Commission Regulation (EC) No 262/2009

of 30 March 2009

laying down requirements for the coordinated allocation and use of Mode S interrogator codes for the single European sky

(Text with EEA relevance)

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THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to 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) and in particular Article 3(5) thereof,

Having regard to Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European sky (the framework Regulation), and in particular Article 8(2) thereof,

Whereas:

(1) Mode S (Select) is a cooperative surveillance technique for air traffic control. It enables the selective interrogation of aircraft and the extraction of air derived data through which new air traffic management functionalities can be developed. The design of systems supporting addressing individual aircraft through the Mode S (hereinafter Mode S interrogators) requires the use of Mode S interrogator codes for the detection and surveillance of aircraft equipped with a Mode S transponder.

(2) To secure the safety of the air traffic surveillance system, it is essential that the radar coverage areas of two Mode S interrogators using the same interrogator code do not overlap, except if they are grouped in a cluster or if other appropriate operational mitigations are in place.

(3) In order to support the deployment of an increasing number of Mode S interrogators and to resolve the problems resulting from the shortage of interrogator codes available for the interrogation of aircraft, there is a need to coordinate the allocation and use of those interrogator codes efficiently.

(4) Eurocontrol has been mandated in accordance with Article 8(1) of Regulation (EC) No 549/2004 to develop requirements for the allocation and use of Mode S interrogator codes (hereinafter interrogator codes). This Regulation is based on the resulting mandate report of 2 January 2008.

(5) Initially, for technical reasons, only interrogator identifier codes (hereinafter II codes) 0 to 15 were defined and used as interrogator codes. Due to the expected number of Mode S interrogators, measures were later taken to allow the use of additional surveillance identifier codes (hereinafter SI codes) 1 to 63.

(6) Normally, the use of SI codes requires that all Mode S targets within the coverage of Mode S interrogators are equipped for this purpose. However, specifications were developed by Eurocontrol for an II/SI code operation which would enable the early use of SI codes by Mode S interrogators even in an environment where all Mode S targets would not be equipped for the use of SI codes. Mode S operators should therefore be required to accommodate this II/SI code operation.

(7) A centralised interrogator code allocation service, provided through the interrogator code allocation system, has been established under the authority of Eurocontrol. Member States should be required to take the necessary measures to ensure that the interrogator code allocation system delivers information supporting the consistency of the key items of an interrogator code allocation. These key items should be clearly identified.

(8) Common procedures should be defined to ensure that the key elements of the interrogator code allocations are properly implemented. They should take into account relevant provisions of the International Civil Aviation Organisation (hereinafter ICAO).

(9) Mode S operators and air traffic service providers should take appropriate measures to detect and mitigate the effect of possible conflicts between interrogator codes.

(10) This Regulation should not cover military operations and training as referred to in Article 1(2) of Regulation (EC) No 549/2004.

(11) A limited number of interrogator codes is reserved for exclusive use and management by military entities, including intergovernmental organisations, in particular the North Atlantic Treaty Organisation. Mode S interrogators using these codes therefore do not need to be subject to the coordinated allocation process. Member States should however be required to take the necessary measures to ensure that the use of these interrogator codes has no detrimental impact on the safety of general air traffic.

(12) Interrogator code 0 has been reserved by ICAO for operation without an assigned code. Mode S interrogators using interrogator code 0 in accordance with the ICAO Standards and Recommended Practices do not need to be subject to the coordinated allocation process.

(13) II code 14 has been reserved for shared use by test systems. Mode S target detection cannot be guaranteed when several test systems operate concurrently. Mode S test systems operators who need to conduct temporary trials necessitating a conflict free situation should therefore ensure proper bilateral coordination with other Mode S test system operators.

(14) The centralised interrogator code allocation service should make available to Member States and Mode S operators and update as required an interrogator code allocation plan ensuring safe and efficient use of interrogator codes. The allocation plan should be approved by Member States affected by its content.

(15) A mechanism should be defined to resolve situations where approval of the interrogator code allocation plan cannot be obtained in a timely fashion.

