

## Annex II to Decision 2019/004/R

### 'AMC and GM to Part ATCO — Issue 1, Amendment 2'

Annex I to Decision 2015/010/R of 13 March 2015 is hereby amended as follows:

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

- deleted text is ~~struck through~~;
- new or amended text is highlighted in blue; and
- an ellipsis (...) indicates that the remaining text is unchanged in front of or following the reflected amendment.

#### **AMC1 ATCO.B.020(a) Unit endorsements**

##### GENERAL

When aerodrome control service is provided from a 'remote tower' location (defined in EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2<sup>1</sup>), each aerodrome for which the service is provided should constitute its own unit endorsement.

#### **GM1 to AMC1 ATCO.B.020(a) Unit endorsements**

There might be cases where, for a given aerodrome, air traffic control service is provided from a 'conventional tower' (defined in EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2) during certain time periods and from a 'remote tower' (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2) at other times. In such cases, the unit endorsement(s) should indicate the working position(s) (conventional and/or remote tower) from which the licence holder is authorised to provide the service.

**NOTE:** This does not refer to contingency arrangements/contingency facilities, as the related training and use are deemed to be covered by any unit endorsement. When this is done on a temporary basis for shorter/limited time periods, e.g. during a validation or for transitional purposes, different unit endorsements for conventional and remote tower may not be considered necessary.

#### **GM1 ATCO.D.055(a) Unit training plan**

##### UNIT TRAINING PLAN FOR A REMOTE TOWER CENTRE

##### ATC UNIT FOR AERODROME CONTROL FROM A REMOTE TOWER

For the purpose of establishing a unit training plan, a 'Remote Tower Centre' (RTC) (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2) may be considered as one Air Traffic Control (ATC) unit.

The unit training plan of an RTC should include the list of the unit endorsement courses for all aerodromes which the RTC is providing service to.

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<sup>1</sup> See Annex I to ED Decision 2019/004/R.

**GM3 ATCO.D.060(c) Unit endorsement course****TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING REMOTE AERODROME AIR TRAFFIC SERVICES**

The unit endorsement course should enable air traffic controllers providing aerodrome control service from a 'remote tower' (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2) to acquire knowledge of the concept of remote aerodrome air traffic services and of the characteristics of the operating environment, to appreciate the necessity to consider the specific human factors influence on the remote aerodrome air traffic services, as well as to recognise specific abnormal situations and to manage their impact.

This could be achieved by addressing the following items:

— Introduction to remote aerodrome air traffic services

- Concept of remote aerodrome air traffic services (described in Chapters 3 and 4 of the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2);
- 'Remote tower modules' (RTMs) (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2);
- 'Remote tower centre' (RTC) (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2);
- Technical enablers used for remote aerodrome air traffic services (described in Section 3.5 and Chapter 5 of the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2); and
- Operational applications (described in Chapters 3 and 4 of the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2).

— Operating environment

- Configuration of the RTM and RTC (if applicable) and modes of operation
- 'Visual presentation' (defined and described in Chapter 2 and Section 5.2 of the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2) at the RTM, for example:
  - layout and orientation;
  - technical capabilities and limitations of a 'visual surveillance system' (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2), including among others:
    - impact of weather conditions on site the aerodrome;
    - end-to-end delay;
    - frame rate,
    - any differences in light conditions between the aerodrome and the visual presentation;
    - 'dead' pixels;

- any overlaid information and any site-specific equipment/functions such as sun filters; and
  - seasonal settings.
- Set-up and characteristics of the local equipment at the aerodrome, e.g. location of cameras, signalling lamp, etc.
  - Familiarisation with the physical aerodrome(s) environment and the different local stakeholders via study visit(s)
  - Local weather characteristics
- Human factors aspects
- Human factors influence on remote aerodrome air traffic services
- Factors that can generate fatigue in a 'remote tower' environment (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2), for example:
- eye strain caused by the performance of the visual presentation or by contrast in lighting against the background;
  - artificial light and/or lack of daylight in the RTM); and
  - preventing and mitigating strategies on fatigue.
- Procedures for degraded modes, for example:
- Complete or partial loss of the visual presentation
  - Corrupt, delayed or frozen image
  - Loss or degradation of the 'binocular functionality' (described in Section 5.2 of the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2).

#### ~~PERFORMANCE OBJECTIVES FOR AIR TRAFFIC CONTROLLERS PROVIDING AERODROME CONTROL SERVICE FROM A REMOTE TOWER~~

~~The performance objectives for air traffic controllers providing aerodrome control service from a remote tower should ensure, through the use of a Remote Tower Module (RTM), that applicants apply ATC procedures in a manner that airspace users are not negatively impacted/affected, providing at least the same level of safety as from a conventional tower.~~

#### **GM4 ATCO.D.060(c) Unit endorsement course**

##### **MULTIPLE MODE OF OPERATION**

When performing 'multiple mode of operation' (defined and described in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2), in addition to GM3 ATCO.D.060(c), the following items should also be considered:

- Use of communication facilities (e.g. aeronautical mobile service, aeronautical fixed service and surface movement control service) for simultaneous provision of air traffic services in geographically separated areas of responsibility
- Applicable procedures for traffic management, such as traffic prioritisation, enabling multiple mode of operation

