Guidance
Manufacturers Interoperability Compliance
the Interoperability Regulation EC No 552/2004
as amended by Regulation EC No 1070/2009

1. Introduction

1.1 The purpose of this document is to assist manufacturers with the process of compliance with the Single European Sky (SES) Interoperability (IOP) Regulation. In parallel with this, the UK Air Navigation Order and CAP 670 continue to apply.

1.2 The guidance primarily addresses the situation where there are no relevant Implementing Rules (IRs) or community specifications (CSs) and it should be read in conjunction with the IOP regulation.

1.3 This guidance draws together information from published material, information available to those participating in the development of conformity assessment processes at Eurocontrol[2], and the European Commission's interpretation of elements of the IOP regulation[3]. It is intended to give an informed insight to manufacturers to assist their compliance with the IOP Regulation in the UK. This guidance will be updated as further information appears and may be found on the CAA website www.caa.co.uk/sesinteroperability with other information on IOP.

2. IRs and CSs

2.1 IRs are EU regulations (European Law) and determine any specific requirements such as safety, seamless operation, performance or assessment procedures and may further refine ERs. IRs determine the implementation dates for European Air Traffic Management Network (EATMN) systems. IRs may also identify specific constituents that form a system and provide conformity assessment procedures where Notified Bodies may be involved with manufacturers. Compliance with an IR also confirms compliance with the ERs. Compliance with IRs or ERs requires that the manufacturer produces a DSU. *Currently there are no organisations recognised as Notified Bodies for IOP in the UK.[4]*

2.2 Manufacturers must verify whether any IRs or CSs are applicable to their situation. Where IRs are applicable, then evidence of compliance to them must be provided as part of the process described below.

2.3   CSs are listed in the Official Journal of the European Union. CSs contain detail on how ERs are complied with by constituents and may define constituents. CSs provide a presumption of conformity to the ERs and IRs and thereby mutual recognition in the EU, but remain voluntary as 'a' means of compliance. In the case of compliance with a relevant CS, the manufacturer produces a DoC.

2.4   Manufacturers may check the status of IRs and CSs at the European Commission website:

Implementing rules

 and:

Community Specifications

or the Eurocontrol website:

Implementing Rules

or the CAA website:

SES Legislation

3. CE Marking

3.1   It is not a requirement to CE mark constituents to show compliance with IOP regulation, however CE marking is required to show compliance with New Approach directives such as EMC, R&TTE and LVD. In most cases a EC Declaration of Conformity (DoC) for EMC, or R&TTE where applicable, should be supplied by the manufacturer and referenced on the DSU to support the ANSP's statement regarding the freedom from harmful interference.

4. Constituents and Systems

4.1   'Constituents' means tangible objects such as hardware and intangible objects such as software upon which the interoperability of the EATMN depends[1]. *A constituent is principally a device that provides the interface to or from an aircraft, controller or other ANSP unit, hence transmitter, receiver, aerial, comms control, display, data processor etc for the purpose of air traffic management. A radar 'system' as sold by a manufacturer is a constituent until installed and operated by the end user.[4]*

Equipment that provides the intervening connection of signals and data between the above equipment without intentionally changing the signal or data, between input and output, and not the subject of an IR or CS, is not considered to be a constituent.

4.2   'System'   means the aggregation of airborne and ground based constituents that provide support for air navigation services[1]. *Constituents become a system or an interoperability relevant part of a system when installed and/or used for air navigation services[4].*

5. IOP Compliance

5.1 IOP Article 2 states that constituents shall meet the ERs and IOP Article 5, describes the purpose of the constituent DoC or DSU for declaring ER or IR compliance. This is further detailed in IOP Annex III.

5.2 Where there are no relevant IRs or CSs, the means of compliance for constituents is by reference to the IOP ERs.

5.3 The IOP regulation requires that a constituent, supplied to an Air Navigation Service Providers (ANSP), has either a DoC or a DSU. In accordance with IOP Annex III (2) a DoC is employed in association with the relevant CS. Where CSs have not been produced, the manufacturer is required[5] to provide a DSU to an ANSP.

5.4 The DSU requires an assessment/judgement that the equipment is suitable for use within its ATM environment, and is a declaration of compliance with the relevant ERs. *In the absence of further definition, the assumption may be made that this is a generic ATM environment, so evidence of compliance with any relevant ICAO requirements and any additional recognised documentation such as Eurocontrol standards should be provided[4].*

5.5 Wherever possible, the manufacturer should produce the DSU in such a way that it is independent of the installation location so that it may be reused for successive constituents of that type at other locations.

5.6 Where relevant the manufacturer may also include the range of variants of a particular type of product on a single DSU.

5.7 The key elements from the ERs for constituents are:

- Seamless operation – at the constituent level; information sharing, operational status information, common understanding of information, comparable processing performance[2]*.*

- Support for new concepts of operation – ensure the design is compatible with current interface and automation standards[4]

- Safety

  - Document operational safety considerations addressed in the constituent design[4].