(16) With a view to maintaining or enhancing existing safety levels of operations, Member States should be required to ensure that the parties concerned carry out a safety assessment, including hazard identification, risk assessment and mitigation processes. Harmonised implementation of these processes to the systems covered by this Regulation requires the identification of specific safety requirements for all interoperability and performance requirements.

(17) In accordance with Article 3(3)(d) of Regulation (EC) No 552/2004, implementing rules for interoperability should describe the specific conformity assessment procedures to be used to assess either the conformity or the suitability for use of constituents as well as the verification of systems.

(18) The level of maturity of the market for the constituents to which this Regulation applies is such that their conformity or suitability for use can be satisfactorily assessed through internal production control, using procedures based on Module A of Decision No 768/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products, and repealing Council Decision 93/465/EEC.

(19) The measures provided for in this Regulation are in accordance with the opinion of the Single Sky Committee,

HAS ADOPTED THIS REGULATION:

Article 1

Subject matter and scope

1.This Regulation lays down requirements for the coordinated allocation and use of Mode S interrogator codes (hereinafter interrogator codes) for the purposes of the safe and efficient operation of air traffic surveillance and civil-military coordination.

2.This Regulation shall apply to eligible Mode S interrogators and related surveillance systems, their constituents and associated procedures, when supporting the coordinated allocation or use of eligible interrogator codes.

Article 2

Definitions

For the purpose of this Regulation the definitions in Article 2 of Regulation (EC) No 549/2004 shall apply.

The following definitions shall also apply:

1.‘Mode S interrogator’ means a system, composed of antenna and electronics, supporting addressing of individual aircraft through the Mode Select, known as Mode S;

2.‘interrogator code’ means either an interrogator identifier or a surveillance identifier code used for multisite lockout and possibly communication protocols;

3.‘interrogator identifier code’ (hereinafter II code) means a Mode S interrogator code with a value in the range from 0 to 15 that can be used for both multisite lockout and communications protocols;

4.‘surveillance identifier code’ (hereinafter SI code) means a Mode S interrogator code with a value in the range from 1 to 63 that can be used for multisite lockout protocols, but cannot be used for multisite communications protocols;

5.‘multisite lockout’ means the protocol that allows Mode S target acquisition and lockout by several Mode S interrogators that have overlapping coverage;

6.‘multisite communications protocols’ means the protocols used to coordinate, in areas of overlapping Mode S interrogators coverage, the control of communications performed in more than one transaction;

7.‘Mode S target’ means a platform equipped with a Mode S transponder;

8.‘lockout’ means the protocol that allows the suppression of Mode S all call replies from already acquired Mode S targets;

9.‘Mode S operator’ means a person, organisation or enterprise operating or offering to operate a Mode S interrogator, including:

(a) air navigation service providers;

(b) Mode S interrogators manufacturers;

(c) airport operators;

(d) research establishments;

(e) any other entity entitled to operate a Mode S interrogator;

10.‘interrogator code allocation’ means a definition of values for at least all the key items of an interrogator code allocation as listed in Annex II, Part B;

11.‘interrogator code allocation system’ means a system, and the associated procedures, through which a centralised service of interrogator code allocation (hereinafter interrogator code allocation service), dealing with the processing of interrogator code applications and the distribution of an interrogator code allocation plan proposal, is provided to Mode S operators through States participating in that service;

12.‘interrogator code application’ means an application from a Mode S operator for the allocation of an interrogator code;

13.‘interrogator code allocation plan proposal’ means a proposal for a complete set of IC allocations, submitted by the interrogator code allocation service for approval by States participating in that service;

14.‘interrogator code allocation plan’ means the most recently approved complete set of interrogator code allocations;

15.‘eligible Mode S interrogator’ means a Mode S interrogator for which at least one of the following conditions is satisfied:

(a) the interrogator relies, at least partly, on Mode S all call interrogations and replies for Mode S targets acquisition; or

(b) the interrogator locks out acquired Mode S targets in reply to Mode S all call interrogations, permanently or intermittently, in part or totality of its coverage; or

(c) the interrogator uses multisite communications protocols for data link applications;

16.‘eligible interrogator code’ means any code among the II codes and the SI codes, except:

