

## Annex to Decision 2017/007/R

### 'AMC and GM to Part-ORO — Issue 2, Amendment 11'

The Annex to Decision 2014/017/R is hereby amended as follows:

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

1. deleted text is marked with ~~strike through~~;
2. new or amended text is highlighted in grey; and
3. an ellipsis (...) indicates that the remaining text is unchanged in front of or following the reflected amendment.

#### **AMC1 ORO.GEN.110(e) Operator responsibilities**

##### MEL TRAINING PROGRAMME

(...)

- (b) The operator should develop a training programme for crew members and detail such training in the Operations Manual. Such training programme should include:
  - (1) the scope, extent and use of the MEL;
  - (2) the operator's MEL procedures;
  - (3) elementary maintenance procedures in accordance with Commission Regulation (EU) No 1321/2014 ~~2042/2003~~; and
  - (4) pilot-in-command/commander responsibilities.

(...)

#### **AMC1 ORO.GEN.130 Changes related to an AOC holder**

##### APPLICATION TIME FRAMES

- (a) The application for the amendment of an air operator certificate (AOC) should be submitted at least 30 days before the date of the intended changes.
- (b) In the case of a planned change of a nominated person, the operator should inform the competent authority at least ~~10~~ 20 days before the date of the proposed change.
- (c) Unforeseen changes should be notified at the earliest opportunity, in order to enable the competent authority to determine continued compliance with the applicable requirements and to amend, if necessary, the AOC and related terms of approval.

**GM1 ORO.GEN.130(a) Changes related to an AOC holder**

## GENERAL

- (a) Typical examples of changes that may affect the AOC or the operations specifications or the operator's management system, as required in ORO.GEN.200 (a)(1) and (a)(2), are listed below:

(...)

- (6) the accountable manager referred to in ORO.GEN.210(a);

- (7) ~~any of the persons referred to in ORO.GEN.210 (a) and (b)~~ reporting lines between the accountable manager and the nominated person;

(...)

**AMC1 ORO.GEN.130(b) Changes related to an AOC holder**

## MANAGEMENT OF CHANGES REQUIRING PRIOR APPROVAL

For changes requiring prior approval, the operators should conduct a safety risk assessment and provide it to the competent authority upon request.

**GM13 ORO.GEN.130(b) Changes related to an AOC holder**

## CHANGES REQUIRING PRIOR APPROVAL

The following GM is a non-exhaustive checklist of items that require prior approval from the competent authority as specified in the applicable Implementing Rules:

(...)

- (c) cabin crew:

- ~~(1) — evacuation procedures with a reduced number of required cabin crew during ground operations or in unforeseen circumstances;~~

- (1 2)** conduct of the training, examination and checking required by Annex V (Part-CC) to Commission Regulation (EU) No **1178/2011** ~~290/2012~~<sup>1</sup> and issue of cabin crew attestations;

- (2 3)** procedures for cabin crew to operate on four aircraft types;

- (4 3)** training programmes, including syllabi;

(...)

- (j) helicopter operations:

- ~~(1) — airborne radar approaches;~~

- (1 2)** over a hostile environment located outside a congested area, unless the operator holds an approval to operate according to Subpart J of Annex V (SPA.HEMS);

- ~~(3) — procedures for selecting off-shore alternates;~~

- (2 4)** to/from a public interest site;

<sup>1</sup> ~~Commission Regulation (EU) No 290/2012 of 30 March 2012 amending Commission Regulation (EU) No 1178/2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council. Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 311, 25.11.2011, p. 1).~~

(3 5) without an assured safe forced landing capability;

(...)

**AMC1 ORO.GEN.200(a)(1);(2);(3);(5) Management system**

NON-COMPLEX OPERATORS — GENERAL

(...)

(c) The operator should identify a person who fulfils the role of safety manager and who is responsible for coordinating the safety-management-related processes and tasks-system. This person may be the accountable manager or a person with an operational role within the operator.

(...)

**GM2 ORO.GEN.200(a)(1) Management system**

COMPLEX OPERATORS — SAFETY ACTION GROUP

(d) The safety action group should:

(1) monitor operational safety;

(2) resolve identified risks define actions to mitigate the identified safety risks;

(...)

