



International Civil Aviation Organization

**MIDANPIRG Communication Navigation and Surveillance
Sub-Group (CNS SG)**

Sixth Meeting
(Tehran, Iran, 9 – 11 September 2014)

Agenda Item 3: Global and Regional Developments related to CNS

**PROGRESS ON THE WORK OF THE OPERATIONAL
DATA LINK PANEL (OPLINKP) RELATED TO PERFORMANCE BASED
COMMUNICATION AND SURVEILLANCE (PBCS)**

(Presented by the Secretariat)

SUMMARY

This paper presents the progress made by the OPLINKP in relation to the development of ICAO provisions and guidance material regarding the implementation of Performance-based Communication and Surveillance (PBCS).

Action by the meeting is at paragraph 3.

REFERENCES

- Eurocontrol AIM/SWIM TEAM-6/AP5
- ICAO DOC 9613, Performance Based Navigation (PBN) Manual
- ICAO DOC 9849, Global Navigation Satellite System (GNSS) Manual

1. INTRODUCTION

1.1 The Operational Data Link Panel (OPLINKP) was tasked to amend the Manual on Required Communication Performance (Doc 9869) to provide further guidance on the implementation of Required Communication Performance (RCP) provisions (AN Min. 179-9) and further directed by the Air Navigation Commission (ANC) to provide Separation and Airspace Safety Panel (SASP) with assistance in terms of RCP implementation (AN Min. 180-11).

2. DISCUSSION

Performance-based Communication and Surveillance (PBCS) Manual

2.1 At its First Working Group of the whole meeting (OPLINKP-WG/WHL/1, October 2010, Montréal), the OPLINKP agreed to rename Doc 9869 as Performance-based Communication and Surveillance (PBCS) Manual to reflect an expanded scope that would include specifications for Required Communication Performance (RCP) and Required Surveillance Performance (RSP) and the guidance material for post-implementation monitoring.

2.2 At the Sixth Working Group of the whole meeting (OPLINKP-WG/WHL/6, October 2013, Montréal), the OPLINKP discussed and agreed on a working draft version 1.1 of the PBCS Manual as the basis for maturing the document. The draft version 1.1 was composed of Doc 9869 (First Edition) and material from two regional documents (Global Operational Data Link Document (GOLD, Second Edition) and SATCOM Voice Guidance Material (SVGGM, First Edition). The draft table of contents for the PBCS Manual is provided at **Appendix A** to this information paper.

Amendment proposals for Annexes and Procedures for Air Navigation Services (PANS)

2.3 At the First Working Group meeting (OPLINKP-WG/1, March 2013, Montréal), the OPLINKP reviewed and agreed on the proposed amendments to Annex 6 — *Operation of Aircraft*, Part I — *International Commercial Air Transport — Aeroplanes*, Annex 11 — *Air Traffic Services and Procedures for Air Navigation Services — Air Traffic Management* (PANS-ATM, Doc 4444) that introduce the Performance-Based Communication and Surveillance (PBCS) framework.

2.4 At the Sixth Meeting of the Working Group of the whole (OPLINKP-WG/WHL/6, October 2013, Montréal), the proposed amendments were discussed and modified to clarify that the PBCS framework includes requirements for the Air Traffic Service Provision. The OPLINKP agreed to progress the proposed amendments, as modified by the meeting.

2.5 At the OPLINKP-WG/2, the OPLINKP reopened the discussion on the PBCS concept of operations based on the result of preliminary coordination conducted within the Secretariat and a proposed amendment to the *Regional Supplementary Procedures* (Doc 7030), North Atlantic (NAT) in support of reduced longitudinal separation minima (RLongSM). Following extensive discussions, the OPLINKP reached the general understanding and consensus on the PBCS concept, which should:

- a) involve end-to-end performance not limited to equipage of aircraft, with different allocations to players involved in the system (Air Navigation Service Provider (ANSP), Communication Service Provider (CSP) including sub-network service provider and aircraft operator);
- b) be global and flexible enough to embrace various scenarios (different type of communication technologies and provided services, traffic density, etc.);
- c) involve a mechanism that can provide ANSP with some level of assurance about the performance of aircraft operations (monitoring itself is not enough);
- d) be supported by a clear set of performance requirements (or specifications) targeted to different parties involved, against which the performance level can be measured; and
- e) be supported by monitoring activities to ensure continued performance improvement

2.6 The meeting also reiterated the importance of clear guidance material in order to describe the above-mentioned concept of PBCS and to assist States in the implementation of relevant provisions. In concluding the discussions regarding PBCS, the OPLINKP agreed to put the utmost priority on the development of the PBCS Manual to clarify the concept of PBCS, prescribe performance specifications and provide necessary guidance material. It was also agreed that the proposed amendments to Annexes and PANS referred in paragraph 2.4 be modified as necessary to make them aligned with the improved draft PBCS Manual.