(a) II code 0;

(b) the interrogator code(s) reserved for military entities, including intergovernmental organisations in particular North Atlantic Treaty Organisation management and allocation;

17.‘Mode S all call interrogations’ means the messages that are normally used by Mode S interrogators to acquire Mode S targets entering their coverage area;

18.‘operational interrogator code’ means any eligible interrogator code other than II code 14;

19.‘competent Member State’ means:

(a) in the case of an air navigation service provider, the Member State that has certified the provider in accordance with Commission Implementing Regulation (EU) No 1035/2011, as that Regulation has effect in EU law as amended from time to time;

(b) in other cases, the Member State within the area of responsibility of which the Mode S operator operates, or intends to operate, an eligible Mode S interrogator;

20.‘interrogator code conflict’ means uncoordinated coverage overlap of two or more Mode S interrogators operating on the same interrogator code, potentially resulting in aircraft remaining undetected by at least one of the Mode S interrogators;

21.‘monitoring of interrogator code conflict’ means the implementation, by a Mode S operator, of technical or procedural means, for identifying the effects of interrogator code conflicts with other Mode S interrogators on the surveillance data provided by its own Mode S interrogators;

22.‘implementation sequence’ means the time-bounded sequence of implementation of interrogator code allocations with which Mode S operators need to comply to avoid temporary interrogator code conflicts;

23.‘matching II code’ means the II code decoded by a Mode S transponder not supporting SI codes, in a Mode S all call interrogation containing an SI code, and which is used by this transponder to encode the all call reply;

24.‘lockout map’ means the Mode S interrogator configuration file defining where and how to apply lockout to Mode S targets;

25. “third country” means a country or territory other than:
(a) Gibraltar;
(b) the United Kingdom; or
(c) a Member State.

26. ‘the Director’ means the Director of Civil Aviation, as defined in the Civil Aviation Act 2009;

27. ‘the CAA’ means the Civil Aviation Authority of the United Kingdom.

Article 3

Interoperability and performance requirements

Mode S operators shall ensure that the radar head electronics constituent of their Mode S interrogators using an operational interrogator code:

1.support the use of SI codes and II codes in compliance with the International Civil Aviation Organisation provisions specified in Annex I point 1;

2.support the use of II/SI code operation in compliance with the requirements specified in Annex III.

Article 4

Associated procedures for Mode S operators

1.Mode S operators shall only operate an eligible Mode S interrogator, using an eligible interrogator code, if they have received an interrogator code allocation, for this purpose, from the Director, the CAA or the competent Member State.

2.Mode S operators intending to operate, or operating, an eligible Mode S interrogator for which no interrogator code allocation has been provided, shall submit an interrogator code application to the Director, in accordance with the requirements specified in Annex II, Part A, unless –

(a) a Member State is the competent Member State in relation to the operator; or

(b) the CAA is the competent authority in relation to the operator.

3.Mode S operators shall comply with the key items of the interrogator code allocations they receive as listed in Annex II, Part B.

4.Mode S operators that have received an interrogator code allocation from the Director shall inform the Director at least every six months of any change in the installation planning or in the operational status of the eligible Mode S interrogators regarding any of the interrogator code allocation key items listed in Annex II, Part B.

5.Mode S operators shall ensure that each of their Mode S interrogators uses exclusively its allocated interrogator code.

Article 5

Associated procedures for the Director

1.The Director shall check the validity of interrogator code applications received from Mode S operators, before making them available through the interrogator code allocation system for coordination. The validity check shall include the key items listed in Annex II, Part A.

2.The Director shall take the necessary measures to ensure that the interrogator code allocation system:

(a) checks interrogator code applications for compliance with the format and data conventions;

(b) checks interrogator code applications for completeness, accuracy and timeliness;

(c) within maximum six calendar months from application:

(i) performs interrogator code allocation plan update simulations on the basis of the pending applications;

(ii) prepares a proposed update of the interrogator code allocation plan for approval by the Director if Gibraltar is affected by it;

(iii) ensures that the proposed update to the interrogator code allocation plan meets to the greatest extent possible, the operational requirements of the interrogator code applications, as described by key items (g), (h) and (i) listed in Annex II, Part A;

(iv) updates, and communicates to the Director he interrogator code allocation plan immediately after its approval, without prejudice to procedures for the communication of information on Mode S interrogators operated by military.

