

RMT.0624 Phase 2 - RTO licensing and training questionnaire (version 2)

This is an update of the initial version distributed 2016.12.22. It includes one question (Q) received from one of the RMG members after distribution as well as the answer (A) from EASA thereto. Further to this it also includes some minor additional clarifications. Changes between this version and the initial distributed version are indicated as follows:

- **deleted text is marked with ~~strike through~~;**
- **new or amended text is highlighted in grey.**

- **Only** members and observers of the RMG of EASA RMT.0624 are invited to provide answers on this questionnaire.
- Please provide your answers to; helena.hoffman@easa.europa.eu, by 28 February.
- Please provide justifications for your answers.
- Please consider [ED Decision 2015/015/R](#) and its annexes when answering the questions below.

In this document, RTO means Remote Tower Operations.

Background/explanation

As there is currently no regulatory measures for AFIS Officer licensing/training in the EU regulatory framework, the questions below focus on ATC provision only.

1. Does provision of RTO require specific ATCO skills compared to those for conventional aerodrome ATC provision?

Yes, additional skills are needed for remote tower provision such as enhanced detection of runway incursion factors, understanding of the 360° in 270° (as little as 220° in some systems) view, identification of airborne aircraft, depth perception, visual presentation and that the camera lie and show you something better than reality, you don't know when it's dark etc. Such specific skills must be associated with a separate rating endorsement together with an associated unit endorsement to reflect the new complexity of the task.

In a multiple mode of operation especially, the divided attention to several aerodromes in not mistaking one for another, the combine/split of aerodrome control is a new skill to acquire.

There are also potential issues with local services (aerodrome operator, the fire service etc.) and the common understanding of the procedures around those activities, especially in a context where the national language is not used by the remote ATCO/AFISO or where the ATCO has a reduced situational and geographical understanding of the aerodrome considering they work from a remote location.

Weather and winds is another issue to consider in multiple mode. You may be forced to handle one airport with fog or snow storm and another with sky clear at the same time or airports with winds that affect your job heavily in different ways and not to mix this

These are simply a few examples of areas that must be taken into consideration and they are not limited to this.

There is an increase in workload on the ATCO in RTO operations especially in the multiple scenario, frequency confusion and equipment duplication mean that for an

ATCO operating in a multiple environment there is much greater emphasis on multi-tasking than in current operations.

Integration of VFR and IFR traffic in the RTO is considerably more complex to operate due to the warped perspective of screen compression. It is recommended that simultaneous IFR traffic and VFR circuits should be avoided.

2. Does provision of RTO require specific ATCO skills common for any remote tower implementation? (Meaning that the required RTO training or part of it would be the same not depending on the location and equipment used.)

ATCO training for RTO will require a procedural element as visual separation in vicinity of the aerodrome is difficult due to display compression. ATCO spatial awareness is a critical component of the ADV rating. The RTO operation makes the use of this skill extremely difficult. ATCOs in our experience use more procedural methods of separation in the RTO operation as visual presentation is not possible when a true picture is not being displayed.

There may be skills that an ATCO can transfer across various RTOs where for example, technology/equipment is the same. However, complications as listed in the answer to 1., as well as many other factors including depth perception, visual presentation and other human factors will mean that any set of generic skills common to any remote tower implementation is limited in scope as it is once again particular to the operation of each individual position.

3. Does multiple remote TWR (=provision of ATC for more than one aerodrome at a time, i.e. simultaneously) require specific skills compared to single remote TWR (=provision of ATC for one aerodrome at a time)?

The skills required for simultaneous operations differ wildly from a single operation. Notwithstanding the serious concerns on the grounds of safety in general, this mode of operation requires not only a set of skills specific to simultaneous airfield provision or combination thereof, it requires a unique look at the balancing of priorities in particular, as well as increased protections for the ATCO. Other concerns regarding the combination of depth perception between two different geographical locations, visual presentation and other human factors make this a particularly unique circumstance.

Simultaneous provision requires ATCO to be trained in local procedures which are most likely totally different in each aerodrome. Aerodromes need to co-operate to ensure that no duplication of vehicles or aerodrome markings that can cause confusion.

In simultaneous operations an ATCO operating just 2 aerodromes can be monitoring up to 6 frequencies (2xAMC, 2xSMC and 2xAPP)-this proved impossible, how to reduce the frequency load.

In Irish experience there is a considerable difference between 'in sequence' and 'simultaneous' operations. 'In sequence' operations were found to be easier. In both types of operation there was found to be an increase in mental, physical and temporal demand on the ATCO. In multiple mode or sequential there should be some kind of limitation or special training for how quick you can change between airports or how often over a limit of time.

