

Sonoma County Fire Chiefs' Association - Operations Section

PROCEDURE: Helicopter Landing Zone Policy
EFFECTIVE DATE: November 10, 2010

APPROVED BY: SCFCA
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PURPOSE

To provide a consistent, efficient and coordinated approach for the setup and security of all helicopter landing zones.

POLICY

The IC or designee shall function as the Landing Zone "LZ" Coordinator, who shall:

1. Authorize the landing of a helicopter at the incident. If there is only one landing zone at the scene of the emergency, it is the LZ Coordinator's responsibility to land the helicopter that is equipped for the appropriate level of care needed by the patient.
2. Provide timely communication of scene conditions, safety issues, Haz-Mat incidents, criminal activity, etc., and other pertinent information to the helicopter.

LANDING ZONE SETUP

The LZ Coordinator is responsible for the identification, selection, preparation and security of the landing zone to minimize the risk of scene response hazards.

Preparation for Arrival - Selecting the LZ should be accomplished with the following considerations:

3. **Size** - During both day and night operations select an area of at least 100 ft. x 100 ft. The bigger the better.



4. **Hazards** – The LZ area should be walked by the LZ coordinator to identify any obvious and hidden hazards. This will include any loose debris, large rocks, tree stumps, etc. Many ground hazards can be covered by tall grass. Will the rotor wash cause debris (trash, plywood, garbage cans, shopping carts, etc.) to be blown around by the high velocity winds? Some items can be picked up by the rotor wash and be blown into the rotor system causing damage to the aircraft or could be blown away from the aircraft potentially causing harm to onlookers or scene personnel.



5. **Obstructions** - Tall obstructions / hazards can be determined by standing in the center of the LZ and with one arm raised to a 45 degree angle anything that is noted to be in the proximity of the LZ and above the individuals arm would be identified as a hazard and should be communicated to the flight crew prior to landing. Wires and poles are the most common hazards along with trees. The perimeter of the LZ should be walked entirely and searched for overhead wires and or poles that may indicate the presence of wires. If able, park vehicles under and parallel to the direction of the wires.



6. **Surface** – The surface should be as firm and level as possible. Sand, loose dirt or snow is acceptable but could cause visibility problems (brown out or white out) during landing. Be aware that tall grass can be okay but the underlying surface may not be flat, or have hidden obstacles (tree stumps, fence posts, holes, berms). A soggy wet field may cause the aircraft wheels or skids to sink beyond a safe point. The practice of wetting down a dusty LZ is encouraged and may be requested by the flight crew. Particular attention should be made to wetting down the perimeter of the LZ and work toward the center. As the helicopter is making its final approach most debris/dust will initially be blown beginning at the leeward perimeter of the LZ.

7. **Slope** – The slope of the LZ should be no greater than 10 degrees. Always approach the aircraft from the downhill side, never approach from the uphill side.

- a. **Location** - Proximity and accessibility are two important aspects of every LZ. Try to get the LZ setup as close to the scene as practical and downwind. Avoid having the helicopter approach over the incident to minimize rotor wash on scene operations. Be aware of areas for physical access from the scene to the aircraft, i.e. fences, ditches, guard rails etc. The patient will have to be carried over these obstacles, so choose a clear path if available. Avoid blocking traffic if possible, but if landing on a road stop all traffic in both directions without exception; Coordinate with public safety

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agencies for road closures, if necessary.

b. **LZ operations on roadways and highways**-LZ operations on roadways and highways, or immediately adjacent thereto, must be coordinated with on-scene law enforcement. Avoid blocking traffic if possible, but if landing on a road **stop all traffic in both directions without exception**. Where law enforcement is on-scene prior to designating the LZ, the designation of the LZ should be in conjunction with the on-scene officer in charge

8. **Wind Direction** – In most cases the helicopter will land 'into the wind' or with the wind to its nose. All reference to wind direction should be made with indication of where the winds are coming from.

