



## **SAFETY DECISION 2018-03**

### **Issue 01**

**Date of Issue: 13<sup>th</sup> November 2018**

#### **SUBJECT:**

PERFORMANCE BASED COMMUNICATION AND SURVEILLANCE (PBCS)

#### **REFERENCE PUBLICATIONS:**

Further information on PBCS and data link operations can be found in the PBCS Manual (ICAO Doc 9869) and the GOLD Manual (ICAO Doc 10037)

#### **REASON:**

Since 29 March 2018, flights in the NTA HLA are required to indicate compliance with RCP 240 and RSP 180 specifications to qualify for operations in airspace where reduced lateral and/or longitudinal separation minima apply. Initially this applies to the OTS between FL 350 and FL 390 inclusive but will be extended to the whole of the NAT HLA in due course. RCP and RSP compliance was required from 29<sup>th</sup> March 2018 in the Asia/Pacific (APAC) Region.

Required Communication Performance (RCP) and Required Surveillance Performance (RSP) are on specific communication and surveillance capabilities required when reduced separation minima is applied in some specific airspace. The RCP and RSP specifications are a set of requirements for air traffic service provision, associated ground equipment, aircraft capability and operations needed to support PBCS. These include performance requirements that are allocated to system components in terms of the communication and surveillance to be provided and associated data, delivery time, continuity, availability, integrity, safety and functionality needed for the proposed operation in the context of a particular airspace design.

Since specific aircraft operation regulation (e.g. CAR-OPS 1) does not currently support the approval of PBCS operations, this Safety Decision is issued to:

- a) mandate PBCS operational approval where and when such approval is required by the appropriate airspace authorities.
- b) mandate the conditions that are required to maintain such operational approval.

#### **REQUIREMENTS:**

##### **Requirement No. 1:**

Prior to being granted a PBCS operational approval for ATM operation predicated on an RCP/RSP specification, an UAE Aircraft Operator shall:

- a) Satisfy eligibility requirements for PBCS operations established by the State responsible for the airspace where such PBCS operations are prescribed.
- b) Ensure flight crew training and qualification, operations, maintenance, aircraft systems and CSP service agreements are implemented for the specific PBCS operations;
- c) Participate in ANSP and regional PBCS monitoring programmes which are applicable to its route system;
- d) Ensure that any change to the following information are provided to regional PBCS monitoring entities specified in the Aeronautical Information Publication (AIP):



- (a) Operator's name;
- (b) Operator's contact details; and
- (c) other coordination information.

- e) Ensure that any problems encountered by flight crew or other personnel are reported to the regional PBCS monitoring entities associated with the route of flight on which the problem occurred.
- f) Commit to disclosing operational data, including that from its CSPs/SSPs, in a timely manner to the appropriate PBCS monitoring entity, when requested, for the purposes of investigating a reported problem.

Operational approvals other than PBCS operational approval may be requested in the airspace where RCP/RSP specifications are mandated.

Note 1: Appendix I contains the required guidance.

#### **Requirement No. 2:**

An UAE Aircraft Operator approved for ATM operation predicated on an RCP/RSP specification shall:

- a) Establish an ongoing post-implementation data collection, monitoring, problem reporting and tracking, analysis and corrective action; and
- b) Take immediate corrective action, when performance falls below specified levels, or problems are reported.

Note 2: These requirements on PBCS are not limited to NAT HLA. These requirements apply to all other airspace regions where PBCS is implemented.

#### **CONTACT:**

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## **APPENDIX I - Application Procedures**

The following must be submitted by the applicant to the GCAA for an operation approval:

- (a) Airspace PBCS specifications required to be met by the appropriate airspace authorities;
- (b) The operator's documentation to ensure that it includes:
  - i. normal and abnormal procedures including contingency procedures in particular to ensure that the required Communications/Navigation/Surveillance (CNS) systems are operational and flight crews report any failure or malfunction of GNSS, ADS-C or CPDLC equipment to Air Traffic Control (ATC) as soon as it becomes apparent;
  - ii. flight crew qualification and proficiency requirements, in accordance with appropriate RCP/RSP specification(s);
  - iii. procedures to ensure that the planned use of associated communication and surveillance capabilities for the flight will be in accordance with regulations, policies and procedures in control areas for the flight, as published by the applicable States in their AIPs (or equivalent publications);
  - iv. procedures to ensure that the proper denotation of PBCS capabilities are included in the ICAO flight plan;
  - v. a training programme for relevant personnel (including required non-flight crew personnel) consistent with the intended operations; and
  - vi. appropriate maintenance procedures to ensure continued airworthiness, in accordance with the appropriate RCP/RSP specification(s).
- (c) Following means for demonstrating the aircraft eligibility and airworthiness compliance with the TCP/RSP allocations (any limitations, assumptions or specific procedures considered in the framework of the airworthiness approval must be addressed):
  - vii. The aircraft manufacturer should demonstrate that the aircraft system meets the RCP/RSP allocations. For a FANS 1/A CPDLC and ADS-C aircraft system, RTCA DO-306/EUROCAE ED-122 is equivalent to RCP 240, RCP 400, RSP 180 and RSP 400 specifications. For an ATN B1 or FANS 1/A CPDLC aircraft system, RTCA DO-290/EUROCAE ED-120 provides performance criteria for the EUR Region.
  - viii. The aircraft manufacturer should also demonstrate that the aircraft meets the RCP/RSP integrity criteria and associated safety requirements. RCP/RSP integrity is typically shown by analysis, design, system architecture, and evaluations of HMI, taking into account flight crew training and qualification programmes instituted by the aircraft operator.
  - ix. The aircraft manufacturer should demonstrate that the aircraft system meets the RCP/RSP availability criteria. RCP/RSP availability is typically shown by the evaluation of equipment failure and the number of similar components (redundancy) installed on the aircraft. For voice communication, the number and types of radios required may be specified by operating rules and airspace requirements (i.e. the AIP or equivalent publication).
  - x. The aircraft manufacturer should demonstrate that the aircraft system, when operating with a representative ATS system (i.e. simulation or real ground system), is capable of meeting the operational RCP/RSP time and continuity criteria.
  - xi. The aircraft manufacturer should demonstrate that the aircraft system provides the flight crew with alerts in case of aircraft system or connectivity failures, causing the aircraft to be incapable of meeting the RCP/RSP specification.
  - xii. The aircraft manufacturer should identify any specific items related to PBCS capability in the master minimum equipment list (MMEL).



- xiii. The aircraft manufacturer supplier should identify the demonstrated PBCS capability of the aircraft, any associated operating limitations, information and procedures, in the flight manual.
- (d) means of ensuring that the aircraft system is properly maintained, including configuring user-modifiable software, such as those used to manage communication media and routing policies, to meet the appropriate RCP/RSP specification(s).
- (e) means of ensuring compliance of contracted services, such as those with communication services providers (CSPs) with respect to PBCS operations. CSPs should be bound by contractual arrangements stipulating the RCP/RSP allocations, notification to ATS units, aircraft operators and others, as appropriate, of any failure condition that may impact PBCS operations, and any monitoring or recording requirements; and
- (f) documentation and maintenance of:
- i. operating procedures for the specific data link system(s) including use of message sets;
  - ii. procedures for participation in PBCS monitoring programmes including problem reporting;
  - iii. policies and procedures to control configuration of aircraft system including software; and communication subnetwork for managing media and routing.