

## Annex 6 – Aircraft Operations

### Part I

#### Chapter 1 - Definitions

***Air traffic service (ATS)***. A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

***Performance-based communication (PBC)***. Communication based on performance specifications applied to the provision of air traffic services.

*Note.*— *An RCP specification includes communication performance requirements that are allocated to system components in terms of communication transaction time, continuity, availability, integrity, safety and functionality needed for the proposed operation in the context of a particular airspace concept.*

***Performance-based surveillance (PBS)***. Surveillance based on performance specifications applied to the provision of air traffic services.

*Note.*— *An RSP specification includes surveillance performance requirements that are allocated to system components in terms of surveillance data delivery time, continuity, availability, integrity, accuracy of the surveillance data, safety and functionality needed for the proposed operation in the context of a particular airspace concept.*

***Required communication performance (RCP) specification***. A set of requirements for air traffic service provision, aircraft capability, and operations needed to support performance-based communication. A statement of the performance requirements for operational communication in support of specific ATM functions.

*Note.*— *The term RCP, previously defined as “a statement of performance requirements for operational communication in support of specific ATM functions”, has been revised to align the concept of PBC with the concept of PBN. The term RCP is now used in the context of a specification that is applicable to the prescription of airspace requirements, qualification of ATS provision, aircraft capability, and operational use, including post-implementation monitoring (e.g. RCP 240 refers to the criteria for various components of the operational system to ensure an acceptable intervention capability for the controller is maintained. These criteria are detailed in Doc 9869.*

***Required communication performance type (RCP type)***. A label (e.g. RCP 240) that represents the values assigned to RCP parameters for communication transaction time, continuity, availability and integrity.

***Required surveillance performance (RSP) specification***. A set of requirements for air traffic service provision, aircraft capability, and operations needed to support performance-based surveillance.

*Note.— The term RSP is used in the context of a specification that is applicable to the prescription of airspace requirements, qualification of ATS provision, aircraft capability, and operational use, including post-implementation monitoring (e.g. RSP 180 refers to the criteria for various components of the operational system to ensure an acceptable surveillance capability for the controller is maintained. These criteria are detailed in Doc 9869.*

## Chapter 7 – Aircraft communication, navigation, and surveillance equipment.

### **7.1 Communication equipment**

7.1.3 For operations flights in defined portions of airspace or on routes where communication equipment is required to meet an RCP type specification for performance-based communication (PBC) has been prescribed, an aeroplane shall, in addition to the requirements specified in 7.1.1:

- a) be provided with communication equipment which will enable it to operate in accordance with the prescribed type(s); and RCP specification(s);
- b) be authorized by the State of the Operator for operations in such airspace and have information relevant to the RCP specification capabilities listed in the flight manual or other aeroplane documentation, approved by the State of Design or State of Registry; and
- c) have information relevant to the RCP specification capabilities included in the MEL.

*Note.— Information on RCP and associated procedures RCP specifications for performance-based communication, and guidance concerning the implementation and approval process, are contained in the Manual on Required Communications Performance (RCP) Performance-Based Communication and Surveillance Manual (PBCS) (Doc 9869). This document also contains references to other documents produced by States and international bodies concerning communication systems and RCP.*

7.1.4 For operations where an RCP specification for performance-based communication (PBC) has been prescribed, the State of the Operator shall ensure that the operator has adequately established and documented:

- a) requirements for normal and abnormal procedures including contingency procedures;
- b) flight crew qualification and proficiency requirements, in accordance with appropriate RCP specifications;
- c) training programme for relevant personnel consistent with the intended operations; and
- d) appropriate maintenance procedures to ensure continued airworthiness, in accordance with appropriate RCP specifications.

7.1.5 The State of the Operator shall ensure that, in respect of those aeroplanes mentioned in 7.1.3, adequate provisions exist for:

- a) receiving the reports of observed communication performance issued by the monitoring programmes established in accordance with Annex 11, 3.3.5.2; and
- b) taking immediate corrective action for individual aircraft, aircraft types or operators, identified in such reports as not complying with the RCP specification.

### **7.3 Surveillance equipment**

7.3.1 An aeroplane shall be provided with surveillance equipment which will enable it to operate in accordance with the requirements of air traffic services.