3.*Omitted*

4.*Omitted*

5.The Director shall ensure that Gibraltar's interrogator code allocation plan approvals are communicated to Member States and the CAA through the interrogator code allocation system.

6.The Director shall ensure that interrogator code allocation changes resulting from an update to the interrogator code allocation plan are communicated to the relevant Mode S operators under their authority within 14 calendar days of the reception of the updated allocation plan.

7.The Director shall make available to Member States and the CAA at least every six months through the interrogator code allocation system an up-to-date record of the allocation and use of interrogator code by the eligible Mode S interrogators within their area of responsibility.

8.Where an overlap exists between the coverage of a Mode S interrogator located within the area of responsibility of Gibraltar and the coverage of a Mode S interrogator located within the area of responsibility of a third country, the Director concerned shall:

(a) ensure that the third country is informed of the safety requirements related to the allocation and use of interrogator codes;

(b) take the necessary measures to coordinate the use of interrogator codes with the third country.

Article 6

Associated procedures for air traffic service providers

Air traffic service providers shall not use data from Mode S interrogators operating under the responsibility of a third country if the interrogator code allocation has not been coordinated.

Article 7

Contingency requirements

1.Air traffic service providers shall assess the possible impact on air traffic services of interrogator code conflicts, and the corresponding potential loss of Mode S target surveillance data from the impacted Mode S interrogators, taking into account their operational requirements and available redundancy.

2.Unless the potential loss of Mode S target surveillance data has been assessed to have no safety significance, Mode S operators shall:

(a) implement monitoring means to detect interrogator code conflicts caused by other Mode S interrogators impacting eligible Mode S interrogators they operate on any operational interrogator code;

(b) ensure that the interrogator code conflict detection provided by the implemented monitoring means is achieved in a timely manner and within a coverage that satisfy their safety requirements;

(c) identify and implement as appropriate, a fallback mode of operation to mitigate the possible interrogator code conflict hazards on any operational code, identified in the assessment referred to in paragraph 1;

(d) ensure that the implemented fallback mode of operation does not create any interrogator code conflict with other Mode S interrogators referred to by the interrogator code allocation plan.

3.Mode S operators shall report any identified interrogator conflict involving an eligible Mode S interrogator they operate on any operational interrogator code to the Director and shall make available, through the IC allocation system, the related information to the other Mode S operators.

Article 8

Omitted

Article 9

Safety requirements

1.Mode S operators shall ensure that potential interrogator code conflict hazards affecting their Mode S interrogators are properly assessed and mitigated.

2.The Director shall take the necessary measures to ensure that any changes to the existing systems and associated procedures referred to in Article 1(2) or the introduction of such new systems and procedures are preceded by a safety assessment, including hazard identification, risk assessment and mitigation, conducted by the parties concerned.

3.For the purposes of the safety assessment provided for in paragraph 2, the requirements specified in Articles 4 to 8 and Article 12 shall also be considered as minimum safety requirements.

Article 10

Conformity assessment

Before issuing a declaration of conformity or suitability for use as referred to in Article 5 of Regulation (EC) No 552/2004, manufacturers of constituents, or if the manufacturer is not established in Gibraltar their authorised representatives established in Gibraltar, of the systems referred to in Article 1(2) of this Regulation shall assess the conformity or suitability for use of those constituents in compliance with the requirements set out in Annex IV, Part A to this Regulation.

Article 11

Verification of systems

1.Air navigation service providers which can demonstrate or have demonstrated that they fulfil the conditions set out in Annex V shall conduct a verification of the systems referred to in Article 1(2) in compliance with the requirements set out in Annex VI, Part A.

2.Air navigation service providers which cannot demonstrate that they fulfil the conditions set out in Annex V shall subcontract to an appointed body a verification of the systems referred to in Article 1(2). This verification shall be conducted in compliance with the requirements set out in Annex VI, Part B.

