

Helicopter Landing Zone Operations

A. General Provisions

Objective:

Public safety is paramount. Establishing and operating a helicopter landing zone (LZ), is that element of emergency response helicopter operations under the jurisdiction of East Greenbush Fire District #3. Helicopter operations, being a magnet to the highly curious general public, coupled with an LZ location in most circumstances being well outside an incident perimeter, may present a significant public hazard if managed improperly. Therefore, it is incumbent upon East Greenbush Fire District #3 to establish and adhere to safe and effective helicopter landing zone practices.

B. Command and Control

Landing Zone (LZ) Officer:

Upon initiating helicopter operations, the East Greenbush Fire District #3 incident commander will appoint an LZ Officer, establish an air operations chain of command appropriate to the ongoing incident and place required emergency response personnel under the command & operational control of the LZ Officer.

At and about the LZ, under authority delegated by the incident commander, an LZ Officer has command and operational control of:

- all personnel within the LZ operations perimeter, except aircrew(s) from responding helicopter(s),
- access into and about the landing zone,
- all emergency equipment within the landing zone operations perimeter, excepting the responding helicopter(s).

Communications:

The incident commander or his designee will advise 911 Dispatch of the radio frequency for helicopter to LZ communications, which for East Greenbush Fire District #3 is 46.22 mhz.

All LZ operational communication will be channeled through the LZ Officer, with the primary means being two way radios.

Radio communications between a responding helicopter and the LZ Officer will be conducted on frequency 46.22 mhz.

Radio communications between the LZ Officer and incident ground elements will be on radio frequencies other than 46.22 mhz.

LZ Officers will use the call sign “LZ – followed by the incident identifier”. For example, if the incident commander identifier was Luther Road Command, the LZ Officer call sign would be “LZ Luther Road”.

LZ Officers can expect Albany Medical Center based helicopters to use a “Life Net” call sign and NY State Police helicopters to use a “Life Guard” call sign.

Emergency response helicopters will normally initiate radio communication with an LZ five (5) minutes prior to landing.

On visual contact with the helicopter, directional information will be referenced to the helicopter nose being the 12 o’clock position and the tail being the 6 o’clock position. For example, if the LZ location was directly behind the helicopter, the LZ Officer would report, “The LZ is at your 6 o’clock position

Upon landing of the helicopter(s), the LZ Officer will maintain constant communication with the helicopter air crew(s), either by two way radios, hand signals or direct conversation.

C. LZ Operations

Pursuant to authority delegated by an incident commander, the LZ Officer will, to the extent consistent with good judgment and experience, adhere to the following guidelines and adapt to changing circumstances as required.

Initial Preparation:

Select, mark and locate the landing zone. (reference section “D” for LZ criteria)

Report the LZ location and its operational status to the incident command post.

Establish and maintain a positive control safety perimeter about the LZ; only allowing emergency response personnel necessary to an ongoing task within the safety perimeter. Access through and within the LZ perimeter is the responsibility and under direct authority of the LZ Officer. In addition, the general public must be kept well clear of the LZ, with due regard to the helicopter approach and departure path.

Establish an emergency response capability at the LZ, to include fire apparatus and medical resources, in the event of an emergency situation occurring at the LZ.

The LZ Officer will require all emergency response personnel at the LZ to use eye and ear protection and wear protective equipment consistent with their function. In addition, doors and windows on emergency apparatus will be closed.

Before Landing:

Clear the LZ of all personnel, vehicles, equipment and any other item which may be hazardous to helicopter operations.

Upon initial radio communication with an inbound helicopter, report:

LZ location, preferably using Global Positioning System (GPS) coordinates,

LZ size,

any obstacles or hazards,

surface & slope of the LZ terrain,

wind direction & velocity, with wind direction referenced to the direction it is coming from, for example, a north wind comes from the north and blows to the south,

number, status and location of any patients to be transported,

remarks.

After Landing:

Maintain radio or visual communication with the helicopter aircrew and the incident command post.

