



SESAR Solution Regulatory Overview

Extended Arrival management (AMAN) horizon

Document information

Document Name	SESAR Solution Regulatory Overview - Extended Arrival management (AMAN) horizon
Edition	01.00.00

Abstract

This document contains an overview of the SESAR Solution “Extended Arrival Management (AMAN) horizon” documented recommendations from regulatory, standardisation, oversight and certification perspectives resulting from the cooperation with EASA and National Authorities.

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Document History

Edition	Date	Status	Author	Justification
00.00.01	12.11.2015	Draft	[REDACTED]	Incorporation of initial results
01.00.00	20.11.2015	Final	[REDACTED]	Finalised document

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Table of Contents

1	INTRODUCTION	4
2	GENERAL RECOMMENDATIONS.....	5
3	SPECIFIC RECOMMENDATIONS.....	6
3.1	ON THE REGULATORY FRAMEWORK	6
3.2	ON THE STANDARDISATION FRAMEWORK.....	6
3.3	ON THE REGULATORY OVERSIGHT AND CERTIFICATION ACTIVITIES.....	6

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1 Introduction

The purpose of this document is to provide an overview of the SESAR Solutions documented recommendations from regulatory, standardisation, oversight and certification perspectives resulting from the cooperation with EASA and National Authorities.

The document presents the recommendations issued by the National Authorities and EASA, for an acceptable deployment of the concepts contained in the SESAR Solution. These recommendations must be taken into consideration by the entities in charge of deployment of the correspondent SESAR Solution.

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2 General recommendations

In general terms, it must be underlined that:

- 1) When deploying a SESAR Solution, the compliance with all applicable regulatory requirements must be ensured by the different concerned entities;
- 2) In particular, it must be ensured that the appropriate safety argument for the concerned change to the ATM functional system is performed in accordance with EC regulation 1035/2011 (*under revision; EASA opinion 03-2014*) confirming validity of assumptions of the SESAR solution, addressing local specific risks and mitigation providing evidence that residual risks are acceptable.
- 3) The present SESAR Solution does not constitute in itself an acceptable Means of Compliance with the previously mentioned regulatory requirements. Means of Compliance are subject to their acceptance by the Authorities involved in each concrete local implementation.
- 4) A verification of the existing standardisation and regulatory frameworks has to be done before the date of local deployment to identify possible major changes to the ones applicable for the SESAR Solution.

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3 Specific recommendations

3.1 On the Regulatory Framework

Due consideration in the local environment should be given to ensuring consistency with the applicable regulatory framework.

3.2 On the Standardisation Framework

EUROCAE Standard has been in development covering the extended horizon AMAN coordination service to facilitate the interoperability between various ANSPs. EUROCAE Standard foreseen ready by 2018.

3.3. On the Regulatory Oversight and Certification Activities

When proceeding with the local implementation of this solution, the following topics must be taken into consideration:

- Due consideration should be given, in the local deployment of the solution, to:
 - Accurate description of the AMAN Horizon in each operational scenario.
 - The changes to airspace design due to the expansion outwards from the TMA.
 - Concrete impacts on changes to the airspace design procedures must be considered.
 - The elaboration/amendment of relevant operational procedures on AMAN implementation.
- Due consideration should be given, in the local deployment of the solution, to the adaptation of concrete ATC instructions. In that sense, advancing some ATC instructions can provide an additional benefit in the local environment.
- When proceeding with the local deployment of the solutions, in case different calculations methods are involved (e.g. transnational applications or FAB dimension), coherence should be assured between them.
- When proceeding with the local deployment of the solutions, the local safety argument should take into consideration among other things, the effects of:
 - Changes in the speed made by the flight crew
 - Potential increases in controller workload.
- When proceeding with the local deployment of the solutions, the local cost benefit analysis should take into consideration the limiting effects of:
 - The capacity of the runway
 - The lowest level of predictability on the airport operations side
- EASA opinion 03-2014 describe that for any change notified in accordance with ATM/ANS.OR.A.045(a)(1), the air traffic services provider shall:

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(1) ensure that a safety assessment is carried out covering the scope of the change, which is:

- (i) the equipment, procedural and human elements being changed;
- (ii) interfaces and interactions between the elements being changed and the remainder of the functional system;
- (iii) interfaces and interactions between the elements being changed and the context in which it is intended to operate;
- (iv) the life cycle of the change from definition to operations including transition into service; and
- (v) planned degraded modes; and

(2) provide assurance, with sufficient confidence, via a complete, documented and valid argument that the safety criteria identified via the application of ATS.OR.210 are valid, will be satisfied and will remain satisfied.

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