- Procedures for prioritising between aerodromes
- Procedures for the transferring/merging/splitting of aerodromes in an RTM (defined in the EASA 'Guidance Material on remote aerodrome air traffic services' — Issue 2)
- Different weather and light conditions at different aerodromes
- Human capabilities/limitations with regard to the simultaneous handling of more than one aerodrome and distribution of attention

#### ~~TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING AERODROME CONTROL SERVICE FROM A REMOTE TOWER~~

~~For air traffic controllers providing aerodrome control service from a remote tower, the following subjects, subject objectives, topics and subtopics should be integrated into the unit endorsement course:~~

##### ~~Subject 1: REMOTE TOWER OPERATION~~

~~— The subject objective is:~~

~~Learners shall acquire knowledge of the concept of remote tower operations, the characteristics of the operating environment, as well as the functions and limitations of the equipment.~~

##### ~~TOPIC RTO 1 INTRODUCTION TO REMOTE TOWER OPERATION~~

~~Subtopic RTO 1.1 — Operational applications~~

~~Subtopic RTO 1.2 — Remote Tower Modules (RTMs), Remote Tower Centre (RTC)~~

~~Subtopic RTO 1.3 — Advanced Visual Features (AVFs) — Technologies, if available, to enhance visual presentation~~

##### ~~TOPIC RTO 2 OPERATING ENVIRONMENT~~

~~Subtopic RTO 2.1 — Configuration of the RTM~~

~~Subtopic RTO 2.2 — Visual presentation at the RTM, e.g. layout of the visual presentation, end-to-end delay, orientation, differences in light conditions between the aerodrome and the Out The Window (OTW) visual presentation, use of filters, recognition of 'dead' pixels~~

~~Subtopic RTO 2.3 — Operating methods~~

~~Subtopic RTO 2.4 — Set-up and characteristics of the local equipment, including the location of the cameras~~

~~Subtopic RTO 2.5 — Familiarisation with the physical aerodrome environment and the different stakeholders via study visit(s)~~

~~Subtopic RTO 2.6 — Weather conditions' impact on the equipment and on the visual presentation~~

##### ~~Subject 2: HUMAN FACTORS~~

~~The subject objective is:~~

~~Learners shall appreciate the necessity to consider the specific human factors influence on the remote provision of aerodrome control service.~~

##### ~~Subject 3: ABNORMAL SITUATIONS~~

The subject objective is:

Learners shall recognise specific abnormal situations and manage their impact.

#### **TOPIC ABN 1 LOSS OF VISUAL PRESENTATION**

Subtopic ABN 1.1 — Complete loss of visual presentation, e.g. ‘blank screens’ or frozen presentation

Subtopic ABN 1.2 — Visual presentation not being current

#### **TOPIC ABN 2 DEGRADED MODES OF VISUAL PRESENTATION**

Subtopic ABN 2.1 — Partial loss of visual presentation (e.g. loss of a screen(s) or camera failure)

Subtopic ABN 2.2 — Loss or degradation of the labelling system, if available

Subtopic ABN 2.3 — Loss or degradation of the zooming functionality and signalling lamp

### **GM1 ATCO.D.080(b) Refresher training**

#### **REFRESHER TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING REMOTE AERODROME AIR TRAFFIC SERVICES**

~~TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING AERODROME CONTROL SERVICE FROM A REMOTE TOWER~~

For air traffic controllers **holding a unit endorsement for the provision of** aerodrome control service from a **‘remote tower’** (defined in the EASA ‘Guidance Material on remote aerodrome air traffic services’ — Issue 2), the refresher training should include familiarisation with the physical aerodrome environment and the different stakeholders **e.g.** via study visit(s).

### **GM1 ATCO.D.085 Conversion training**

#### **CONVERSION TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING REMOTE AERODROME AIR TRAFFIC SERVICES**

~~TRAINING FOR AIR TRAFFIC CONTROLLERS PROVIDING AERODROME CONTROL SERVICE FROM A REMOTE TOWER~~

**In case of a transition** ~~When converting~~ from a **‘conventional tower’** (defined in the EASA ‘Guidance Material on remote aerodrome air traffic services’ — Issue 2) to a **‘remote tower’** (defined in the EASA ‘Guidance Material on remote aerodrome air traffic services’ — Issue 2), the conversion training for air traffic controllers ~~providing aerodrome control service from a remote tower~~ should at least include the **items listed** ~~subjects, subject objectives, topics and subtopics as specified in~~ **GM3 GM4 ATCO.D.060(c)**, and if applicable the items listed in GM4 ATCO.D.060(c).

**In case of a transition** ~~When converting~~ from a **‘remote tower’** to a **‘conventional tower’**, the training organisation should consider possible ~~additional~~ training needs, if appropriate, required by the change of operational environment.

**In case of a transition from ‘single mode of operation’** (defined in the EASA ‘Guidance Material on remote aerodrome air traffic services’ — Issue 2) to **‘multiple mode of operation’** (defined in the EASA ‘Guidance Material on remote aerodrome air traffic services’ — Issue 2), the conversion training for air traffic controllers should at least include the items listed in GM4 ATCO.D.060(c).