**GM3 ORO.GEN.200(a)(1) Management system**

MEANING OF THE TERMS 'ACCOUNTABILITY' AND 'RESPONSIBILITY'

In the English language, the notion of accountability is different from the notion of responsibility. Whereas 'accountability' refers to an obligation which cannot be delegated, 'responsibility' refers to an obligation that can be delegated.

(...)

**GM1 ORO.GEN.200(a)(3) Management system**

INTERNAL SAFETY OCCURRENCE REPORTING SCHEME

(a) The overall purpose of the internal safety reporting scheme is to use reported information to improve the level of the safety performance of the operator and not to attribute blame.

(...)

**GM2 ORO.GEN.200(a)(3) Management system**

RISK MANAGEMENT OF FLIGHT OPERATIONS WITH KNOWN OR FORECAST VOLCANIC ASH CONTAMINATION

(...)

(f) Reporting

The operator should ensure that reports are immediately submitted to the nearest ATS unit using the VAR/AIREP procedures followed up by a more detailed VAR on landing together with, as applicable, a report, as defined in Commission Regulation (EU) No 996/2010 and Regulation (EU) No 376/2014 Directive 2003/42/EC, and an aircraft technical log entry for:

(1) any incident related to volcanic clouds;

(2) any observation of volcanic ash activity; and

(3) any time that volcanic ash is not encountered in an area where it was forecast to be.

(...)

**GM3 ORO.GEN.200(a)(3) Management system**

**COMPLEX ORGANISATIONS — SAFETY RISK MANAGEMENT — INTERFACES BETWEEN ORGANISATIONS**

(a) Hazard identification and risk assessment start with an identification of all parties involved in the arrangement, including independent experts and non-approved organisations. It extends to the overall control structure, assessing, in particular, the following elements across all subcontract levels and all parties within such arrangements:

- (1) coordination and interfaces between the different parties;
- (2) applicable procedures;
- (3) communication between all parties involved, including reporting and feedback channels;
- (4) task allocation responsibilities and authorities; and
- (5) qualifications and competency of key personnel.

(b) Safety risk management focuses on the following aspects:

- (1) clear assignment of accountability and allocation of responsibilities;
- (2) only one party is responsible for a specific aspect of the arrangement — no overlapping or conflicting responsibilities, in order to eliminate coordination errors;
- (3) existence of clear reporting lines, both for occurrence reporting and progress reporting;
- (4) possibility for staff to directly notify the operator of any hazard suggesting an obviously unacceptable safety risk as a result of the potential consequences of this hazard.

**GM1 ORO.GEN.200(a)(5) Management system**

**MANAGEMENT SYSTEM DOCUMENTATION — GENERAL**

(a) It is not required to duplicate information in several manuals. The information may be contained in any of the operator manuals (e.g. operations manual, ~~training manual~~), which may also be combined.

(...)

**AMC1 ORO.GEN.210(a) Application for an air operator certificate**

**INFORMATION ON THE ACCOUNTABLE MANAGER**

As part of being granted an air operator certificate (AOC), the operator should provide the competent authority with the following detailed information regarding the accountable manager:

- (a) name of the accountable manager;
- (b) position within the organisation;
- (c) information on means to ensure that all activities can be financed and carried out;
- (d) qualification relevant to the position; and
- (e) work experience relevant to the position.

**GM1 ORO.GEN.210(a) Personnel requirements**

**FUNCTION OF THE ACCOUNTABLE MANAGER**

- (a) The accountable manager should have the overall responsibility for running the organisation.
- (b) When the accountable manager is not the chief executive officer, the competent authority should be assured that the accountable manager has direct access to the chief executive officer and has the necessary air operations funding allocation.

**GM1 ORO.AOC.100(c) Application for an air operator certificate**

**MEANING OF CERTIFICATE OF AIRWORTHINESS**

A certificate of airworthiness means either a certificate of airworthiness issued in accordance with Part-21.B.326 or a restricted certificate of airworthiness issued in accordance with Part-21.B.327.

(...)