Article 12

Additional requirements

1.Mode S operators shall ensure that their personnel in charge of the implementation of interrogator code allocations are made duly aware of the relevant provisions in this Regulation and that they are adequately trained for their job functions.

2.Mode S operators shall:

(a) develop and maintain Mode S operations manuals, including the necessary instructions and information to enable their personnel in charge of the implementation of interrogator code allocations to apply the provisions of this Regulation;

(b) ensure that the manuals referred to in point (a) are accessible and kept up-to-date and that their update and distribution are subject to appropriate quality and documentation configuration management;

(c) ensure that the working methods and operating procedures required for the implementation of interrogator code allocations comply with the relevant provisions specified in this Regulation.

3.The Director shall take the necessary measures to ensure that the personnel providing the interrogator code allocation service are made duly aware of the relevant provisions of this Regulation and that they are adequately trained for their job functions.

4.The Director shall take the necessary measures to ensure that the centralised interrogator code allocation service:

(a) develops and maintains operations manuals containing the necessary instructions and information to enable their personnel to apply the provisions of this Regulation;

(b) ensures that the manuals referred to in point (a) are accessible and kept up-to-date and that their update and distribution are subject to appropriate quality and documentation configuration management;

(c) ensures that the working methods and operating procedures comply with the relevant provisions specified in this Regulation.

Article 13

Omitted

ANNEX I

International Civil Aviation Organisation provisions referred to in Article 3(1) and Annex III point 2

1. Chapter 3 ‘ Surveillance systems ’ , Section 3.1.2.5.2.1.2 ‘ IC: Interrogator code ’ of ICAO Annex 10 ‘ Aeronautical Telecommunications ’ , Volume IV ‘ Surveillance and Collision Avoidance Systems ’ (Fifth Edition, July 2014, incorporating Amendment 89).

2. Chapter 5 ‘ SSR Mode S Air-Ground Data Link ’ , Section 5.2.9 ‘ The data link capability report ’ of ICAO Annex 10 ‘ Aeronautical Telecommunications ’ , Volume III ‘ Communication Systems ’ (Second Edition, July 2007, incorporating Amendment 90).

ANNEX II

Part A:

Requirements concerning the application for interrogator codes referred to in Articles 4(2), 5(1) and 5(2)

An IC application shall include the following key items, as a minimum:

(a) a unique application reference from the Director;
(b) *Omitted*
(c) full details of the Mode S operator point of contact for Mode S IC Allocation matters;
(d) Mode S interrogator name;
(e) Mode S interrogator use (operational or test);
(f) Mode S interrogator location;
(g) Mode S interrogator planned date of first Mode S transmission;
(h) requested Mode S coverage;
(i) specific operational requirements;
(j) SI code capability;
(k) ‘II/SI code operation’ capability;
(l) coverage map capability.

Part B:

Requirements concerning the allocation of interrogator codes referred to in Articles 2(10), 4(3) and 4(4)

An IC allocation shall include the following minimum items:

(a) the corresponding application reference from the Director;
(b) a unique allocation reference from the IC allocation service;
(c) superseded allocation references, as required;
(d) allocated IC;
(e)

surveillance and lockout coverage restrictions under the form of sectored ranges or Mode S coverage map;

(f) implementation period during which the allocation needs to be registered into the Mode S interrogator identified in the application;

(g) implementation sequence which needs to be complied with;

(h) optionally and associated with other alternatives: cluster recommendation;

(i) specific operational restrictions, as required.

ANNEX III

II/SI code operation referred to in Article 3(2)

1.Mode S interrogators, when operating with an SI code and if enabled by an appropriate operational parameter, shall also acquire targets through all call replies which are encoded using the matching II code.

2.Mode S interrogators, when operating with an SI code and if enabled by an appropriate operational parameter, shall consider transponders replying with all call replies encoded using the matching II code as non-SI equipped transponders, irrespectively of the SI capability reported in the data link capability report defined in the document referred to in Annex I point 2.

3.Mode S interrogators, when operating with an SI code and if enabled by an appropriate operational parameter, shall interrogate transponders lacking SI code capability using the Mode S multisite lockout protocol messages foreseen for II code operation. The II code to be used shall be the matching II code.

