Annex VIII to ED Decision 2022/005/R

'AMC and GM to Annex VIII (Part-SPO) to Commission Regulation (EU) No 965/2012 — Issue 1, Amendment 15'

The text of the amendment is arranged to show deleted, new or amended text as shown below:

— deleted text is ~~struck through~~;

— new or amended text is highlighted in blue;

— an ellipsis '[…]' indicates that the rest of the text is unchanged.

Note to the reader

In amended, and in particular in existing (that is, unchanged) text, 'Agency' *is used interchangeably with* 'EASA'. *The interchangeable use of these two terms is more apparent in the consolidated versions. Therefore, please note that both terms refer to the* 'European Union Aviation Safety Agency (EASA)'.

The Annex to Decision 2014/018/R of 24 April 2014 of the Executive Director of the Agency is amended as follows:

AMC1 SPO.GEN.140(a)(18) Documents, manuals and information to be carried

APPROPRIATE METEOROLOGICAL INFORMATION

The appropriate meteorological information should be relevant to the planned operation, as specified in point (a) of point MET.TR.215 of Annex V (Part-MET) to Regulation (EU) 2017/373, and comprise the following:

(a) the meteorological information that is specified in point (e) of point MET.TR.215 of Part-MET; and

(b) supplemental meteorological information:

(1) information other than that specified in point (a), which should be based on data from certified meteorological service providers; or

(2) information from other reliable sources of meteorological information that should be evaluated by the operator.

GM1 SPO.GEN.140(a)(18) Documents, manuals, and information to be carried

DATA FROM CERTIFIED METEOROLOGICAL SERVICE PROVIDERS

In addition to GM1 SPO.GEN.140(a)(18) and in the context of point (b)(1) of AMC1 SPO.GEN.140(a)(18), the operator may consider that any meteorological information that is provided by the organisation within the scope of the meteorological information included in the flight documentation defined in point (e) of point MET.TR.215 of Part-MET should originate only from authoritative sources or certified providers, and should not be transformed or tampered, except for the purpose of presenting the data in the correct format. The organisation's process should provide assurance that the integrity of such service is preserved in the data to be used by both flight crews and operators, regardless of their form.

GM2 SPO.GEN.140(a)(18) Documents, manuals, and information to be carried

INFORMATION FROM OTHER RELIABLE SOURCES OF METEOROLOGICAL INFORMATION

In the context of point (b)(2) of AMC1 SPO.GEN.140(a)(18), reliable sources of meteorological information are organisations that are able to provide an appropriate level of data assurance in terms of accuracy and integrity. The operator may consider in the evaluation that the organisation has a quality assurance system in place that covers source selection, acquisition/import, processing, validity period check, and distribution phase of data.

GM3 SPO.GEN.140(a)(18) Documents, manuals, and information to be carried

SUPPLEMENTAL METEOROLOGICAL INFORMATION AND SUPPLEMENTARY INFORMATION

Supplemental meteorological information: when operating under specific provisions and without the meteorological information from a certified service provider, the operator should use 'supplemental meteorological information', such as digital imagery. Related information can be found in point (e)(4) of AMC1 CAT.OP.MPA.192.

Supplementary information: it is included in point (a) of AMC1 CAT.GEN.MPA.180(a)(18) and refers to meteorological information to be reported in specific cases such as freezing precipitation, blowing snow, thunderstorm, etc.

GM1 SPO.OP.105 Specification of isolated aerodromes — aeroplanes

USE OF AN AERODROME AS AN ISOLATED AERODROME

The concept of an isolated aerodrome allows the operator to use aerodromes that would otherwise be impossible or impractical to use with sufficient fuel to fly to the destination aerodrome and then to a destination alternate aerodrome, provided that operational criteria are used to ensure a safe-landing option, for example by specifying a point of no return (PNR). If alternate fuel is carried, the operator is not required to consider the aerodrome as isolated and use the aforementioned operational criteria.

