

**Civil Aviation Authority of Malaysia**  
**ADVISORY INFORMATION 4/2020**



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## **HELICOPTER OPERATIONS IN VISUAL FLIGHT RULES (VFR)**

### **1 Introduction**

Helicopters can be used to fly a wide variety of missions such as the offshore operations supporting the oil and gas industry, fixing mast or antenna with Helicopter External Load Operations (HELO), flying patients in Helicopter Emergency Medical Services (HEMS), live news gathering, law enforcement or simply just sightseeing tours. With the versatility and ability to take off and land vertically, hovering, moving left and right as well as forward and backward easily, allowing this wonderful aircraft to fly almost anywhere without the need for runways like the fixed-wing aircraft.

The majority of helicopter operations are conducted in Visual Meteorological Condition (VMC) using the Visual Flight Rules (VFR). Operating in these conditions can be challenging especially when the flight is operated by a pilot in a lighter, single-engine helicopter that is not equipped with advanced safety equipment.

This advisory information is intended as reminder and highlights the hazards of helicopter operations in VFR and its associated risks with safety recommendations and advisory information.

## 2 VMC and VFR

“Visual Meteorological Conditions” mean meteorological conditions expressed in terms of visibility, distance from cloud and ceiling, equal to or better than specified minima in accordance with the visual flight rules.

“Visual Flight Rules” means a set of rules to govern flight under conditions in which outside visual reference can be complied with.

VFR flights are required to have minimum of 8km visibility at and above 10,000ft above mean sea level (AMSL), 5km below 10,000ft AMSL with 1500m horizontal and 1000ft vertical distance from clouds.

For helicopter flying at or below 3,000ft AMSL flying at a speed which having regard to the visibility is reasonable and remains clear of cloud and insight of the surface.

## 3 Hazards and Risks

Some of the identified hazards and its associated risks that may affect the operations of helicopter in VFR are tabulated below:

Hazard	Risk
Terrain, obstacle or water	Controlled Flight into Terrain (CFIT)
Other traffic in the vicinity	Loss of separation or mid-air collision
Weather deterioration	Inadvertent flight into Instrument Meteorological Condition (IMC)

## 4 Safety recommendation and advisory

### 4.1 Key points to consider when flying low-level flight near terrain, obstacle or body of water:

- a. Prepare your flight properly and be familiar with your route;
- b. Checked the surrounding terrain and Minimum Safe Altitude (MSA) along the route; and
- c. If the terrain ahead cannot be clearly marked, do not proceed further.

### 4.2 To reduce the loss of separation in flight:

- a. Increase your situational awareness;
- b. Avoid from being distracted and manage your workload accordingly;
- c. Ensure communication with air traffic controller can be maintained;
- d. Ensure to obtain proper clearance to fly in controlled airspace;
- e. Always keep a visual lookout; and
- f. Avoid illegal maneuver.

#### **4.3 To assist flight crew to remain in VMC throughout the flight:**

- a. Ensure to obtain the latest and necessary weather information;
- b. Delay or consider canceling the flight if weather conditions are marginal with the possibility of further deterioration or if it is uncertain whether the flight can be conducted safely;
- c. Always have in mind a possible safe landing area (such as large open areas, large field or nearby airport) along the route of the flight;
- d. Consider turning around if threatened by deteriorating visual cues and proceed back to VMC or to the first safe landing area. If uncertain, **LAND!**; and
- e. Ensure you have sufficient fuel onboard including contingencies.

## **5 Summary**

Aviate, Navigate and Communicate is a golden rule for flight crew in prioritising his/her task to fly safely in VFR. Always be in control, know where you are and where you flying to and always in communication with all relevant parties.



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