

**AMC3 OPS.GEN.205 Fuel and oil supply**

## RESERVE FUEL - COMMERCIAL OPERATIONS OTHER THAN COMMERCIAL AIR TRANSPORT

1. Notwithstanding AMC3 OPS.GEN.205.A and AMC4 OPS.GEN.205.H for flights remaining within 25 NM of the aerodrome/operating site of departure and with operating flight crew on board only, reserve fuel should not be less than:
  - a. for aeroplanes, 20 minutes fuel at normal cruising altitude; and
  - b. for helicopters, 10 minutes fuel at best range speed.
2. The operator should demonstrate to the competent authority that the amount of reserve fuel in accordance with 1 is essential for carrying out a specialised task.
3. The operator should specify in the OM:
  - a. the type of activity where such reduced reserve fuel may be used;
  - b. methods of reading and calculating the remaining fuel; and
  - c. SOPs.
4. Refuelling facilities should be available at the aerodrome/operating site.
5. Refuelling should be performed between each flight.

**AMC4 OPS.GEN.205 Fuel and oil supply**

## REFUELLING/DEFUELLING PROCEDURES - COMMERCIAL OPERATIONS OTHER THAN COMMERCIAL AIR TRANSPORT

1. The operator should establish refuelling/defuelling procedures specifying:
  - a. the fuelling sites and equipment that may be used for fuelling the aircraft;
  - b. the fuel quality for fuelling the aircraft;
  - c. fire precautions and preparedness;
  - d. the transport and storage of fuel in the operators care according to established standards;
  - e. fuelling with engines/rotors running, if applicable; and
  - f. in-flight refuelling, if applicable.
2. These procedures should take into account the minimisation of fire hazards and adequate protection of the natural environment.

**AMC OPS.GEN.210 Refuelling with passengers embarking, on board or disembarking**

## GENERAL

1. Whenever applicable, the following precautions should be taken:
  - a. Fire fighting facilities of the appropriate scale should be positioned so as to be immediately available in the event of a fire, when using operating sites;
  - b. For aeroplanes:
    - i. One qualified person should remain at a specified location during fuelling operations with passengers on board. This qualified person should be capable of handling emergency procedures concerning fire protection and fire-fighting, handling communications and initiating and directing an evacuation;
    - ii. A two-way communication should be established and should remain available by the aeroplane's inter-communication system or other

- suitable means between the personnel involved in the operation supervising the refuelling and the pilot-in-command or other qualified personnel on board the aeroplane;
- iii. Crew, staff and passengers should be warned that re/defuelling will take place;
  - iv. 'Fasten Seat Belts' signs should be off;
  - v. 'NO SMOKING' signs should be on, together with interior lighting to enable emergency exits to be identified;
  - vi. Passengers should be instructed to unfasten their seat belts and refrain from smoking;
  - vii. Sufficient qualified personnel or the minimum required number of cabin crew, as applicable, should be on board and be prepared for an immediate emergency evacuation;
  - viii. If the presence of fuel vapour is detected inside the aeroplane, or any other hazard arises during re/defuelling, fuelling should be stopped immediately;
  - ix. The ground area beneath the exits intended for emergency evacuation and slide deployment areas should be kept clear;
  - x. Provision should be made for a safe and rapid evacuation;
- c. For helicopters:
- i. Door(s) on the refuelling side of the helicopter should remain closed;
  - ii. Door(s) on the non-refuelling side of the helicopter should remain open, weather permitting;
  - iii. Sufficient personnel should be immediately available to move passengers clear of the helicopter in the event of a fire.
  - iv. Sufficient qualified personnel should be on board and be prepared for an immediate emergency evacuation;
  - v. If the presence of fuel vapour is detected inside the helicopter, or any other hazard arises during re/defuelling, fuelling should be stopped immediately;
  - vi. The ground area beneath the exits intended for emergency evacuation and slide deployment areas should be kept clear;
  - vii. Provision should be made for a safe and rapid evacuation.
2. When re/defuelling with passengers on board, ground servicing activities and work inside the aircraft, such as catering and cleaning, should be conducted in such a manner that they do not create a hazard and that the aisles and emergency doors are unobstructed.
  3. The deployment of integral aircraft stairs or the opening of emergency exits as a prerequisite to refuelling is not necessarily required.

### **GM1 OPS.GEN.210 Refuelling with passengers embarking, on board or disembarking**

#### **REFUELLING/DEFUELLING WITH WIDE-CUT FUEL**

1. 'Wide-cut fuel' (designated JET B, JP-4 or AVTAG) is an aviation turbine fuel that falls between gasoline and kerosene in the distillation range and consequently, compared to kerosene (JET A or JET A1), it has the properties of higher volatility (vapour pressure), lower flash point and lower freezing point.

2. Wherever possible, an operator should avoid the use of wide-cut fuel types. If a situation arises such that only wide-cut fuels are available for refuelling/defuelling, operators should be aware that mixtures of wide-cut fuels and kerosene turbine fuels can result in the air/fuel mixture in the tank being in the combustible range at ambient temperatures. The extra precautions set out below are advisable to avoid arcing in the tank due to electrostatic discharge. The risk of this type of arcing can be minimised by the use of a static dissipation additive in the fuel. When this additive is present in the proportions stated in the fuel specification, the normal fuelling precautions set out below are considered adequate.
3. Wide-cut fuel is considered to be "involved" when it is being supplied or when it is already present in aircraft fuel tanks.
4. When wide-cut fuel has been used, this should be recorded in the technical log. The next two uplifts of fuel should be treated as though they too involved the use of wide-cut fuel.
5. When refuelling/defuelling with turbine fuels not containing a static dissipater, and where wide-cut fuels are involved, a substantial reduction on fuelling flow rate is advisable. Reduced flow rate, as recommended by fuel suppliers and/or aeroplane manufacturers, has the following benefits:
  - a. It allows more time for any static charge build-up in the fuelling equipment to dissipate before the fuel enters the tank;
  - b. It reduces any charge which may build up due to splashing;
  - c. Until the fuel inlet point is immersed, it reduces misting in the tank and consequently the extension of the flammable range of the fuel.
6. The flow rate reduction necessary is dependent upon the fuelling equipment in use and the type of filtration employed on the aeroplane fuelling distribution system. It is difficult, therefore, to quote precise flow rates. Reduction in flow rate is advisable whether pressure fuelling or over-wing fuelling is employed.
7. With over-wing fuelling, splashing should be avoided by making sure that the delivery nozzle extends as far as practicable into the tank. Caution should be exercised to avoid damaging bag tanks with the nozzle.

### **GM2 OPS.GEN.210 Refuelling with passengers embarking, on board or disembarking**

#### **REFUELLING/DEFUELLING PROCEDURES - COMMERCIAL OPERATIONS OTHER THAN COMMERCIAL AIR TRANSPORT**

The OM should contain procedures, including the following:

1. Fuel quality:
  - a. Documentation of fuel received;
  - b. Sampling;
  - c. Fuel grade;
  - d. Installation, storage and dispensing processes;
  - e. Labelling;
  - f. Checking and testing, as appropriate, of fuel specification, age and contamination.
2. Fuelling while the engines are running:
  - a. Safety precautions;
  - b. One pilot at the controls.