9. Night Time Landing Operations

- a. If you have an LZ kit, place the four amber colored lights around the perimeter of the LZ. A fifth light should be placed along the perimeter of the LZ to indicate wind direction as it enters the LZ. The lights should be secured as well as possible given the terrain.
- b. Without an LZ Kit - If vehicles are available, park them at the perimeter of the LZ with the headlights shining toward the center of the LZ to form an "X".
- c. Once the helicopter visualizes the LZ, be prepared to discontinue the use of lights as to not interfere with pilot's night vision goggles (NVG).
- d. Do not direct any light directly toward the aircraft.
- e. Do not use flares to mark an LZ.
- f. The aircraft should be directed into the wind for final approach.

10. **Once the aircraft is in sight** – When ready, the aircrew will request LZ info. The LZ Coordinator will begin to offer information on wind speed and direction, hazards, obstructions/obstacles, terrain surface conditions and other special landing considerations (i.e. crowd is secured and traffic is stopped). Hand signals need not be used during landing operations.



11. **Communication** – As the helicopter approaches the LZ, they will contact you on "Cal-Cord". When radio contact is made, it is imperative that the helicopter communicates with the Landing Zone Officer, the one person assigned to establish and secure the landing zone. The LZ Officer should describe the LZ location as GPS coordinates or by the correct compass direction and distance from the incident. The LZ Coordinator must also provide an incoming helicopter provider the following information:

- a. Notification of multiple helicopters overhead and or inbound

Arrival/Ground Operations



1. **Traffic/Crowd Control** – All vehicular and pedestrian traffic must be prevented from entering the LZ. No scene personnel should get closer than 50 ft to the perimeter of the LZ unless approved and directed by a flight crew member. Vehicular traffic includes all scene response, police and civilian vehicles. Keep all bystanders at least 100 ft – 200 ft from the LZ perimeter. A fenced in area will be helpful in keeping people away but, on the other hand there may be livestock that could pose a similar problem.
2. The LZ coordinator should stand at the upwind edge of the LZ (in proximity of the wind direction light at night). This will place the Coordinator at the far edge of the landing zone with the wind at his / her back. This will also place the LZ coordinator away from the helicopter as it makes its final approach into the wind.
3. All other personnel or bystanders should be kept to the extreme edge of the LZ to protect them from objects that could be blown by the helicopters' rotor wash or downdraft.
4. The pilot is the final authority to accept or reject any landing zone and may elect to change

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the location if a more suitable one is identified.

5. As the helicopter approaches turn your back to the LZ and pay attention to any persons who may feel the need to approach without direction from the crew.
6. Once the aircraft has made its approach to the LZ it may hover and maneuver to provide the best accessibility for the patient loading.
 - a. At no time should any ground personnel approach or return to the helicopter without specific crew approval, direction and accompaniment.
 - b. When approaching any helicopter, approach in the crouched position when entering the trip path and remain crouched until well under the rotor disc and close to the helicopters fuselage.
 - c. At no time should personnel be behind the horizontal tail fins on a rear loading aircraft or behind the fuselage where the tail booms begin on a side loading aircraft.
 - d. Ground personnel should have appropriate head, hearing, and eye protection if operating near the helicopter and have no loose objects on their person.
 - e. No equipment above mid chest level when approaching a running helicopter (i.e. IV poles, bags, etc.).
 - f. Only flight crew personnel should operate helicopter devices and parts (aircraft doors, baggage compartments, cowlings, litter locking devices, etc.).
7. Some patients may be declined due to:
 - a. Radioactive or chemical contamination unless proper decontamination steps have been taken.
 - b. Patients that are violent or combative unless they are physically or chemically restrained.
 - c. Patients who do not meet the weight limitations (pounds and girth) of the aircraft loading system/sled/gurney may need a different mode of transport.

Departure

1. During ground operations the pilot will have already formulated a departure path/plan. Depending on situation the departure path may be into the wind passing over the windward side of the LZ perimeter. Other times the departure may mimic the approach. In any case when the helicopter is preparing to depart, be aware of any equipment or compartment doors that may be open and immediately notify the crew.
2. Prior to the aircraft departing, the LZ coordinator should look for overhead traffic (other Aircraft, news helicopters, airplanes) since visibility is limited above the departing aircraft. The LZ coordinator should report that the "overhead is clear of traffic".
3. When the pilot begins to depart, turn your back to the helicopter and after the helicopter departs the LZ, the security of the LZ should be maintained until the pilot "clears the aircraft of the LZ." This is in case the departing helicopter must emergently return due to mechanical or other safety issues.

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