ATCOs become very reliant in the RTO operation on the PTZ (pan-tilt-zoom) cameras which are usually displayed in a window, this further reduces their situational awareness, also in AMC & SMC operations both ATCOs request separate PTZ cameras and not a shared system.

4. Do we need mutual recognition on the acquired ATCO skills and/or training on RTO compared to conventional tower, considering both single and as well as multiple remote TWR? (Mutual recognition between EASA Member States would indicate the need for using rating endorsement.)

Q: *“Is it mutual recognition between conventional tower and remote tower skills or is it mutual recognition between single remote tower skills and multiple remote tower skills? Or something else?”*

A: *The purpose is to address mutual recognition between the acquired ATCO skills and/or training on RTO (taking into account both single and multiple operations) compared with conventional tower. Question no 2 could be used as a ‘lead question’ to further facilitate the understanding of question no 4.*

Yes, as well as for any other type of specific skills accounted for with a rating endorsement. The comparison with Oceanic Control where a rating endorsement has been introduced is revealing to be a good way to understand the reasons leading to rating endorsement rather than only relying on unit endorsement only.

5. Does conventional TWR require specific skills compared to remote TWR?

Current TWR controllers are more aware of their local environment, you can feel the wind, see the weather and judge individual aircraft performance directly. Watching an object being tracked on a screen which has altered perspective does not give an accurate indication of what is happening. Aircraft on a constant bearing towards the camera position are extremely difficult to determine distance.

A simple task for a TWR ATCO such as observing 2 items in parallax (one close and slow, the other far and fast) was extremely difficult for a RTO ATCO even with object tracking and HUD.

Contingency option seems on a first approach to be very different from remote to conventional and more things are possible when on site, including an increased situational and geographical awareness of the aerodrome, which advocates for skills to be mode of service provision specific.

6. Which of the options a/b/c below would you/your organisation prefer?
- Introducing a new rating endorsement,
 - using unit endorsement to indicate RTO, or
 - do nothing, ED Decision 2015/015/R is already covering the needs.

ETF favours option a) and it needs to be complemented with elements to the unit endorsement: if the service can be provided both remotely and conventionally then ETF is of the opinion that 2 separate unit endorsements are needed.

7. If option a) in question 6 au-dessus;
How would a possible rating endorsement fit in the current structure of ratings/rating endorsements?

This new rating endorsement (RMT) would be applicable to ADI and ADV ratings. The AIR rating endorsement would become the rating endorsement for conventional operations. The GMC and RAD rating endorsements can remain and be associated to both AIR and RMT. You may be able to control the movement area surfaces with RTO (because it is 2D) but there is no way that you can use visual separation techniques in the airspace because your perspective is skewed. You are now dependent on geographical or radar-derived data for separation.

8. If option a) in question 6 au-dessus;
Should a possible rating endorsement be pertaining to ADI only or also ADV, TWR only or also AIR & GMC?

See answer to question 7.

9. If option b) in question 6 au-dessus;
Should AMC/GM recommending the use of a specific unit endorsement indicating RTO be introduced, and if so - should this be done only in the case of temporary RTO for an airport (i.e. switching between remote and conventional tower service provision) or should this be done even in the case of permanent RTO for an airport (i.e. remote service provision only, no conventional tower service provision)?

See answer to question 6.

10. Does the current ED Decision 2015/015/R cover the needs for single operation, as far as ATCO training is concerned?
- If no, what do you think is missing?

No especially with regards to taking into consideration the new potential for fatigue.

Furthermore, AFISO training is completely missing.

11. Is there a need to develop specific "multiple" training requirements (AMC/GM) for multiple operations?
- If yes, please specify.

Yes, see answer to question 1.

12. What are the additional skills that need to be learned in case of multiple operations?

ATCOs need to be able to operate local procedures for multiple aerodromes at the same time. Impossible to monitor all required frequencies at once therefore RTO ATCOs had to assume that APP was operating as required. How to integrate VFR traffic became more procedure based. More time spent operating all the equipment than observing screens.

You have to train skills to quickly change focus from one airport to another in case of , for example, emergency. Today you are not allowed to read a paper in position , but tomorrow you must be able to have another airport in your position and you can't throw it away if something happens.

+ See answer to question 1.

13. What else do we need to think about/take into consideration?

Fatigue risks linked to this new mode of operation.

Splitting aerodrome control best practices.

A better understanding of the risks of one ATCO having endorsements for more than one CWP (controller working position) and what protections or mitigations can be put in place to increase safety for operations at those multiple airfields on behalf of the ATCO.

The social impact that any changes that this technology will bring to ATCOs including staffing, working hours and the involvement of staff representatives to mitigate potential social impact.

RTO screens need to be constantly monitored to ensure that freezing/updates are observed. To ensure quality of presentation RTO screens are set to extremely high contrast and are very difficult to observe continually for even moderate period of time without eye strain.