



Remote aerodrome air traffic services

RELATED NPA/CRD 2017-21 — RMT.0624 (PHASE 2)

EXECUTIVE SUMMARY

The concept of remote provision of aerodrome air traffic services (ATS) (commonly known as ‘remote towers’ or ‘remote tower operations’, sometimes referred to as ‘digital towers’) enables the provision of aerodrome ATS from locations/facilities without direct visual observation. Instead, provision of aerodrome ATS is based on observation of the aerodrome and its vicinity through means of technology. The term which is used to describe this concept within this ED Decision is ‘remote aerodrome ATS’.

This Decision addresses operational, procedural, technological and human resource aspects of remote aerodrome ATS, as well as the management of change, with the main objective of facilitating its safe implementation and operation, in accordance with the objectives of ATS. Other objectives are to support cost-efficient and proportionate ATS, to facilitate harmonised implementation, and to provide a level playing field for the stakeholders.

This Decision issues ‘Guidance Material on remote aerodrome air traffic services’ — Issue 2, as well as an updated set of Acceptable Means of Compliance (AMC) and Guidance Material (GM) to Commission Regulation (EU) 2015/340 concerning ATCO licensing. Both parts are expected to support ATS providers and aerodrome operators implementing remote aerodrome ATS, as well as to support their competent authorities.

Action area:	PCP SESAR deployment		
Affected rules:	EDD 2015/014/R (GM on the remote tower concept for single mode of operation) EDD 2015/010/R (AMC/GM to Part ATCO)		
Affected stakeholders:	Competent authorities, ANSPs and aerodrome operators		
Driver:	Efficiency and proportionality	Rulemaking group:	Yes
Impact assessment:	None	Rulemaking Procedure:	Standard

● EASA rulemaking process

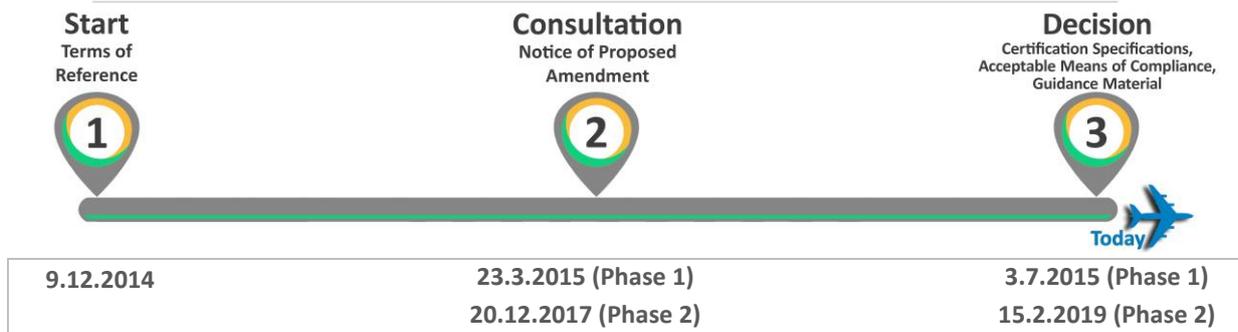


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1. About this Decision

The European Union Aviation Safety Agency (EASA) developed ED Decision 2019/004/R in line with Regulation (EU) 2018/1139¹ and the Rulemaking Procedure².

This rulemaking activity is included in the European Plan for Aviation Safety (EPAS)³ under rulemaking task (RMT).0624. The scope and timescales of the task were defined in the related Terms of Reference⁴.

The draft text of this Decision has been developed by EASA based on the input of the Rulemaking Group (RMG)⁵ of RMT.0624. All interested parties were consulted through Notice of Proposed Amendment (NPA) 2017-21⁶. In total, 832 comments were received from 46 commentators, representing competent/national aviation authorities, ATM/ANS providers, aerodrome operators, airspace users, social partners/staff representatives, individuals and others.

EASA reviewed the comments received during the public consultation, with the support of external experts for a sub-set of the comments. The comments received and EASA's responses to them are presented in Comment-Response Document (CRD) 2017-21⁷.

The final text of this Decision with the annexed AMC and GM has been developed by EASA.

The major milestones of this rulemaking activity are presented on the title page.

¹ Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1536149403076&uri=CELEX:32018R1139>).