AMC1 SPO.OP.131 Fuel/energy scheme — fuel/energy planning and in-flight re-planning policy — aeroplanes and helicopters

AEROPLANES

For the fuel planning policy, the amount of the required usable fuel for a flight should not be less than the sum of the following:

(a) taxi fuel that should take into account the local conditions at the departure aerodrome and the APU consumption;

(b) trip fuel that should include:

(1) fuel for take-off and climb from the aerodrome elevation to the initial cruising level/altitude, taking into account the expected departure routing;

(2) fuel from the top of climb to the top of descent, including any step climb/descent;

(3) fuel from the top of descent to the point where the approach procedure is initiated, taking into account the expected arrival routing; and

(4) fuel for making an approach and landing at the destination aerodrome;

(c) contingency fuel that should be:

(1) 5 % of the planned trip fuel or, in the event of in-flight re-planning, 5 % of the trip fuel for the remainder of the flight; or

(2) an amount to fly for 5 minutes at holding speed at 1 500 ft (450 m) above the destination aerodrome in standard conditions,

whichever is higher;

(d) destination alternate fuel that should be:

(1) when the aeroplane is operated with one destination alternate aerodrome:

(i) fuel for a missed approach from the applicable DA/H or MDA/H at the destination aerodrome to the missed-approach altitude, taking into account the complete missed-approach procedure;

(ii) fuel for climb from the missed-approach altitude to the cruising level/altitude, taking into account the expected departure routing;

(iii) fuel for cruising from the top of climb to the top of descent, taking into account the expected routing;

(iv) fuel for descent from the top of descent to the point where the approach is initiated, taking into account the expected arrival routing; and

(v) fuel for making an approach and landing at the destination alternate aerodrome;

(2) when the aeroplane is operated with no destination alternate aerodrome, the amount of fuel to hold for 15 minutes at 1 500 ft (450 m) in standard conditions above the destination aerodrome elevation;

(3) when the aerodrome of intended landing is an isolated aerodrome:

(i) for aeroplanes with reciprocating engines, the amount of fuel required to fly either for 45 minutes plus 15 % of the flight time planned for cruising, including the FRF, or for 2 hours, whichever is less; or

(ii) for turbine-engined aeroplanes, the amount of fuel required to fly for 2 hours with normal cruise consumption above the destination aerodrome, including the FRF.

(e) FRF that should not be less than the fuel required to fly:

(1) for 10 minutes at normal cruising altitude under VFR by day, taking off and landing at the same aerodrome/landing site, and always remaining within sight of that aerodrome/landing site;

(2) for 30 minutes at normal cruising altitude for other VFR flights by day; and

(3) for 45 minutes at normal cruising altitude under VFR by night, and under IFR for aeroplanes with reciprocating engines; and

(4) for 30 minutes at holding speed at 1 500 ft (450 m) above the aerodrome elevation in standard conditions, which is calculated according to the estimated mass on arrival under VFR by night and under IFR for turbine-engined aeroplanes,

Note: When the operator follows point (e)(1) for the FRF, the operator should specify in the standard operating procedures (SOPs):

— the type of operation in which such reduced RFR may be used; and

— the methods of reading and calculating the remaining fuel.

(f) additional fuel that should be the amount of fuel that allows the aeroplane to proceed, in the event of an engine failure or loss of pressurisation, from the most critical point along the route to a fuel en route alternate (fuel ERA) aerodrome in the relevant aircraft configuration, hold there for 15 minutes at 1 500 ft (450 m) above the aerodrome elevation in standard conditions, make an approach, and land;

(g) extra fuel if there are anticipated delays or specific operational constraints; and

(h) discretionary fuel, if required by the pilot-in-command.

HELICOPTERS

(i) The FRF should not be less than the fuel required to fly:

(1) for 10 minutes at best-range speed, provided that the helicopter remains within 25 NM of the aerodrome/operating site of departure, under VFR;

(2) for 20 minutes at best-range speed for flights other than the ones referred to in (i)(1) under VFR; and

(3) for 30 minutes at holding speed at 1 500 ft (450 m) above the destination or destination alternate under IFR.

