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FUEL AND OIL SUPPLY

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 aircraft 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 1, para 4.3.6 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 a destination. The very least, fuel on board or remaining should be as follows :

2.1 Fuel Remaining Overhead Destination

- a) make an approach to land and ;
- b) carry out a missed approach and ;
- c) fly to an alternate aerodrome, carry out the subsequent approach and landing and ;
- d) hold at the alternate aerodrome for 30 minutes if the aeroplane is powered by turbo jet engines or 45 minutes if driven by propellers.

2.2 Fuel Onboard before Departure

- 2.2.1 All aeroplanes. A flight shall not be commenced unless, taking into account both the meteorological conditions and any delays that are expected in flight, the aeroplane 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.

2.2.1.1 Propeller-driven aeroplanes. The fuel and oil carried in order to comply with 2.2.1 shall, in the case of propeller-driven aeroplanes, be at least the amount sufficient to allow the aeroplane :

- a) When a destination alternate aerodrome is required, either :
- to fly to the aerodrome to which the flight is planned thence to the most critical (in terms of fuel consumption) alternate aerodrome specified in the operational and ATS flight plans and thereafter for a period of 45 minutes ; or
 - to fly to the alternate aerodrome via any predetermined point and thereafter for 45 minutes, provided that this shall not be less than the amount required to fly to the aerodrome to which the flight is planned and thereafter for :
 - 45 minutes plus 15 per cent of the flight time planned to be spent at the cruising level(s), or
 - two hours,
- Whichever is less.

- b) When a destination alternate aerodrome is not required :
- in terms of the duration of the flight and the meteorological conditions prevailing are such that there is reasonable certainty that, at the estimate time of arrival at the aerodrome of intended landing, and for a reasonable period before and after such time, the approach and landing may be made under visual meteorological conditions, to fly to the aerodrome to which is planned and there after for a period of 45 minutes ; or
 - in terms of the aerodrome of intended landing is isolated and there is no suitable destination alternate aerodrome, to fly to the aerodrome to which the flight is planned and thereafter for :
 - 45 minutes plus 15 per cent of the flight time planned to be spent at the cruising level(s), or
 - two hours,
- Whichever is less.

2.2.1.2 Aeroplanes equipped with turbo-jet engines. The fuel and oil carried in order to comply with 2.2.1 shall, in the case of turbo-jet aeroplanes, be at least the amount sufficient to allow the aeroplane ;

- a. When a destination alternate aerodrome is required, either ;
- to fly to and execute an approach, and a missed approach, at the aerodrome to which the flight is planned, and thereafter ;
 - to fly to the alternate aerodrome specified in the operational and ATS flight plans ; and then

- to fly for 30 minutes at holding speed at 450m (1500 feet) above the alternate aerodrome under standard temperature conditions, and approach and land ; and
- 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
- to fly to the alternate aerodrome via any predetermined point and thereafter for 30 minutes at 450m (1500 feet) above the alternate aerodrome, due provision having made for 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 ; provided that the fuel shall not be less than the amount of fuel required to fly to the aerodrome to which the flight is planned and thereafter for two hours at normal cruise consumption.

b. When a destination alternate aerodrome is not required :

- in terms of the duration of the flight and the meteorological conditions prevailing are such that there is reasonable certainty that, at the estimate time of arrival at the aerodrome of intended landing, and for a reasonable period before and after such time, the approach and landing may be made under visual meteorological conditions, to fly to the aerodrome to which the flight is planned and additionally ;
- to fly 30 minutes at holding speed of 450m (1500 feet) above the aerodrome to which the flight is planned under standard temperature conditions ; and
- 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 ; and
- in terms of the aerodrome of intended landing is isolated and there is no suitable destination alternate aerodrome, to fly to the aerodrome to which the flight is planned and thereafter for a period of two hours at normal cruise consumption.

2.2.2 In computing the fuel and oil required in 2.2.1 at least the following shall be considered :

- meteorological conditions forecast ;
- expected air traffic control routings and traffic delays ;
- for IFR flight, one instrument approach at the destination aerodrome, including a missed approach ;
- the procedures prescribed in the operations manual for loss of pressurisation, where applicable, or failure of one of power unit while en route ; and
- any other conditions that may delay the landing of the aeroplane or increase fuel and / or oil consumption.

3. Pilots should be aware that although every effort will be made to expedite their arrival, a call such as "Fuel Emergency" or "Short of 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 aeroplane's actual fuel state should reflect the seriousness of the emergency call.
4. Refuelling with passengers on board. An aeroplane shall not be refuelled when passengers are embarking, on board or disembarking unless it is properly attended by qualified personnel ready to initiate and direct an evacuation of the aeroplane by the most practical and expeditious means available.
 - 4.1 When refuelling with passengers embarking, on board or disembarking, two-way communication shall be maintained by the aeroplane's intercommunication system or other suitable means between the ground crew supervising the refuelling and the qualified personnel on board the aeroplane.
5. All operators 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.
6. 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.
7. This circular is issued for information, guidance and necessary actions.

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