 43. Crash 43 can respond to plane crashes off the airfield and large flammable liquid spills/fires.

F. Rescue 4

1. Rescue 4 will respond with an Engine Company, Truck Company, and Battalion Chief to the following incidents:

   a. Vehicle accidents with trapped persons

   b. Aircraft crashes

   c. Cliff rescues

   d. Elevator or escalator incidents

   e. Cave-ins

2. Rescue 4 will respond to first alarm of the following incidents:

   a. Aircraft incidents (on and off the field)

   b. Lindbergh Field Alerts II and III

   c. Shipboard fires

   d. Multiple alarms (except grass)

e. Explosions

f. Other incidents as required

G. Foam Trailer 1 (FoamT1):

1. The Foam Trailer 1 is a flatbed trailer equipped with Class A foam that can be used to refill all Type I and Type III apparatus.

2. Foam Trailer 1 carries 520 gallons of Class A foam, which will supply up to 13 apparatus, at a dispense rate of five to ten gallons per minute.

3. Foam Trailer 1 is also equipped with a generator and two 500 watt extendable lights.

4. Incident Commanders (IC) should consider requesting Foam Trailer 1 during extend incidents where large amounts of Class A foam will be utilized.

5. Requesting Procedures:

a. Foam Trailer 1 will be housed at the Repair Facility.

b. All requests should be made through the Fire Communications Center (FCC) by the IC.

c. Once requested, the duty Logistics Support person will be paged to deliver the trailer to the incident location.

d. Additional Logistics needs should be ordered at this time whenever possible.

e. There will be time delay from request to delivery, which should be taken into consideration by the IC when planning strategy.

f. Foam Trailer 1 is not equipped for off-road conditions, however it is able to supply foam for a distance of up to 100 feet.

H. Utility Vehicles (Multi-Purpose Vehicles):

1. Multi-purpose vehicles shall be used by the company officer or Battalion Chief as deemed appropriate for the following activities:

a. Administrative Activities:

1) Inter-mail pickup and delivery

2) Delivery of supplies and equipment

b. Battalion Activities:

1) Personnel transfers and delivery

2) Equipment maintenance

3) Transporting of emergency equipment and supplies

c. Inspection Activities:

1) F.C.I.P. and complaints

2) Hydrant inspection (new and out of service hydrants)

3) Reconnaissance of unimproved areas to determine means and routes of access (pre-fire)

d. Suppression Activities:

1) Fuel spills: Parked auto

2) Rescue: Assist Engine Company

3) Accessory equipment: Blowers, saws, etc.

4) Minor first aid: Ring cutting, etc.

5) Command vehicle - wildland conditions

6) Transport personnel to areas not accessible with pumper or truck

7) When an authorized officer directs a utility vehicle response to an emergency, the Dispatchers shall be notified and that utility vehicle shall be recorded as having responded to that incident no code

8) When utility vehicles are used in pumping operations for fire extinguishment, an engineer shall be present and directly responsible for the pumping of such operations

I. Helicopter Assistance Availability

Agencies that operate helicopters and are normally available twenty four (24) hours a day in the County of San Diego include: the San Diego Police Department (ABLE), the San Diego County Sheriffs Office (ASTREA), Mercy Air and the U.S. Coast Guard.

It is important to understand that the ABLE and ASTREA unit mission is primarily law enforcement and may not be readily available if committed to an ongoing incident. The U.S. Coast Guards primary responsibility is for offshore search and rescue. It can be a time consuming process when requesting assistance from this agency. Mercy Air is available upon request and their primary limitation for use would be availability (already committed to another incident) and environmental restrictions such as: weather, lack of landing zone, etc.

Agencies that operate helicopters during daylight only include the U.S. Forest Service (USFS) and the California Department of Forestry and Fire Protection (CDF - Riverside County). These helicopters are available for water dropping, personnel and cargo transport on wildland fires only. During fire season they could be committed to other fires therefore not readily available. This is especially true when there is significant fire activity in the State and Nationally.