4.Mode S interrogators, when operating with an SI code and if enabled by an appropriate operational parameter, shall be configurable by the operator to either:

(a) not use lockout on the matching II code for transponders lacking SI code capability, or

(b) use intermittent lockout on the matching II code for transponders lacking SI code capability.

5.Mode S interrogators, when operating with an II code and if enabled by an appropriate operational parameter, shall be configurable by the operator to either:

(a) not use lockout for transponders which report no SI capability in their data link capability report or cannot report their data link capability, or

(b) use intermittent lockout for transponders which report no SI capability in their data link capability report or cannot report their data link capability.

6.When the II/SI code operation is activated, the lockout maps shall not be taken into account for transponders lacking SI code capability.

ANNEX IV

Part A:

Requirements for the assessment of the conformity or suitability for use of constituents of the systems referred to in Article 10

1.The verification activities shall demonstrate the conformity of constituents supporting II code and SI code lockout protocols and II/SI code operation with the interoperability and performance requirements of this Regulation, or their suitability for use whilst these constituents are in operation in the test environment.

2.The application by the manufacturer, or if the manufacturer is not established in Gibraltar its authorised representative established in Gibraltar, of the module described in Part B shall be considered as an appropriate conformity assessment procedure to ensure and declare the compliance of constituents. Equivalent or more stringent procedures are also authorised.

Part B:

Internal production control module

1.This module describes the procedure whereby the manufacturer or, if the manufacturer is not established in Gibraltar its authorised representative established in Gibraltar who carries out the obligations laid down in point 2, ensures, and declares that the constituents concerned satisfy the requirements of this Regulation. The manufacturer or, if the manufacturer is not established in Gibraltar his authorised representative established within the Community must draw up a written declaration of conformity or suitability for use in accordance with Annex III point 3 of Regulation (EC) No 552/2004.

2.The manufacturer must establish the technical documentation described in point 4 and the manufacturer, or if the manufacturer is not established in Gibraltar the manufacturer's authorised representative established within Gibraltar must keep it for a period ending at least 10 years after the last constituents has been manufactured at the disposal of the Director for inspection purposes and at the disposal of the air navigation service providers that integrate these constituents in their systems, if the manufacturer is not established in Gibraltar its authorised representative established within Gibraltar shall inform the Director on where and how the above technical documentation can be made available.

3.Where the manufacturer is not established within Gibraltar, he shall designate the person(s) who place(s) the constituents on the Gibraltar market. These person(s) shall inform the Director on where and how the technical documentation can be made available.

4.Technical documentation must enable the conformity of the constituents with the requirements of this Regulation to be assessed. It must, as far as relevant for such assessment, cover the design, manufacture and operation of the constituents.

5.The manufacturer or his authorised representative must keep a copy of the declaration of conformity or suitability for use with the technical documentation.

ANNEX V

Conditions referred to in Article 11

1.The air navigation service provider must have in place reporting methods within the organisation which ensure and demonstrate impartiality and independence of judgement in relation to the verification activities.

2.The air navigation service provider must ensure that the personnel involved in verification processes, carry out the checks with the greatest possible professional integrity and the greatest possible technical competence

and are free of any pressure and incentive, in particular of a financial type, which could affect their judgment or the results of their checks, in particular from persons or groups of persons affected by the results of the checks.

3.The air navigation service provider must ensure that the personnel involved in verification processes, have access to the equipment that enables them to properly perform the required checks.

4.The air navigation service provider must ensure that the personnel involved in verification processes, have sound technical and vocational training, satisfactory knowledge of the requirements of the verifications they have to carry out, adequate experience of such operations, and the ability required to draw up the declarations, records and reports to demonstrate that the verifications have been carried out.

5.The air navigation service provider must ensure that the personnel involved in verification processes, are able to perform their checks with impartiality. Their remuneration shall not depend on the number of checks carried out, or on the results of such checks.

