

SINGLE EUROPEAN SKY
(SES) REGULATIONS

FINAL REPORT FOR THE

***DRAFT IMPLEMENTING RULES ON
SURVEILLANCE PERFORMANCE AND
INTEROPERABILITY AND ON AIRCRAFT
IDENTITY***

DOCUMENT CONTROL

DOCUMENT CHANGE RECORD

The following table records the complete history of the successive editions of the present document.

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1. INTRODUCTION

This document, together with its annexes, represents the Final Report on the development of draft implementing rules on Surveillance Performance and Interoperability (SPI) and on Aircraft Identification (ACID), in response to the Mandate sent to EUROCONTROL by the European Commission on 8 March 2006 (letter TREN/F2/EMM/vh D(2006) 204874) and on the request sent on 6 July 2009 (letter TREN/F2/EMM/ics D(2009) 58745).

2. OUTLINE OF THE EUROPEAN COMMISSION MANDATE

2.1 Purpose of the Mandate

EUROCONTROL was mandated to develop a draft interoperability implementing rule on the surveillance performance and interoperability requirements of the European Air Traffic Management network (EATMN).

2.2 Subject of the Mandate

EUROCONTROL was requested to take into account the provisions of the Single European Sky regulations particularly of Article 3 of the interoperability Regulation. More specifically, EUROCONTROL was mandated to develop a draft implementing rule identifying:

- The objective and scope of the rule;
- The performance requirements of surveillance information;
- The ground and airborne interoperability requirements;
- As appropriate, the requirements related to surveillance spectrum protection;
- The implementation conditions including implementation dates and transitional arrangements;
- The conformity assessment requirements including the use of test tools.

EUROCONTROL was also requested to perform an impact assessment of proposed regulatory measures and to include a consultation of stakeholders.

The impact assessment should notably cover States, ANSPs, airspace users and institutional bodies, in particular in the areas of safety, civil/military organisation, efficiency and economic aspects.

The consultation process should take into account the opinions of stakeholders, including:

- Relevant national authorities (Civil and Military),
- Civil and Military air navigation services providers,
- Relevant airspace users' organisations,
- Relevant international organisations (including NATO bodies),
- Military airspace users,
- Relevant social representatives;
- Industry representatives.

The consultation process should at minimum include the following:

- A first written consultation aimed at collecting views and opinions of stakeholders on the various options to be proposed as the regulatory approach
- A second consultation process, based on the proposed draft implementing rule, process including as a minimum the following:
 - Invite comments;
 - Evaluate and report on the comments made;
 - Be available for reasonable requests by individual stakeholders for meetings and discussions;
 - Organise a public workshop to discuss the results.

2.3 Report and Deliverables

An Initial Plan was delivered to the Commission on 31 May 2006, as requested by the Mandate. The draft Regulatory Approach was submitted for written formal consultation between 2 April and 4 June 2007 and culminated in a workshop on 5 July 2007.

Taking into account stakeholder input on all aspects of the SPI Requirements, a draft implementing rule has been developed as foreseen by the Regulatory Approach and submitted to a formal consultation between 4 November 2008 and 8 April 2009. Following the results of the consultation as well as the request of the European Commission expressed on 6 July 2010, it was decided to enlarge the scope of the regulatory approach so as to address the issue of ACID.

In response to this decision and in parallel with the update of SPI taking into account the results of the formal consultation, a draft implementing rule on ACID has been developed. Following the written informal consultation that took place between 1 and 23 October 2009 on a proposed interoperability analysis, the relevant stakeholder inputs have been taken into account on all aspects of the ACID provisions, and the draft implementing rule has been subsequently developed. Moreover, due to the extensive modifications brought to the SPI draft it was considered necessary to submit it to a further formal consultation, together with the one on ACID.

The draft Final Report was delivered to the Commission on the 1st April 2010 and the draft implementing rules were submitted to a formal consultation which took place between 1st April and 5th May 2010 and of which results were presented to a Stakeholder workshop on the 1st of June.

The current Final Report of the Mandate consists of the final drafts of the implementing rules on SPI and on ACID (and the respective justifications) as well as the identification of the means of compliance with the rules. The report also briefly describes current regulatory situation in the area covered by the mandate and the desired regulatory situation after full exploitation of the scope of this mandate.

This Final Report also includes proposed EUROCONTROL's actions to support stakeholders' efforts to implement the implementing rules.

3. STRUCTURE OF THE FINAL REPORT

The Final Report contains eight separate sub-documents, which are attached:

- **Enclosure 1**: Draft implementing rule on Surveillance Performance and Interoperability, version 3.0;
- **Enclosure 2**: Draft implementing rule on Aircraft Identification, version 2.0;
- **Enclosure 3**: Justification material for the draft implementing rule on Surveillance Performance and Interoperability, version 3.0;
 - **Annex to Enclosure 3**: Summary of Responses (SOR) for the draft implementing rule on Surveillance Performance and Interoperability, version 1.0;
- **Enclosure 4**: Justification material for the draft implementing rule on Aircraft Identification, version 2.0
 - **Annex to Enclosure 4**: Summary of Responses (SOR) for the draft implementing rule on Aircraft Identification, version 1.0;
- **Enclosure 5**: Identification of Means of Compliance for the draft implementing rule on Surveillance Performance and Interoperability, version 1.0;
- **Enclosure 6**: Identification of Means of Compliance for the draft implementing rule on Aircraft Identification, version 1.0;
- **Enclosure 7**: EUROCONTROL proposed actions to support stakeholders' efforts to implement the draft implementing rule on Surveillance Performance and Interoperability, version 1.0;
- **Enclosure 8**: EUROCONTROL proposed actions to support stakeholders' efforts to implement the draft implementing rule on Aircraft Identification, version 1.0.