(j) If point (i)(1) is used for the FRF, the operator should specify in the SOPs:

(1) the type of operation in which such reduced FRF may be used; and

(2) methods of reading and calculating the remaining fuel.

AMC1 SPO.OP.155 Refuelling with persons embarking, on board or disembarking

OPERATIONAL PROCEDURES — AEROPLANES

(a) Operational procedures should specify that at least the following precautions are taken:

(1) One qualified person should remain at a specified location during fuelling operations with persons on board. This qualified person should be capable of handling emergency procedures concerning fire protection and firefighting~~fire fighting~~, handling communications and initiating and directing an evacuation.

[…]

~~**OPERATIONAL PROCEDURES — HELICOPTERS**~~

~~(b) Operational procedures should specify that at least the following precautions are taken:~~

~~(1) Door(s) on the refuelling side of the helicopter remain closed.~~

~~(2) Door(s) on the non-refuelling side of the helicopter remain open, weather permitting.~~

~~(3) Firefighting facilities of the appropriate scale be positioned so as to be immediately available in the event of a fire.;~~

~~(4) Sufficient qualified personnel are on board and be prepared for an immediate emergency evacuation.~~

~~(5) If the presence of fuel vapour is detected inside the helicopter, or any other hazard arises during refuelling, fuelling should be stopped immediately.~~

~~(6) The ground area beneath the exits intended for emergency evacuation be kept clear.~~

~~(7) Provision should be made for a safe and rapid evacuation.~~

AMC2 SPO.OP.155 Refuelling with persons embarking, on board or disembarking

OPERATIONAL PROCEDURES — helicopters

When the helicopter rotors are stopped, the efficiency and speed of task specialists disembarking from and re-embarking on board helicopters is such that disembarking before refuelling and re-embarking after refuelling is the general practice. However, if such operations are needed, the operator should refer to AMC1 SPO.OP.157 and AMC2 SPO.OP.157. Operational procedures to be described in the operations manual (OM) should specify that at least the relevant precautions of the aforementioned AMC are taken.

AMC1 SPO.OP.157 Refuelling with engine(s) and/or rotors turning — helicopters

OPERATIONAL PROCEDURES — NO TASK SPECIALISTS ON BOARD

Operational procedures in the OM should specify that at least the following precautions are taken:

(a) all necessary information should be exchanged in advance with the aerodrome operator, operating-site operator, and refuelling operator;

(b) the procedures to be used by crew members should be defined;

(c) the procedures to be used by the operator's ground operations personnel that may be in charge of refuelling or assisting in emergency evacuations should be described;

(d) the operator's training programmes for crew members and for the operator's ground operations personnel should be described;

(e) the minimum distance between the helicopter turning parts and the refuelling vehicle or installations should be defined when the refuelling takes place outside an aerodrome or at an aerodrome where there are no such limitations;

(f) besides any rescue and firefighting services (RFFSs) that are required to be available by aerodrome regulations, an additional handheld fire extinguisher with the equivalent of 5 kg of dry powder should be immediately available and ready for use;

(g) a means for a two-way communication between the crew and the person in charge of refuelling should be defined and established;

(h) if fuel vapour is detected inside the helicopter, or any other hazard arises, refuelling/defuelling should be stopped immediately;

(i) one pilot should stay at the controls, constantly monitor the refuelling, and be ready to shut off the engines and evacuate at all times; and

(j) any additional precautions should be taken, as determined by the risk assessment.