Coordination with Flight Operations Panel (FLTOPSP)

2.7 An OPLINKP PBCS drafting group is working on improving the contents of the PBCs Manual and proposed amendments to Annexes and PANS. The OPLINKP is planning to submit mature proposals to FLTOPSP in due course (preferably prior to the next FLTOPSP meeting in October) for its consideration and comments. The mature proposals will include amendments to Annexes 6, 11, PANS-ATM, and Doc 9869 (PBCS Manual).

2.8 OPLINKP will review the final proposals at its next meeting scheduled from 6 to 17 October 2014. The Proposals for Amendments to Annexes and PANS will then, if consensus is reached, be refined for presentation to the ANC in early 2015, proposing applicability date of November 2016.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the information contained in this information paper.

APPENDIX A

PROPOSED TABLE OF CONTENTS FOR PERFORMANCE-BASED COMMUNICATION AND SURVEILLANCE MANUAL (DOC 9869)	
Reference	Description of Work
Foreword	Propose a “new” Foreword. Proposed amendment will take information from Chapter 1 and include updated information for historical background, scope and purpose, status, implementation, references, changes to the document, and amendments to Doc 9869, similar to Foreword provided in GOLD and SVGM.
Chapter 1	Propose to rename “Introduction” to “Terms and Definitions.” Current material will be a consideration for the Foreword. Proposed amendment include terms and definitions from Appendix A provided in baseline document. Review to include definitions of terms, abbreviations and acronyms that are used in the document. Further refinement of terms and inclusion of other terms may be included on a case by case basis, as agreed.
Chapter 2	Propose to rename “Overview of RCP” to “Performance-based communication and surveillance (PBCS) concept.” Proposed amendment will expand to provide information on the PBCS concept, including an overview, development of RCP/RSP specifications, prescribing an RCP/RSP specifications, complying with RCP/RSP specifications, and application of PBCS and RCP/RSP specifications.
Chapter 3	Propose to rename “Determining an RCP Type” to “RCP/RSP specifications.” Proposed amendment will expand to provide guidance on RCP/RSP specifications, including existing specifications, criteria for new specifications, operational assessment in the development of new specifications and application in standards (e.g., SASP for separation minima predicated on communication and surveillance performance).
Chapter 4	Propose to rename “Prescribing an RCP Type” to “Applying RCP/RSP specifications.” Proposed amendment will expand guidance to applying RCP/RSP specifications, such as through prescription to communication and surveillance capability supporting specific ATM operations (e.g. some separation minima) in specific airspace (per Annex 11), associated operational authorizations (per Annex 6) and post-implementation monitoring (per Annex 6 (Operator) and Annex 11 (ANSP)).
Chapter 5	Propose to rename “Complying with an RCP type” to “Complying with RCP/RSP specifications.” Proposed amendment will expand guidance to complying with RCP/RSP specifications, including initial State approvals for aircraft systems, ANSP systems and operator, and continued operations post-implementation.
Appendix A	Glossary of Terms. Proposed amendment will include definition of terms as Chapter 1 of the document and Appendix A would be deleted .
Appendix B	New material taken from GOLD and SVGM and includes RCP specifications. These specifications could be considered guidance or a requirement depending on the context in which they are prescribed.
Appendix C	New material taken from GOLD and SVGM and includes RSP specifications. These specifications could be considered guidance or a requirement depending on the context in which they are prescribed.
Appendix D	New material taken from GOLD and includes guidance on post-implementation monitoring at ANSP, regional and inter-regional levels. Includes guidance for participation from operators and other affected parties to address analysis of problems identified and corrective action. Requires review and update.
Appendix E	New material taken from SVGM and includes guidance on post-implementation monitoring at ANSP, regional and inter-regional levels. Includes guidance for participation from operators and other affected parties to address analysis of problems identified and corrective action. Requires review and update.

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