² EASA is bound to follow a structured rulemaking process as required by Article 115(1) of Regulation (EU) 2018/1139. Such a process has been adopted by the EASA Management Board (MB) and is referred to as the 'Rulemaking Procedure'. See MB Decision No 18-2015 of 15 December 2015 replacing Decision 01/2012 concerning the procedure to be applied by EASA for the issuing of opinions, certification specifications and guidance material (<http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure>).

³ https://www.easa.europa.eu/document-library/general-publications?publication_type%5B%5D=2467

⁴ <https://www.easa.europa.eu/document-library/terms-of-reference-and-group-compositions/tor-rmt0624>

⁵ Rulemaking group composition: <https://www.easa.europa.eu/system/files/dfu/GC%20RMT.0624%20Issue%202.pdf>

⁶ In accordance with Article 115 of Regulation (EU) 2018/1139 and Articles 6(3) and 7 of the Rulemaking Procedure.

⁷ <https://www.easa.europa.eu/document-library/comment-response-documents>



2. In summary — why and what

2.1. Why we need to change the AMC & GM

The concept of remote aerodrome ATS has been studied for many years, initially independently within some of the EASA Member States and subsequently also within the context of the Single European Sky ATM Research Joint Undertaking (SESAR JU) programme. The first approved remote aerodrome ATS implementation has been in operation since April 2015 and an increasing number of initiatives to provide remote aerodrome ATS are being undertaken throughout Europe as well as worldwide.

In order to support this development and in order to develop an appropriate and proportionate regulatory framework, EASA initiated RMT.0624 in 2014.

As a first step, based primarily on the SESAR results available at that time, EASA published, in July 2015, two ED Decisions. Through ED Decision 2015/014/R, EASA issued GM on the implementation of the remote tower concept for single mode of operation, and through ED Decision 2015/015/R, it amended the AMC & GM to Commission Regulation (EU) 2015/340⁸ related to requirements on ATCO licensing regarding remote tower operations. The scope of the published material was limited to single mode of operation, targeting primarily ‘low-density aerodromes’. It was acknowledged that the published material had to be regarded as a first step of regulatory developments in the field of remote aerodrome ATS and that further work would be needed to address the continued evolution of the concept as well as to address the development of industry standards.

Since the publication of the aforementioned Decisions, SESAR has further developed research activities and finalised the related documentation, EUROCAE has published the initial set of related technical standards, and operational experience has been gained throughout some EASA Member States. In addition, research and validation activities have been performed by other organisations worldwide, e.g. in the US⁹. The concept of remote aerodrome ATS has continued to evolve to more complex operational contexts such as:

- the simultaneous provision of ATS to more than one aerodrome (multiple mode of operation);
- the provision of ATS to larger aerodromes; and
- the use of a remote tower as a backup/contingency facility for conventional towers and operations supported by new technical enablers which have traditionally not been available for aerodrome ATS.

The latter — if introduced properly, carefully and wisely — may have the potential to increase efficiency and safety of operations.

As mentioned, an increasing number of initiatives to provide remote aerodrome ATS are being undertaken within numerous EASA Member States as well as worldwide. Many of these initiatives

⁸ Commission Regulation (EU) 2015/340 of 20 February 2015 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 923/2012 and repealing Commission Regulation (EU) No 805/2011 (OJ L 63, 6.3.2015, p. 1) (<https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1546599720586&uri=CELEX:32015R0340>).

⁹ [Presentation on US projects](#) from ICAO RPAS and Remote ATS Symposium, 9-10 May 2016. The experiences gained in the projects performed in US have been considered during the development of the material published by this ED Decision via the FAA participation the EASA rulemaking group.

consider operational contexts and applications that lie beyond the scope of the previously published EASA Decisions.

In order to:

- address the larger scope of the remote aerodrome ATS concept as well as the latest SESAR developments and results from other available research and validation activities;
- benefit from gained operational experiences; and
- support implementation initiatives as well as to meet expectations from the ATM community on EASA,

During 2016, RMT.0624 was re-launched in its second phase, to develop updated and enhanced measures to support affected organisations (e.g. ATS providers, aerodrome operators) and competent authorities.

2.2. What we want to achieve — objectives

The overall objectives of the EASA system are defined in Article 1 of Regulation (EU) 2018/1139. This Decision will contribute to the achievement of the overall objectives by addressing the topic and aspects outlined in Section 2.1.