1. San Diego County Helicopter Models, ICS Types & Capabilities

   a. San Diego Police Department (ABLE):

      Bell 206 Jet Rangers and a Bell 206 Long Ranger 4
      (Light Category - ICS Type 3)

      1) Aerial Reconnaissance

      2) Scene Illumination

      3) Television Downlink

      4) Forward Looking Infra-Red (FLIR)

   b. San Diego County Sheriffs Department (ASTREA):

      McDonnell Douglas (MD) 500E’s and a 530F
      (Light Category - ICS Type 3)

      1) Aerial Reconnaissance

      2) Scene Illumination

      3) Search & Light/Limited Rescue

c. United States Coast Guard:

Sikorsky Jayhawk (UH-60)
(Heavy Category - ICS Type 1)

1) Offshore Rescue

2) S.T.A.R. Team Deployment (Offshore)

3) Hoist Rescues

d. Mercy Air (Air Ambulance):

Bell 222
(Medium Category - ICS Type 2)

1) Medical Transport

e. United States Forest Service (USFS):

Bell 212
(Medium Category - ICS Type 2)

1) Water Dropping

2) Personnel Transportation

3) Cargo Transportation

f. California Department of Forestry and Fire Protection (CDF):

Bell 205 (UH-1H - Super Huey)
(Medium Category - ICS Type 2)

1) Water Dropping

2) Personnel Transportation

3) Cargo Transportation

2. Requests for Helicopter Support

Helicopters shall be requested through the Fire Communications Center. The unit requesting helicopter support shall provide the FCC with enough information to enable the FCC to determine which type of helicopter to request. With the exception of the San Diego Police Department (ABLE) Air Support Unit, all requests for aircraft are placed with the Monte Vista Interagency Emergency Command Center (MVECC). All units requesting helicopter support shall provide:

a. Primary mission or reason for request, i.e., "aerial reconnaissance." "Emergency medical transportation for two patients." "Incident illumination." "Water dropping", etc.

b. Geographic location so that the FCC can provide latitude and longitude (GPS) coordinates when placing the request

c. Environmental conditions at the incident site, i.e., weather, wind speed and wind direction, etc.

d. Landing zone information, i.e., flat, sloping, grass, asphalt, concrete, possible weight restrictions, wet, dirty or dusty, vacant lot, roadway, public or private property, etc.

e. Special hazards, i.e., tall trees, wires, schools, public assemblies, law enforcement concerns, light standards, Hazmat or EDT incident, etc.

3. Communications with Helicopters

Once the resource order has been filled, the Fire Communications Center shall contact the Incident Commander and provide the following information:

a. Providing agency and type of helicopter

b. Radio frequency (channel) to contact helicopter

c. Estimated time of arrival (ETA)

It is imperative that the Incident Commander or designee monitor the assigned air frequency for updated aircraft position and to alert the incoming helicopter of any environmental or incident condition changes that could adversely impact the safety of the mission. With the exception of dispatch, there shall be only one (1) point of radio contact for the helicopter pilot at any given time. The Incident Commander or the Operations Section Chief at an incident may choose to assign a helicopter to a Division/Group Supervisor or other unit who would then assume the single point of contact responsibility for the aircraft. During a wildland fire that involves multiple aircraft, CDF shall dispatch an Air Tactical Group Supervisor (ATGS) to provide airspace coordination and tactical information to the Incident Commander. If the complexity of the incident expands, an ICS qualified Air Operations Branch Director (AOBD) shall be requested to provide for the management of the air operation. This position is ground based and will be co-located with the Incident Commander at the Incident Command Post (ICP).