ANNEX VI

Part A:

Requirements for the verification of systems referred to in Article 11(1)

1.The verification of systems shall demonstrate the conformity of these systems with the interoperability, performance, contingency and safety requirements of this Regulation in an assessment environment that reflects the operational context of these systems. In particular, the verification of Mode S interrogators shall demonstrate:

(a) the correct operation on an SI code, including II/SI code operation,

(b) that the combination of IC conflict monitoring systems and/or procedures, and fallback mode of operation properly mitigate the IC conflict hazards,

(c) that the fallback mode of operation does not conflict with the IC allocation plan.

2.The verification of systems identified in Article 1(2) shall be conducted in accordance with appropriate and recognised testing practices.

3.Test tools used for the verification of systems identified in Article 1(2) shall have appropriate functionalities.

4.The verification of systems identified in Article 1(2) of this Regulation shall produce the elements of the technical file required by Annex IV point 3 of Regulation (EC) No 552/2004, including the following elements:

(a) description of the implementation,

(b) the report of inspections and tests achieved before putting the system into service.

5.The air navigation service provider shall manage the verification activities and shall in particular:

(a) determine the appropriate operational and technical assessment environment reflecting the operational environment,

(b) verify that the test plan describes the integration of systems identified in Article 1(2) in an operational and technical assessment environment,

(c) verify that the test plan provides full coverage of the applicable interoperability, performance, contingency and safety requirements of this Regulation,

(d) ensure the consistency and quality of the technical documentation and the test plan,

(e) plan the test organisation, staff, installation and configuration of the test platform,

(f) perform the inspections and tests as specified in the test plan,

(g) write the report presenting the results of inspections and tests.

6.The air navigation service provider shall ensure that the systems identified in Article 1(2) operated in an operational assessment environment meet the interoperability, performance, contingency and safety requirements of this Regulation.

7.Upon satisfying completion of verification of compliance, air navigation service providers shall draw up the declaration of verification of system and submit it to the Director together with the technical file as required by Article 6 of Regulation (EC) No 552/2004.

Part B:

Requirements for the verification of systems referred to in Article 11(2)

1.The verification of systems shall demonstrate the conformity of these systems with the interoperability, performance, contingency and safety requirements of this Regulation in an assessment environment that reflects the operational context of these systems. In particular, the verification of Mode S interrogators shall demonstrate:

(a) the correct operation on an SI code, including II/SI code operation,

(b) that the combination of IC conflict monitoring systems and fallback mode of operation properly mitigate the IC conflict hazards,

(c) that the fallback mode of operation does not conflict with the IC Allocation plan.

2.The verification of systems identified in Article 1(2) shall be conducted in accordance with appropriate and recognised testing practices.

3.Test tools used for the verification of systems identified in Article 1(2) shall have appropriate functionalities.

4.The verification of systems identified in Article 1(2) of this Regulation shall produce the elements of the technical file required by Annex IV point 3 of Regulation (EC) No 552/2004, including the following elements:

(a) description of the implementation,

(b) the report of inspections and tests achieved before putting the system into service.

5.The air navigation service provider shall determine the appropriate operational and technical assessment environment reflecting the operational environment and shall have verification activities performed by an appointed body.

6.The appointed body shall manage the verification activities and shall in particular:

(a) determine the appropriate operational and technical assessment environment reflecting the operational environment,

(b) verify that the test plan describes the integration of systems identified in Article 1(2) in an operational and technical assessment environment,

(c) verify that the test plan provides full coverage of the applicable interoperability, performance, contingency and safety requirements of this Regulation,

(d) ensure the consistency and quality of the technical documentation and the test plan,

(e) plan the test organisation, staff, installation and configuration of the test platform,

(f) perform the inspections and tests as specified in the test plan,

(g) write the report presenting the results of inspections and tests.

7.The appointed body shall ensure that the implementation of information exchanges supporting the process of allocation and use of Mode S IC, integrated in systems operated in a simulated operational environment meets the interoperability, performance, contingency and safety requirements of this Regulation.

8.Upon satisfying completion of verification tasks, the appointed body shall draw up a certificate of conformity in relation to the tasks it carried out.

9.Then, the air navigation service provider shall draw up the declaration of verification of system and submit it to the Director together with the technical file as required by Article 6 of Regulation (EC) No 552/2004.