The draft implementing rules contain the mandatory provisions applicable by the stakeholders as well as the applicability dates.

The justification materials provide the background for the draft implementing rule, as well as the impact assessment.

The identification of means of compliance highlights various materials of relevance to implement solutions compliant with regulatory provisions of the draft implementing rules.

The EUROCONTROL actions to support stakeholders' efforts document outline the areas in which EUROCONTROL proposes actions to support the implementation of the implementing rules on Surveillance Performance and Interoperability and on Aircraft Identification.

4. BACKGROUND

The Commission and EUROCONTROL have agreed upon an Initial Plan describing the work programme to produce the expected deliverables with notably, the draft Final Report and the Final Report.

These regulatory materials have been drafted by a multi-disciplinary team of Agency experts associating regulatory, technical, operational, safety and CBA experts, within dedicated focus groups co-ordinated by the Mandate manager.

The development process has been conducted on the basis of the EUROCONTROL Notice of Proposed Rule Making (ENPRM) mechanisms. These mechanisms provide sound principles for regulatory drafting as well as for informal and formal consultation of stakeholders.

Stakeholders have been proactively involved in the development and review processes, notably through the consultation of the Focal Points nominated as the interface for the development of the Mandate deliverables. Their contribution is duly acknowledged.

5. MAIN FINDINGS OF THE CONSULTATION PROCESS

While the proposed texts were generally supported by the Air Navigation Service providers as well as by National Supervisory Authorities, during the consultation process it was pointed out by the airspace users that they felt that the SPI regulatory requirements were misbalanced with regard to the requirements on them vis-à-vis the requirements applicable to the service providers. Therefore they considered that stronger requirements should be put on service providers, providing for a transition from a radar based surveillance towards an ADS-B based one and eventually leading to the decommissioning of secondary and all primary radars. The users have also required a clear vision on the deployment of ADS-B Out and ADS-B In applications, supported by a forward-fit requirement for ADS-B In.

It is considered that the SPI should not be read in isolation, but should be considered together with the other draft implementing rule included in this report (ACID). Moreover, both these should be seen in the wider context of the implementing rules currently under development, notably the performance scheme introduced by the 2nd package of the Single European Sky Regulations. This scheme will define requirements relative to the cost-efficiency of the provided services and of the supporting technical infrastructures. This will encourage the deployment of the most cost effective systems taking into account their performances as well as the local operating environments. In this context the SPI and ACID interoperability implementing rules should be considered only as technical enablers supporting the compliance with the abovementioned performance scheme requirements.

With regard to the ACID IR, it will require the air navigation service providers to have the capability to use the downlinked aircraft identification in order to ensure the continuous and unambiguous identification of aircraft without using the discrete SSR codes. The capability will be required from 2012 in the core area of Europe (for 50% of the flights) and will be enlarged to the entire SES airspace and to all flights by January 2020. In practical terms this would mean that (at least) one layer of Mode A/C radars will have to be replaced by other solutions allowing the processing and use of the downlinked aircraft identification (Mode S,

ADS-B or Multilateration). The system upgrades will not only impact the surveillance sensors, but also the communication lines, the Flight Data Processing Systems, the Surveillance Data Processing and Distribution, Human Machine Interfaces, procedures, etc.

As the SESAR concepts will mature and will be further validated, the scope of the existing implementing rules, including SPI, will have to be reviewed and adapted accordingly but only when sufficient information on the economic, operational and safety benefits will be available. Therefore it is desirable that in parallel with the approval and implementation of SPI and ACID, new surveillance concepts and technologies, mainly related to ADS-B In applications, are developed and validated in the context of SESAR with the highest priority.

In the above context final amendments were made to the attached draft SPI implementing rule, reflected mainly in Recital 10 and Article 4, aiming in particular at giving a longer notice period to airspace users and clarifying the context in which ANSPs can put into service surveillance interrogators after a certain date.

6. CONCLUSION

EUROCONTROL considers that the proposed draft implementing rules represent the best possible compromise between the positions expressed by stakeholders and address most of the various concerns which were voiced during the consultation process.

EUROCONTROL firmly believes that these draft regulatory provisions, once adopted and implemented, will create the conditions for the fulfilment of the basic objectives of the Mandate, which were to ensure the harmonisation of the performance and the interoperability of surveillance systems and subsequently the continuous and unambiguous identification of individual aircraft. The expected positive impact on efficiency and safety will contribute to the further implementation of the Single European Sky.

Finally, EUROCONTROL would like to use the opportunity of this Final Report to express its sincere appreciation and gratitude to all stakeholders for their contribution throughout the development process of the draft implementing rule, without which the completion of this work would have not been possible.