4. Landing Zones

The size of the landing zone will depend largely on the make and model (ICS Type) of the helicopter and the environmental conditions at the proposed landing site. As a rule of thumb, the below listed dimensions are "safety circle" and "touchdown pad" dimensions for the specific ICS type of helicopter that will be landed:

	Type 1 (Heavy)	**Type 2 (Medium)**	**Type 3 (Light)**
Safety Circle	110' Diameter	90' Diameter	75' Diameter
Touchdown Pad	30' x 30'	20' x 20'	15' x 15'

5. Definitions:

a. Safety Circle: This is a 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

6. Site Location

a. Where possible, select sites where bystanders can be easily excluded. For operational safety, an isolated site may be preferred to one in a populated area

b. 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

c. The landing zone shall be totally free of brush, stumps, fence posts, large rocks and similar obstructions. Landing areas must be free from all loose materials such as trash, plywood, sheet-metal, etc. 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. Dust abatement shall be provided when appropriate

d. Parks, school playgrounds, and football fields may be ideally suited, but should be selected only when other sites are not available in the area. STATE LAW PROHIBITS LANDING WITHIN 1000 FEET OF SCHOOLS (GRADES K THROUGH 12) WITHOUT PRIOR APPROVAL. As a public safety agency, we are exempted only if there are no reasonable alternatives and the urgency of the situation warrants

7. Night Operations Safety

a. Provide existing weather information at the scene at the time of request and whatever preliminary information is available on the proposed landing area and hazards. The weather minimums are a 500 foot ceiling (cloud base) and 3 miles visibility at the point of departure, enroute, and at the destination

b. Wires and dust are a major concern during the daytime and both present considerably more of a hazard at night. When selecting a site, make a thorough safety inspection. In addition to checking the area for debris, etc., locate all poles within 200 feet of the site and observe how the wires are connected. This includes not only main lines running from pole to pole, but smaller lines that may come off poles at lower levels and cross roads or angle directly to buildings. These poles shall be checked with a spotlight and information relayed to the pilot

c. When the helicopter arrives, communicate with the pilot and make him/her aware of your findings, to include known or observed wires or other hazards beyond the 200 foot mark mentioned above. The pilot may ask you to spotlight poles or wires in the area. Based upon all the facts, the pilot may use your selected spot, pick a spot that he/she is more familiar with, or abort the mission

d. 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

e. 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 (fusees), flash photography or T.V. lighting is prohibited for the same reason

f. At night, 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

g. Coordinate all activities by radio prior to landing and through communication with the crew while on the ground

8. Medical Helicopter Protocol

a. The purpose of this medical helicopter protocol is to direct access to, and dispatch of, helicopter emergency care services to achieve effective, efficient and coordinated response to medical emergencies

b. The helicopter emergency care service should be requested only under the following circumstances:

1) Primary Response: Serious medical emergencies which are located in areas inaccessible to ground ambulance transportation, or where there will be an inordinate delay by land transport. Situations requiring transportation of patients to a decompression chamber or other facility with specialized medical resources

2) Secondary Response: Serious medical emergencies where EMT's or paramedics who are treating patients feel that the helicopter medical team, or air transport will be of medical benefit to the patient

c. Procedure:

1) The Incident Commander can request the medical helicopter in the same manner as outlined previously

2) Prior to the request, a primary screening of the incident should take place to determine the appropriateness of the request. In so doing the following information should be required:

a) Type and extent of injuries or illness, and the number of victims

b) ETA of nearest land based ambulance

c) Nearest acceptable landing site and potential hazards

d) Weather conditions

e) Nearby landmarks

f) Address and cross streets

g) Name or call sign of ground contact

d. Utilization:

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 do so, or trained to do

7) The flight crew will direct loading and unloading of equipment and patients

8) Crowds must be kept back 100 feet from the helicopter at all times

9) Avoid shining 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

e. Landing Zone

An area 100 feet in diameter, clear of wires, trees, emergency vehicles, signs and loose debris is required. If high winds are a factor, an area 100 feet in diameter is required. The surface should be as smooth as possible, with no more than an 8 degree slope. Consider dust abatement measure if time allows.

During hours of darkness a red flare (fusee) may be placed 75-100 feet downwind of the landing zone, or a vehicle may be positioned 100 feet downwind of the landing zone with its headlights shining into the wind and illuminating the landing zone.
Radio contact should be maintained between the helicopter and ground control at the landing site during the landing operation.

One ground crewmember should be dedicated to the immediate safety of the landing zone area, and remain in contact with the pilot via radio.