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FUEL AND OIL SUPPLY (HELICOPTERS)

1. INTRODUCTION

This AIC sets forth a means that would be acceptable to Department of Civil Aviation (DCA) Malaysia for the approval of fuel policy to be reflected in the Operation Manual, on minimum fuel to be carried on board by helicopters involved in public transport. It explains in detail on the fuel pre flight preparation and management required when conducting flights. This is in accordance with the Malaysian Civil Aviation Regulation 1996 (MCAR), regulation 55 (c) and regulation 47, 9th Schedule Part A (e). Adherence to this circular will also ensure conformity with ICAO Annex 6 Part III, requirements regarding fuel and oil supply.

2. It is important, therefore, that operators and crew should take a realistic view of the amount of fuel required, to satisfy the minimum fuel before departure and overhead an destination. The very least, fuel on board or remaining should be as follows :

2.1 Public Transport Operations

2.1.1 **All helicopters.** A flight shall not commence unless, taking into account both the meteorological conditions and any delays that are expected in flight, the helicopter carries sufficient fuel and oil to ensure that it can safely complete the flight. In addition, a reserve shall be carried to provide for contingencies.

2.1.2 **Visual flight rules (VFR) operations.** The fuel and oil carried in order to comply with 2.1.1 shall, in the case of VFR operations, be at least the amount sufficient to allow the helicopter :

- a) to fly to the heliport to which the flight is planned ;
- b) to fly thereafter for a period of 20 minutes at best-range speed plus 10 per cent of the planned flight time ; and

- c) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of DCA.

2.1.3 **Instrument flight rules (IFR) operations.** The fuel and oil carried in order to comply with 2.1.1 shall, in the case of IFR operations, be at least the amount sufficient to allow the helicopter :

2.1.3.1 When an alternate is not required, in terms of the duration of the flight and the meteorological conditions prevailing are such that there is a reasonable certainty that, at estimated time of arrival at the heliport of intended landing and for a reasonable period before and after such time, the approach and landing may be made under visual meteorological conditions as prescribed by DCA, shall fly to the heliport to which the flight is planned and thereafter :

- a) to fly for 30 minutes at holding speed at 450m (1500 feet) above the destination heliport under standard temperature conditions, and approach and land ; and
- b) to have an additional amount of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of DCA ; or

2.1.3.2 When an alternate is required, to fly to and execute an approach, and a missed approach, at the heliport to which the flight is planned, and there after ;

- a) to fly to the heliport to which the flight is planned ;
- b) to fly for 30 minutes at holding speed at 450m (1500 feet) above the alternate under standard temperature conditions, and approach and land ; and
- c) to have an additional amount of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies specified by the operator to the satisfaction of DCA ; or

2.1.3.3 When no suitable alternate is available, in terms of the heliport of intended landing is isolated and no suitable alternate is available, a point of no return (PNR) shall be determined, to fly to the heliport to which the flight is planned and thereafter for a period of two hours at holding speed.

2.2 Operations other than Public Transport

2.2.1 **All helicopters.** A flight shall not commenced unless, taking into account both the meteorological conditions and any delays that are expected in flight, the helicopter carries sufficient fuel and oil to ensure that it can safely complete the flight. In addition, a reserve shall be carried to provide for contingencies.

2.2.2 **Visual flight rules (VFR) operations.** The fuel and oil carried in order to comply with 2.2.1 shall, in the case of VFR operations, be at least the amount sufficient to allow the helicopter :

- a) to fly to the heliport to which the flight is planned ;
- b) to fly thereafter for a period of 20 minutes at best-range speed plus 10 per cent of the planned flight time ; and

- c) to have an additional amount of fuel, sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies as determined and specified by DCA.
- 2.2.3 **Instrument flight rules (IFR) operations.** The fuel and oil carried in order to comply with 2.2.1 shall, in the case of IFR operations, be at least the amount sufficient to allow the helicopter :
- 2.2.3.1 When an alternate is not required, to fly to the heliport to which the flight is planned and thereafter :
- a) to fly for 30 minutes at holding speed at 450m (1500 feet) above the destination heliport under standard temperature conditions, and approach and land ; and
 - b) to have an additional amount of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies.
- 2.2.3.2 When an alternate is required, to fly to and execute an approach, and a missed approach, at the heliport to which the flight is planned, and thereafter :
- a) to fly to the alternate specified in the flight is plan ; and then
 - b) to fly for 30 minutes at holding speed at 450m (1500 feet) above the alternate under standard temperature conditions, and approach and land ; and
 - c) to have an additional amount of fuel sufficient to provide for the increased consumption on the occurrence of any of the potential contingencies.
- 2.2.3.3 When no suitable alternate is available, in terms of the heliport of intended landing is isolated and no suitable alternate is available, a point of no return (PNR) shall be determined, to fly to the heliport to which the flight is planned and thereafter for a period of two hours at holding speed.
3. In computing the fuel and oil required at least the following shall be considered :
- a) meteorological conditions forecast ;
 - b) expected air traffic control routings and traffic delays ;
 - c) for IFR flight, one instrument approach at the destination heliport, including a missed approach ;
 - d) the procedures prescribed in the operations manual for loss of pressurisation, where applicable, or failure of one of power unit while en route ; and
 - e) any other conditions that may delay the landing of the aeroplane or increase fuel and / or oil consumption.
4. **Refuelling with passengers on board or rotors running.** A helicopter shall not be refuelled when passengers are embarking, on board, disembarking or when the rotor is turning.
5. Pilots should be aware that although every effort will be made to expedite their arrival, a call such as "Fuel Emergency" or "Short fo Fuel" has no status and ATC is not obliged to give priority to an aircraft with a shortage of fuel unless an emergency is declared. A radio call prefixed by MAYDAY

for distress or PAN for urgency will ensure priority handling but the helicopter's actual fuel state should reflect the seriousness of the emergency call.

6. All operator shall maintain fuel and oil records to enable DCA to ascertain that, for each flight, the requirements of the para 2 above have been complied with. Fuel and oil records shall be retained by the operator for a period of at least 3 months.
7. All operators or commanders of an aircraft, which is being flown over foreign state shall comply with any directive on fuel and oil supply requirements given by the appropriate authorities of that state.
8. This circular is issued for information, guidance and necessary actions.

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