**AMC2 ORO.MLR.100 Operations manual — General**

**~~CONTENTS OF THE OPERATIONS MANUAL FOR CERTAIN TYPES OF OPERATIONS — NON-COMMERCIAL OPERATIONS WITH COMPLEX MOTOR-POWERED AIRCRAFT AND COMMERCIAL AIR TRANSPORT (CAT) OPERATIONS WITH SINGLE-ENGINE PROPELLER-DRIVEN AEROPLANES WITH A MOPSC OF 5 OR SINGLE-ENGINE NON-COMPLEX HELICOPTERS WITH A MOPSC OF 5, TAKING OFF AND LANDING AT THE SAME AERODROME OR OPERATING SITE, UNDER VFR BY DAY AND CAT OPERATIONS WITH SAILPLANES AND BALLOONS~~**

For non-commercial operations with complex motor-powered aircraft, or CAT operations with either single-engined propeller-driven aeroplanes with an MOPSC of 5 or less, or single-engined non-complex helicopters with an MOPSC of 5 or less, taking off and landing at the same aerodrome or operating site, under VFR by day, the OM should contain at least the following information, where applicable:

- (a) Table of contents;
- (b) Amendment control status and list of effective pages or paragraphs, unless the entire manual is re-issued and the manual has an effective date on it;
- (c) Duties, responsibilities and succession of management and operating personnel;
- (d) Description of the management system;
- (e) Operational control system;
- (f) Flight time limitations;
- (g) Standard operating procedures (SOPs);
- (h) Weather limitations;
- (i) Emergency procedures;
- (j) Accidents/incidents considerations;
- (k) Security procedures;
- (l) Minimum equipment list (MEL);
- (m) Personnel qualifications and training;
- (n) Record-keeping;

- (o) Normal flight operations;
- (p) Performance operating limitations;
- (q) Procedures for the preservation of recordings of the flight recorders in order to prevent inadvertent reactivation, repair or reinstallation of the flight recorders following an accident or a serious incident or when this preservation is directed by the investigating authority;
- (r) Handling of dangerous goods.

**AMC3 ORO.MLR.100 Operations manual — general**

CONTENTS — CAT OPERATIONS

- (a) The OM should contain at least the following information, where applicable, as relevant for the area and type of operation:

(...)

7 FLIGHT TIME LIMITATIONS

7.1 Flight and duty time limitations and rest requirements.

7.2 Exceedance of flight and duty time limitations and/or reductions of rest periods. Conditions under which flight and duty time may be exceeded or rest periods may be reduced, and the procedures used to report these modifications.

7.3 A description of the fatigue risk management, including at least the following:

- (a) the philosophy and principles;
- (b) documentation of processes;
- (c) scientific principles and knowledge;
- (d) hazard identification and risk assessment processes;
- (e) risk mitigation process;
- (f) FRM safety assurance processes; and
- (g) FRM promotion processes.

(...)

**AMC1 ORO.MLR.105(d)(3) Minimum equipment list**

SCOPE OF THE MEL

The MEL should include:

- (a) The dispatch conditions associated with flights conducted in accordance with special specific approvals held by the operator in accordance with Part-SPA.

(...)

**AMC1 ORO.MLR.105(g) Minimum equipment list**

OPERATIONAL AND MAINTENANCE PROCEDURES

- (a) The operational and maintenance procedures referenced in the MEL should be based on the operational and maintenance procedures referenced in the MMEL. Modified procedures may, however, be developed by the operator when they provide the same level of safety, as required by the MMEL. Modified

maintenance procedures should be developed in accordance with Commission Regulation (EU) No 1321/2014 ~~2042/2003~~.

(..)

**GM1 ORO.MLR.105(g) Minimum equipment list**

OPERATIONAL AND MAINTENANCE PROCEDURES

(...)

- (c) Normally, maintenance procedures are accomplished by the maintenance personnel; however, other personnel may be qualified and authorised to perform certain functions in accordance with Commission Regulation (EU) No 1321/2014 ~~2042/2003~~.

(...)

**GM1 ORO.MLR.115(c) Record-keeping**

PERSONNEL RECORDS

'Personnel records' in ORO.MLR.115(c) means detailed crew member training, checking and qualification records. These records include detailed examination records.

(...)

**GM1 ORO.MLR.115(d) Record-keeping**

TRAINING, CHECKING AND QUALIFICATION RECORDS

Training, checking and qualification records include records of all training, checking and qualifications of each crew member, as prescribed in Part-ORO.