AMC2 SPO.OP.157 Refuelling with the engine(s) running and/or rotors turning — helicopters

OPERATIONAL PROCEDURES — TASK SPECIALISTS ON BOARD

In addition to AMC1 SPO.OP.157, for refuelling with task specialists on board, operational procedures in the OM should specify that at least the following precautions are taken:

(a) the positioning of the helicopter and the corresponding helicopter evacuation strategy should be defined taking into account the wind as well as the refuelling facilities or vehicles;

(b) on a heliport, the ground area beneath the exits that are intended for emergency evacuation should be kept clear;

(c) an additional task specialist briefing as well as instructions should be defined, and the 'No smoking' signs should be on unless 'No smoking' placards are installed;

(d) interior lighting should be set to enable identification of emergency exits;

(e) the use of doors during refuelling should be defined: doors on the refuelling side should remain closed, while doors on the opposite side should remain unlocked or, weather permitting, open unless otherwise specified in the AFM; and

(f) at least one suitable person or appropriately trained task specialist capable of implementing emergency procedures for firefighting, communications, as well for initiating and directing an evacuation, should remain at a specified location; this person should not be the qualified pilot at the controls or the person performing the refuelling.

GM1 SPO.OP.157 Refuelling with the engine(s) and/or rotors turning — helicopters

RISK ASSESSMENT

The risk assessment should explain why it is not practical to refuel with the engine(s) and rotors stopped, identify the additional hazards, and describe how the additional risks are controlled. Helicopter offshore operations (HOFO) are typical operations where the benefits should outweigh the risks if mitigation measures are taken.

Guidance on safe refuelling practices is contained in ICAO Doc 9137 *Airport Services Manual*, Parts 1 and 8.

The operator's risk assessment may include, but not be limited to, the following risks, hazards and mitigation measures:

(a) risk related to refuelling with rotors turning;

(b) risk related to the shutting down of the engines, including the risk of failures during start-up;

(c) environmental conditions, such as wind limitations, displacement of exhaust gases, and blade sailing;

(d) risk related to human factors and fatigue management, especially for single-pilot operations for long periods of time;

(e) risk mitigation, such as the safety features of the fuel installation, rescue and firefighting (RFF) capability, number of personnel members available, ease of emergency evacuation of the helicopter, etc.;

(f) assessment of the use of radio transmitting equipment;

(g) determination of the use of seat belts; and

(h) review of the portable electronic device (PED) policy.

GM1 SPO.OP.190(b)&(d) Fuel/energy scheme — in-flight fuel/energy management policy

FINAL RESERVE FUEL PROTECTION

To ensure a safe landing, the pilot needs to protect the final reserve fuel (FRF) in accordance with point SPO.OP.131. The objective of the FRF protection is to ensure that a safe landing is made at any aerodrome or operating site when unforeseen circumstances may not allow to safely complete the flight, as originally planned.

When the FRF can no longer be protected, then a fuel emergency needs to be declared, as per point SPO.OP.190(d), and any landing option explored (e.g. for aeroplanes, aerodromes not assessed by the operator, military aerodromes, closed runways), including deviating from rules, operational procedures, and methods in the interest of safety (as per point CAT.GEN.MPA.105(b)).

ICAO Doc 9976 *Flight Planning and Fuel Management (FPFM) Manual* and the EASA *Fuel Manual* contain further detailed guidance on the development of a comprehensive in-flight fuel management policy and related procedures.

GM1 SPO.OP.190(c) Fuel/energy scheme — in-flight fuel/energy management policy

'MINIMUM FUEL' DECLARATION

The 'MINIMUM FUEL' declaration informs the ATC that all planned landing options have been reduced to a specific aerodrome or operating site of intended landing, and for helicopters, that no other landing site is available. It also informs the ATC that any change to the existing clearance may result in landing with less than the planned FRF/energy. This is not an emergency situation but an indication that an emergency situation is possible, should any additional delay occur.

The pilot should not expect any form of priority handling as a result of a 'MINIMUM FUEL' declaration. However, the ATC should advise the flight crew of any additional expected delays, as well as coordinate with other ATC units when transferring the control of the aircraft, to ensure that the other ATC units are aware of the flight's fuel/energy state.

ICAO Doc 9976 *Flight Planning and Fuel Management (FPFM) Manual* (1st Edition, 2015) and the EASA *Fuel Manual* contain guidance on declaring 'MINIMUM FUEL'.