7.3.2 For operations where surveillance equipment is required to meet an RSP specification for performance-based surveillance (PBS), an aeroplane shall, in addition to the requirements specified in 7.3.1:

- a) be provided with surveillance equipment which will enable it to operate in accordance with the prescribed RSP specification(s);
- b) have information relevant to the RSP specification capabilities listed in the flight manual or other aeroplane documentation, approved by the State of Design or State of Registry; and
- c) have information relevant to the RSP specification capabilities included in the MEL.

*Note 1.— Information on surveillance equipment is contained in Aeronautical Surveillance Manual (Doc 9924).*

*Note 2.— Information on RSP specifications for performance-based surveillance is contained in the Performance-Based Communication and Surveillance (PBCS) Manual (Doc 9869).*

7.3.3 For operations where an RSP specification for performance-based surveillance (PBS) has been prescribed, the State of the Operator shall ensure that the operator has adequately established and documented:

- a) requirements for normal and abnormal procedures including contingency procedures;
- b) flight crew qualification and proficiency requirements, in accordance with appropriate RSP specifications;
- c) training programme for relevant personnel consistent with the intended operations; and
- d) appropriate maintenance procedures to ensure continued airworthiness, in accordance with appropriate RSP specifications.

7.3.4 The State of the Operator shall ensure that, in respect of those aeroplanes mentioned in 7.3.2, adequate provisions exist for:

- a) receiving the reports of observed surveillance performance issued by such monitoring programmes in accordance with Annex 11, 3.3.5.2; and
- b) taking immediate corrective action for individual aircraft, aircraft types or operators, identified in such reports as not complying with the RSP specification.

## Annex 11 – Air Traffic Services

### Chapter 2

#### **2.8 Performance-based communication (PBC) operations**

Required communication performance (RCP)

2.8.1 Performance-based communications (PBC) shall be applied to any ATS system change that is predicated on communication performance, including the implementation of a reduced separation minimum or new procedure.

2.8.21 In applying PBC, RCP specifications types shall be prescribed by States. When applicable, the RCP specification(s) type(s) shall be prescribed on the basis of regional air navigation agreements.

*Note.— In prescribing an RCP specification, limitations may apply as a result of communication infrastructure constraints or specific communication functionality requirements.*

2.8.32 The prescribed RCP specification type shall be appropriate to the air traffic services provided.

*Note.— Applicable guidance on performance-based communication and implementation is RCP types and associated procedures will be published in the Performance-Based Communication and Surveillance Manual on Required Communication Performance (RCP) (Doc 9869) (in preparation).*

#### **2.9 Performance-based surveillance (PBS) operations**

2.9.1 Performance-based surveillance (PBS) shall be applied to any ATS system change that is predicated on surveillance performance, including the implementation of a reduced separation minimum or new procedure.

2.9.2 In applying performance-based surveillance, RSP specifications shall be prescribed by States. When applicable, the RSP specification(s) shall be prescribed on the basis of regional air navigation agreements.

*Note.— In prescribing an RSP specification, limitations may apply as a result of surveillance infrastructure constraints or specific surveillance functionality requirements.*

2.9.3 The prescribed RSP specification shall be appropriate to the air traffic services provided.

2.9.4 Where an RSP specification has been prescribed by States for performance-based surveillance, ATS units shall be provided with equipment capable of performance consistent with the prescribed RSP specification(s).

#### Chapter 3:q END

### **3.3 Operation of air traffic control service**

3.3.5.2 Where RCP/RSP specifications are applied, programmes shall be instituted for monitoring the performance of the infrastructure and the participating aircraft against the appropriate RCP and/or RSP specifications, to ensure that operations in the applicable airspace continue to meet safety objectives. The scope of monitoring programmes shall be adequate to evaluate communication or surveillance performance.

*Note.— Guidance material relating to RCP and RSP specifications and monitoring of communication and surveillance performance is contained in the Performance-Based Communication and Surveillance (PBCS) Manual (Doc 9869).*

3.3.5.32 When applicable, arrangements shall be put in place, through interregional agreement, for the sharing between regions of data and/or information from monitoring programmes.

*Note.— Applicable guidance on performance-based surveillance and implementation is published in the Performance-Based Communication and Surveillance Manual (Doc 9869).*

#### Chapter 6

6.1.1.2 Where an RCP specification has types have been prescribed by States for performance-based communication ATM functions, ATS units shall, in addition to the requirements specified in 6.1.1.1, be provided with communication equipment which will enable them to provide ATS in accordance with the prescribed RCP specification(s) type(s).