Prohibit personnel from approaching the helicopter until cleared by the flight crew and so directed by the LZ Officer. On approaching the helicopter, personnel will comply with directions given by a flight crew member.

Continue exercising positive control of all LZ access, only allowing access to required emergency response personnel.

Arrange aircrew transportation if patients are not located near the LZ.

Before Liftoff:

Clear all personnel, equipment and vehicles from the LZ.

To the extent practicable, clear the helicopter departure path of people and vehicles.

Maintain radio and visual communication with the helicopter.

After Liftoff:

In the event of a helicopter emergency on departure, the LZ Officer will maintain a secure LZ and radio watch until the helicopter has safely departed the local area.

Report the helicopter departure to the incident command post and request LZ operations be terminated.

LZ operations will only be terminated by direction of the incident command post.

D. Landing Zone Criteria

Final authority, as to the suitability of a landing zone, is the pilot in command. LZ Officers must be prepared for the contingency that an LZ will be rejected by the pilot in command, necessitating an alternate course of action.

Size:

An area of 100 feet x 100 feet is the minimum for a helicopter landing zone

Surface:

An LZ surface should be level, with a slope of no greater than 5 degrees. The surface should be firm, to preclude loosely packed material being displaced by a helicopter rotor generated wind.

Obstacles:

Tall obstacles and wires about the LZ constitute a flight hazard. Any obstacles and wires about the LZ must be reported to the helicopter pilot upon initial contact.

Location:

An LZ should be located as close as possible to the incident scene, but never placed downwind from hazardous gas emissions or a chemical spill.

Markings:

During daylight hours, traffic cones or if the surface is unpaved, red traffic flags can be used to mark an LZ perimeter.

At night, box lights normally carried by fire apparatus, placed inside a red traffic cone will serve to mark the LZ. Also, red flashing lights on one emergency vehicle at the LZ should be on. However, the red emergency lights on all other vehicles at an incident must be off as to avoid confusion generated by too many red lights. Vehicle headlights at the LZ must be off.

Flares are not to be used, day or night, as they constitute a fire hazard and impair a pilot's vision.

NY State Police helicopters are equipped with night vision goggles which greatly facilitate locating an LZ at night. The LZ Officer need not implement any special procedures when operating with NY State Police helicopters equipped with night vision devices.

E. Special Precautions

Approach a helicopter only under the direction of a flight crew member.

Never approach a helicopter from the rear.

Never approach a helicopter from an uphill position. That is, never approach a helicopter from any direction while walking downhill.

While approaching a helicopter, never raise anything above head height.

Protective equipment must be worn by LZ personnel as noise and moving debris generated by helicopter operations present a hazard.

F. Terminology

Familiarization with some basic aviation terminology by an LZ Officer will facilitate a greater understanding of and potential problems associated with helicopter operations.

Density Altitude:

Combining two values, height above sea level and air temperature, produces a value termed density altitude. The combination of increasing height above sea level and increasing air temperatures, results in a higher density altitude. And as the density altitude increases, helicopter performance decreases. For the LZ Officer, this means on hot days and/or at LZs well above sea level, helicopters can't carry as much weight.

Maximum Gross Weight:

The maximum amount a helicopter can weigh and be able to fly. Meaning, if the maximum gross weight is exceeded, the helicopter can't fly.

Useful Load:

After loading the aircrew and fuel, the useful load is the amount of cargo and or passengers (patients) a helicopter can carry and not exceed the maximum gross weight. Meaning, for example, if a helicopter had to fly a long distance to a specialized medical facility, more fuel would be required than normal and its useful load would be decreased.

Single Engine Operation:

This term applies whenever twin engine helicopters, such as those operated by the NY State Police and Life Net, are for any reason operating on one engine. Depending upon gross weight and density altitude, a helicopter may not be able to sustain level flight during single engine operations. Meaning, the failure of one engine during the approach to or departure from an LZ could result in an emergency landing on or in the vicinity of the LZ.

Go Around:

The helicopter pilot, for some reason, has decided to abort his landing approach to an LZ.