(...)

**GM1 ORO.FTL.105(1) Definitions**

ACCLIMATISED

- (a) A crew member remains acclimatised to the local time of his/her ~~his or her~~ reference time during 47 hours 59 minutes after reporting no matter how many time zones he/she has crossed.
- (b) The maximum daily FDP for acclimatised crew members is determined by using table 1 of ORO.FTL.205(b)(1) with the reference time of the point of departure. As soon as 48 hours have elapsed, the state of acclimatisation is derived from the time elapsed since reporting at reference time and the number of time zones crossed.
- (c) A crew member is considered to be in an unknown state of acclimatisation after the first 48 hours of the rotation have elapsed unless he or she remains in the first arrival destination time zone (either for rest or any duties) in accordance with the table in ORO.FTL.105(1).
- (d) Should a crew member's rotation include additional duties that end in a different time zone than his or her first arrival destination's time zone while he or she is considered to be in an unknown state of acclimatisation, then the crew member remains in an unknown state of acclimatisation until he or she:
- (1) has taken the rest period required by CS FTL.235(b)(3) at home base;
  - (2) has taken the rest period required by CS FTL.235(b)(3) at the new location; or

- (3) has been undertaking duties starting at and returning to the time zone of the new location until he or she becomes acclimatised in accordance with the values in the table in ORO.FTL.105(1). To determine the state of acclimatisation, the two following criteria should be applied:
- (i) the greater of the time differences between the time zone where he or she was last acclimatised or the local time of his or her last departure point and the new location; and
  - (ii) the time elapsed since reporting at home base for the first time during the rotation.

(...)

#### **GM1 ORO.FTL.120 Fatigue risk management (FRM)**

##### **ICAO DOC 9966 — MANUAL FOR THE OVERSIGHT OF FATIGUE MANAGEMENT APPROACHES**

Further guidance on FRM processes, appropriate fatigue management, the underlying scientific principles and operational knowledge may be found in ICAO Doc 9966 (Manual for the Oversight of Fatigue Management Approaches).

(...)

#### **GM1 ORO.FTL.120(b)(3) Fatigue risk management (FRM)**

##### **SCIENTIFIC METHOD**

‘Scientific method’ is defined as ‘a method or procedure that has characterized natural science since the 17th century, consisting in systematic observation, measurement, and experiment, and the formulation, testing, and modification of hypotheses’<sup>2</sup>.

A scientific study may be required as an element of proactive fatigue hazard identification. Such a study should be based on scientific principles, i.e. use the scientific method. That means that the study should consist of the following elements as applicable to each individual case:

- (a) an introduction with a summary and the description of the study design, methods and results;
- (b) a statement of the hypothesis being tested, how it is being tested and a conclusion as to whether the hypothesis was found to be true or not;
- (c) a description of the data collection method and tools, e.g. the sensitivity of the activity monitors, further information on any model and its limitations and how it is being used as part of the study;
- (d) a description of how the study subjects were selected and how representative of the crew member population the study group is;
- (e) a description of the rosters the study participants have worked containing data such as e.g. flight and duty hours, number of sectors, duty start/finish times;
- (f) reports on mean sleep duration and efficiency and data for other standard measures (e.g. sleep timing, self-rated sleepiness/fatigue, sources of sleep disruption, performance, safety);
- (g) a description of how sleep and the other measures varied across the roster (i.e. day-to-day) and where and why minimum sleep occurred;
- (h) statistical data analysis to test the hypothesis; and

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<sup>2</sup> [https://en.oxforddictionaries.com/definition/scientific\\_method](https://en.oxforddictionaries.com/definition/scientific_method)



(i) the explanation of how the study results have been used to influence the design of the roster or other fatigue mitigations.

(...)

**GM2 CS FTL.1.235(b)(3) Additional rest to compensate for time zone differences**

**REST AFTER ROTATIONS WITH THREE OR MORE FLIGHT DUTY PERIODS**

For a rotation with three or more FDPs, the greatest time zone difference from the original reference time should be used to determine the minimum number of local nights of rest to compensate for time zone differences. If such a rotation includes time zones crossings in both directions, the calculation is based on the highest number of time zones crossed in any one FDP during the rotation.