The primary objective of the measures published through this ED Decision is to facilitate safe operations and compliance of remote aerodrome ATS with the applicable EU and ICAO requirements. Other objectives are to:

- support technological evolution and the provision of cost-efficient and proportionate ATS;
- facilitate harmonised implementation; and
- provide a level playing field for the stakeholders.

2.3. How we want to achieve it — overview of the amendments

This ED Decision is issuing the following two main sets of AMC & GM related to remote aerodrome ATS:

- Annex I: ‘Guidance Material on remote aerodrome Air Traffic Services’ — Issue 2; and
- Annex II: ‘AMC & GM to Part ATCO’ — Issue 1, Amendment 2, an updated set of AMC & GM related to the qualification and training of ATCOs.

Compared to the ‘Guidance Material on the implementation of the remote tower concept for single mode of operation’ — Issue 1, published 3 July 2015 with ED Decision 2015/014/R, the content of Issue 2, contained in Annex I to this ED Decision, is extended in scope to cover the larger/full concept of remote aerodrome ATS. This is achieved through addressing also more complex operational contexts and applications, such as:

- the simultaneous provision of ATS to more than one aerodrome (multiple mode of operation);
- the provision of ATS to larger aerodromes;
- the use of a remote tower as a backup facility for conventional towers and operations supported by new technical enablers which have traditionally not been available for aerodrome ATS.



The material incorporates new results stemming from SESAR and other available research and validation activities, as well as operational experiences gained among EASA Member States, in a way to also elaborate further and improve the material concerning aspects which were already covered by Issue 1.

Concerning the ‘AMC & GM to Part ATCO’ — Issue 1, Amendment 2, contained in Annex II to this ED Decision, and compared to the AMC & GM that was introduced 3 July 2015 with ED Decision 2015/015/R, this amendment comprises an updated set of AMC & GM related to the qualification and training of ATCOs providing remote aerodrome ATS, covering also e.g. aspects related to multiple mode of operation.

The reasons behind the chosen regulatory level/approach are primarily the following:

- Provisions/requirements on aerodrome ATS (ATC/AFIS) provision already exist (ICAO, EU and national level) and are (still) applicable.
- Requirements related to the assessment of changes to functional systems and their oversight already exist (Regulations (EU) Nos 1034/2011 and 1035/2011, and Regulation (EU) 2017/373, the latter supplemented by an extensive set of AMC & GM to support ATS providers and their competent authorities) and are (still) applicable.

A stand-alone ‘Guidance Material’ document is therefore chosen in order to:

- support the fulfilment of the above-mentioned requirements in a remote aerodrome ATS context; and
- provide a single source of information encompassing all aspects, with the only exception being the qualification and training of ATCOs, for which EASA has chosen to provide separate AMC & GM to Regulation (EU) 2015/340.

2.4. What are the stakeholders’ views

The regulatory proposal published for consultation with in NPA 2017-21, was generally well received by the stakeholders, and a large part of the comments provided inputs that contributed to further improve the draft documents. However, it shall be noted that certain categories of stakeholders, for instance the social partners (ETF, ATCEUC, IFATCA), expressed their concerns regarding the multiple mode of operation concept. Regarding the multiple mode of operation, whereas the single mode of operation is already implemented and approved for some aerodromes by the relevant competent authorities, EASA recognises that the concept of multiple mode of operation has not yet been operationally implemented. Nevertheless, EASA considers that there is already sufficient information and data available to provide regulatory support and guidance to facilitate its safe implementation, as well as to provide a basis for its further development. The concept of multiple mode of operation has been studied and validated, e.g. within SESAR¹⁰, for many years — both in the context of ATC service and AFIS. The results of this work showed that multiple mode of operation can be provided in a safe manner for the operational scenarios that have been tested, with the associated equipment.

Some of the stakeholders requested ‘harder’ regulations (i.e. implementing rules or AMC instead of GM), whereas the majority of the stakeholders were in favour of the proposed regulatory approach.

¹⁰ SESAR Solution #52: [Remote tower for two low-density aerodromes](#).