  - Suitable design to take account of normal operation

  - Design provisions for degraded modes of operation i.e. graceful degradation

- Civil-military coordination

  - support the progressive implementation of civil/military coordination where this may be a constituent design consideration[4]*.*

5.8 Manufacturers should also be mindful of the Part B Specific ERs, which may relate to their products in service and will need to be met by the ANSPs. Any relevant supporting information should be referenced when defining the procedure followed for declaring suitability for use.

5.9 IOP compliance has been a requirement to be met before systems/constituents are put into operation since 20 October 2005. It should be noted that from 20 April 2011 all systems in operation will require IOP declarations. However, manufacturers will not be required to produce DSUs for constituents in service prior to 20 October 2005 unless changes, described in section 6 below, have taken place since that date. Installations of those constituents after 20 October 2005 will require DSUs to be produced.

6. Upgrades and Modifications to In Service Constituents

6.1 The upgrading of constituents already in service is included in the definition of putting into service[3] therefore certain upgrades shall be certified.

6.2 The concept of upgrade of a constituent is "any modification that changes the operational characteristics of a constituent"[1]. In practice, it would be considered that an upgrade is a significant increase of the performance or the capabilities of a constituent due to changes or new features[3]. *Where a constituent is replaced with a constituent having a similar performance but with a different design, it is considered to be a new installation and a DSU (or DoC) will be required[4].*

6.3 A periodic modification of in-service constituents without significant changes of operational characteristics (such as dealing with component obsolescence) would not be considered as an upgrade of a constituent[3] and therefore would not need IOP declaration. *Such updates will be those, which are part changes where the original constituent remains in place, otherwise it is considered that a new constituent is being installed requiring a DSU, and a DoV and TF from the ANSP.[4]*

7. Contents of the EC Declaration of Suitability for Use

7.1 The declaration must be written in English and must contain the following:

- the Regulation references, - *the IOP regulation and relevant IR title and number[4];*

- the name and full address of the manufacturer or its authorised representative established within the Community (and trade names if different);

- description of the constituent, - *a description that is adequate to describe the relevant details of the device and its intended purpose. This will include, the type number. Several similar family items of a product may be included on a common EC declaration provided they are separately identified and described[4];*

- description of the procedure followed in order to declare conformity or suitability for use (Article 5 of the IOP Regulation) – *self declaration describing the process followed, from design requirement, to testing to confirm that the constituent meets the ER/IR requirements (IOP Art 5.2) with reference to the evidence described in 5.5 above.;*

- all of the relevant provisions (i.e. ICAO Annex 10 section) met by the constituent and in particular its conditions of use;

- if applicable, *(when defined in an IR),* name and address of notified body or bodies involved in the procedure followed in respect of conformity or suitability for use and date of examination certificate together, where appropriate, with the duration and conditions of validity of the certificate*;*

- date and signature;

- identification of signatory empowered to enter into commitments on behalf of the manufacturer or of the manufacturer's authorised representative established in the Community.

A flow diagram is provided in Annex 1 to illustrate the compliance process

A DSU template is available from the CAA at ats.enquiries@caa.co.uk

Abbreviations:

ANSPs - Air Navigation Service Providers
ATM - Air Traffic Management
CAA - Civil Aviation Authority
CE Communitée Européenne
CSs - Community Specifications
DoC - EC Declaration of Conformity
DSU - EC Declaration of Suitability for Use
DoV - Declaration of Verification
EATMN - European Air Traffic Management Network
EC - European Community
EMC - Electromagnetic Compatibility [Directive 2004/108/EC]
ERs - Essential Requirements
EU - European Union
ICAO - International Civil Aviation Organisation
IOP - Interoperability [Regulation 552/2004]
IRs - Implementing Rules
LVD - Low Voltage Directive (73/23/EEC)
R&TTE - Radio & Telecommunication Terminal Equipment [Directive 1999/5]
SES - Single European Sky
TF Technical File

References:

1 **REGULATION (EC) No 549/2004 the Framework Regulation**

2 **Eurocontrol - Initial Guidelines For The Conformity Assessment Of EATMN Systems**

3 **EC - Conformity assessment of the EATMN. TREN.F2/EMM D(2005)**

4 **CAA guidance**

5 **The Air Navigation (Single European Sky) (Penalties) Order 2009** SI 2009/1735.

CAA Contact:
ats.enquiries@caa.co.uk

Annex 1

Single European Sky (SES) Interoperability Regulation- Manufacturers Interoperability Compliance

SES Interoperability (IOP) Regulation

Colour Key:
🔴 Mandatory after 20th Oct 2005

ATS
Manufacturers to provide EC declaration to ANSP

- **For Constituents**
- **Significant Upgrades**

- Annex II Essential Requirements (ERs)

EC Declaration of Suitability for Use (DSU)

or

Community Specification (CS)

EC Declaration of Conformity (DoC)

DSU or DoC to ANSP