*Note.— Information on performance-based communication RCP and associated procedures, and guidance concerning implementation the approval process, are will be contained in the Performance-Based Communication and Surveillance (PBCS) Manual on Required Communication Performance (RCP) (Doc 9869) (in preparation). This document also contains a list of references to other documents produced by States and international bodies concerning communication systems and RCP.*

#### Annex 15 – AIS

Note: Definitions updated to support provision in AIP when prescribing specifications for PBCS. Appendix 1 - AIP was updated to support provision for PBCS in Annex 6, Annex 11 and the PANS-ATM. RCP/RSP specifications are included in the AIP and associated with communication and surveillance capabilities supporting air traffic services.

#### PANS-ATM

## Chapter 1 – Definitions

**Performance-based communication (PBC).** Communication based on performance specifications applied to the provision of air traffic services.

*Note.— Communication performance requirements are allocated to system components in an RCP specification in terms of communication transaction time, continuity, availability, integrity, safety and functionality needed for the proposed operation in the context of a particular airspace concept.*

**Performance-based surveillance (PBS).** Surveillance based on performance specifications applied to the provision of air traffic services.

*Note.— A RSP specification includes surveillance performance requirements that are allocated to system components in terms of surveillance data delivery time, continuity, availability, integrity, accuracy of the surveillance data, safety and functionality needed for the proposed operation in the context of a particular airspace concept.*

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*Note.— The term RCP, previously defined as “a statement of performance requirements for operational communication in support of specific ATM functions”, has been revised to align the concept of PBC with the concept of PBN. The term RCP is now used in the context of a specification that is applicable to the prescription of airspace requirements, qualification of ATS provision, aircraft capability, and operational use, including post-implementation monitoring (e.g. RCP 240 refers to the criteria for various components of the operational system to ensure an acceptable intervention capability for the controller is maintained. These criteria are detailed in Doc 9869.*

**Required surveillance performance (RSP) specification.** A set of requirements for air traffic service provision, aircraft capability, and operations needed to support performance-based surveillance.

*Note.— The term RSP is used in the context of a specification that is applicable to the prescription of airspace requirements, qualification of ATS provision, aircraft capability, and operational use, including post-implementation monitoring (e.g. RSP 180 refers to the criteria for various components of the operational system to ensure an acceptable surveillance capability for the controller is maintained. These criteria are detailed in Doc 9869.*

## Chapter 4 –General Provisions for ATS

4.4.1.4 An operator shall, prior to departure:

c) ensure that, where the flight is intended to operate where an RCP specification type is prescribed, the aircraft has an appropriate operational RCP approval has been granted, and that all conditions applying to that approval will be satisfied; and.

d) ensure that, where the flight is intended to operate where an RSP specification is prescribed, the an appropriate operational approval has been granted, and that all conditions applying to that approval will be satisfied.

## Appendix 2 – Flight Plan

### Item 10 – Equipment and Capabilities

#### *Radiocommunication, navigation and approach aid equipment and capabilities*

P1 CPDLC RCP 400 (See Note 7)

P2 CPDLC RCP 240 (See Note 7)

P3 SATVOICE RCP 400 (See Note 7)

*Note 5.— If the letter Z is used, specify in Item 18 the other equipment carried or other capabilities, preceded by COM/, NAV/, and/or DAT/ and/or SUR/, as appropriate.*

*Note 7.— Guidance material on the application of performance-based communication, which prescribes RCP to an air traffic service in a specific area, is contained in the Performance-Based Communication and Surveillance (PBCS) Manual (Doc 9869).*

#### *Surveillance equipment and capabilities*

*Note 1.— The RSP specification(s), if applicable, should be listed in Item 18 following the indicator SUR/. Guidance material on the application of performance-based surveillance, which prescribes RSP to an air traffic service in a specific area, is contained in the Performance-Based Communication and Surveillance (PBCS) Manual (Doc 9869).*

*Note 2.— Additional surveillance equipment or capabilities application should be listed in Item 18 following the indicator SUR/, as required by the appropriate ATS authority.*

### Item 18 – Other Equipment

SUR/ Indicate Include surveillance equipment and capabilities not specified in Item 10 b). Indicate the appropriate RSP specification(s) here.

END