Within Section 3.1 of NPA 2017-21, EASA asked stakeholders' advice with regard to a specific aspect of the aeronautical mobile service (air-ground communication) in the context of remote aerodrome ATS provision. The question whether it would be needed to indicate the provision of remote aerodrome ATS in the radio communication between the pilot and ATCO/AFISO (e.g. by adding the word 'remote' to the ATS unit call sign on the initial call), was posed. The large majority of responses (24 out of 29, i.e. 82,8 %) indicated that the word 'remote' should not be included in the phraseology for any air-ground radio communication, as the information on the remote provision of aerodrome ATS is based on the assumptions that:

- there should be no difference compared to a local/conventional aerodrome ATS provision; and
- the remote aerodrome ATS provision is always to be notified in the national aeronautical information publication (AIP) (as also indicated in Chapter 9 of the Guidance Material document), and as such it should be known to all pilots.

EASA concurs with the majority of the stakeholders and has therefore kept the Guidance Material as proposed in NPA 2017-21 (i.e. **not** indicating a need to include the word 'remote' additionally with the ATS unit call sign). Moreover, EASA does not agree with the proposal made by a few stakeholders to include the information on the remote aerodrome ATS in the ATIS message, when provided. It is recalled that ATIS messages should contain information of non-permanent nature in order to reduce the length of the radio transmissions.

For further details on the stakeholders' views, the distribution of comments between stakeholders and the distribution of responses, see the related CRD 2017-21.

2.5. What are the benefits and drawbacks

The main benefit of the AMC & GM issued with this Decision is that they provide guidance and regulatory support that facilitates the safe and harmonised implementation for the ANSPs and their competent authorities. As such, they promote consideration of all the necessary safety aspects without impairing technological developments.

The main drawback of the AMC & GM issued with this Decision is, as mentioned in Section 2.4 above, that the concept for multiple mode is not yet in operation and some stakeholders have expressed concerns about its implementation. It shall be noted that EASA, as part of the Guidance Material, identifies considerations that need to be taken into account, as well as mitigation measures for how to handle related risks, for the multiple mode of operation.



3. How do we monitor and evaluate the rules

The Decision includes for its very large part GM. EASA will continuously monitor the implementation of remote aerodrome ATS, in particular the feedback from Member States and industry, and the future technological and operational developments, to evaluate if amendments and/or further evolution of this GM would be required.

This could be ensured for instance through EASA participation in SESAR activities as appropriate, by feedback received or requested via the EASA advisory bodies or by standardisation activities. Additionally, EASA plans to conduct an activity to support the promotion of this ED Decision. This activity would also allow EASA to monitor the evolution of the concept.



4. References

4.1. Related regulations

- Regulation (EU) 2018/1139 of the European Parliament and of the Council of 04 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1)
- Commission Implementing Regulation (EU) No 1034/2011 of 17 October 2011 on safety oversight in air traffic management and air navigation services and amending Regulation (EU) No 691/2010 (OJ L 271, 18.10.2011, p. 15)
- Commission Implementing Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services and amending Regulations (EC) No 482/2008 and (EU) No 691/2010 (OJ L 271, 18.10.2011, p. 23)
- Commission Implementing Regulation (EU) 2017/373 of 1 March 2017 laying down common requirements for providers of air traffic management/air navigation services and other air traffic management network functions and their oversight, repealing Regulation (EC) No 482/2008, Implementing Regulations (EU) No 1034/2011, (EU) No 1035/2011 and (EU) 2016/1377 and amending Regulation (EU) No 677/2011 (OJ L 62, 8.3.2017, p.1)
- Commission Regulation (EU) 2015/340 of 20 February 2015 laying down technical requirements and administrative procedures relating to air traffic controllers' licences and certificates pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 923/2012 and repealing Commission Regulation (EU) No 805/2011 (OJ L 63, 6.3.2015, p. 1)
- Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.10.2012, p. 1)
- Commission Regulation (EU) No 139/2014 of 12 February 2014 laying down requirements and administrative procedures related to aerodromes pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 44, 14.2.2014, p. 1)
- Regulation (EC) No 552/2004 of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (the interoperability Regulation) (OJ L 96, 31.3.2004, p. 26)

4.2. Affected decisions

- EASA Executive Director Decision 2015/014/R of 3 July 2015 adopting Guidance Material on the implementation of the remote tower concept for single mode of operation



- EASA Executive Director Decision 2015/010/R of 13 March 2015, adopting Acceptable Means of Compliance and Guidance Material to Commission Regulation (EU) 2015/340



5. Appendix

Appendix to Decision 2019/004/R — CRD 2017-21

