



**THE FORTY-FIFTH MEETING OF THE
INFORMAL PACIFIC ATC CO-ORDINATING GROUP
(IPACG/45)**

(Tokyo, Japan, 11 & 12 December 2019)

Presented by: Federal Aviation Administration

**Updates from
Operational Data
Link Working
Group (OPDLWG)**



**Federal Aviation
Administration**

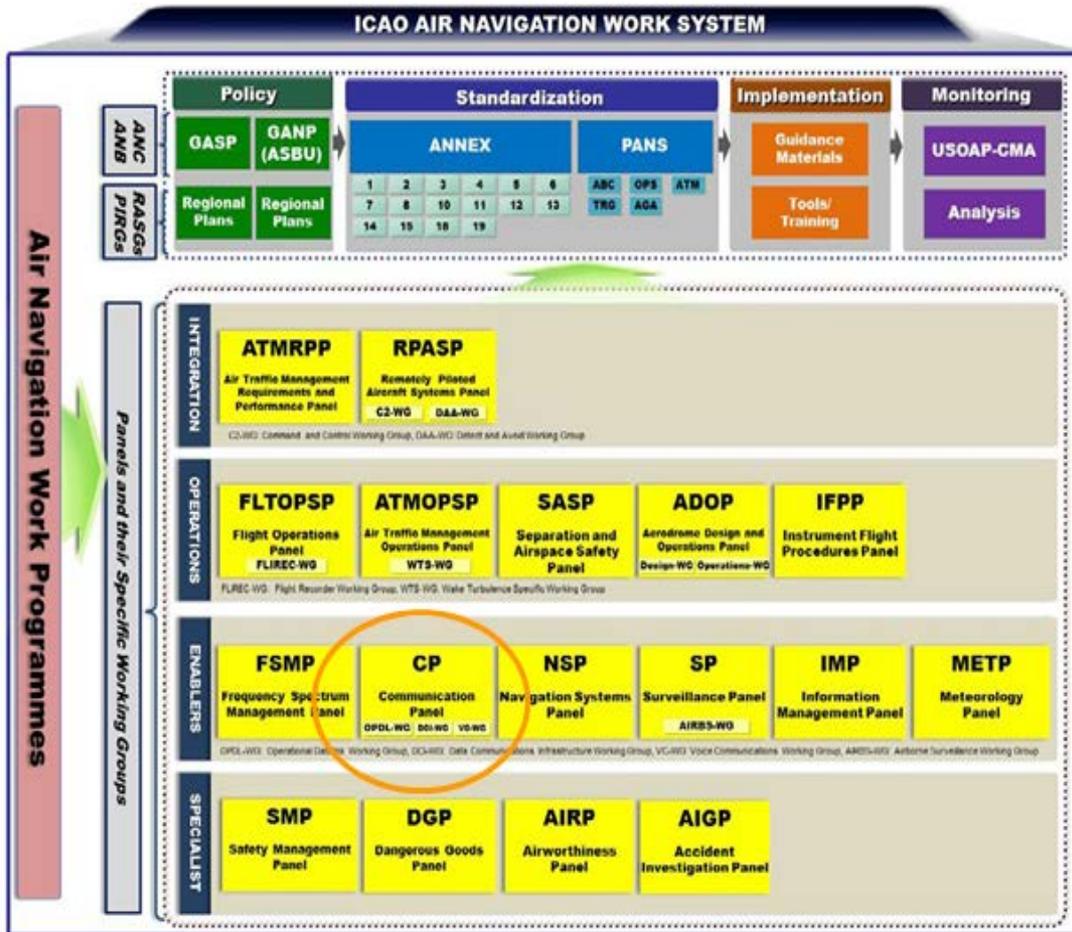


Overview

- Quick background on OPDLWG
- **Job card 001:** ICAO Doc 10037, GOLD Manual
- **Job Card 002:** ICAO Doc 9869, PBCS Manual
- **Job Card 003:** Develop guidance material for ground-ground data link
- **Job Card 005:** Develop long range voice communications implementation strategy
- Future meetings/inter-panel coordination



Communication Panel (CP)



- Undertakes specific studies and develops technical and operational ICAO provisions for ATM voice and data communications systems, supporting procedures and their applications
- CP subgroups:
 - **OPDLWG** (Operational Data link Working Group)
 - **DCIWG** (Data Communications Infrastructure Working Group)

The Operational Data Link Specific Working Group (formerly known as OPLINKP)

- Aims to advance the use and performance of datalink and satellite voice technologies, addressing all operational aspects of ATS that use these technologies for communications, whether between aircraft and the ground or multiple ground facilities
- **Participants include:** Brazil, Canada, China, Iceland, India, Japan, New Zealand, Russian Federation, Singapore, United Kingdom, United States, IATA, ICCAIA, IFATCA, IFALPA, EUROCONTROL, ICAO
- **Last plenary meeting:** Montréal, Canada, 21-25 Oct 2019
- **Next plenary meeting:** Montréal, Canada, 19-23 Oct 2020



Job Card 001: ICAO Doc 10037, GOLD Manual

- Intended to **improve safety** and **maximize operational benefits** by promoting seamless and interoperable data link operations throughout the world
- Provides guidance and information concerning data link operations and is intended to **facilitate the uniform application** of:
 1. Standards and Recommended Practices (SARPs) contained in:
 - Annex 2 - Rules of the Air,
 - Annex 10 - Aeronautical Telecommunications,
 - Annex 11 - Air Traffic Services,
 2. provisions in the Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM) (Doc 4444) and,
 3. Regional Supplementary Procedures (Doc 7030)



As it was in Ed.1

Chapter 1 Overview of Data Link operations (aligned with B2 capabilities)
Chapter 2 Administrative provisions related to data link operations
Chapter 3 Controller and Radio Operators procedures
Chapter 4 Flight crew procedures
Chapter 5 Advanced air traffic services supported by data link
Chapter 6 State aircraft data link operations
Appendix A DLIC and CPDLC message elements
Appendix B Regional/State-specific information
Appendix C Operator/aircraft-specific information
Appendix D ADS-C capabilities, messages and variables description

As it is in Ed. 2 Draft 9.0

Chapter 1 Overview of Data Link operations - Generic capabilities (aligned with existing implementations) Additional B2 capabilities
Chapter 2 Data Link planning and implementation
Chapter 3 Data Link user procedures
Chapter 4 Advanced air traffic services supported by data link
Chapter 5 Military data link operations
Appendix A DLIC and CPDLC message elements
Appendix B ADS-C capabilities, messages and variables description
Appendix C Operator/aircraft-specific information



Notable areas

- **Improved Chapter 2 “Datalink Planning and Implementation”**
- **Combined pilot and controller guidance into same sections for the same procedures**
- **Remove Appendix B - Regional/State-specific information**
- **Inclusion of (CPDLC) DCL guidance**
- **Remove all references to the term “DCPC”**
 - Separate effort to clarify “DCPC” and all related terms in PANS, Annexes, as needed
- **Inclusion of new message elements and associated procedures to support the CLIMB VIA SID and DESCEND VIA STAR**
 - Concerns over divergences in the associated voice phraseology
- **Improved guidance on use of freetext**
 - Preformatted/standardized vs. not (see new figure on next slide)
- **Add “Welcome message” guidance with two options**
 - CPDLC ACTIVE WITH XXX.
 - LATENCY TIME VALUE (latency value).



Doc 4444 PANS ATM

Free Text Message elements

(e.g. *XTTU-3*,
XTTD-1)

Standard Message Elements

e.g.

LATU-10
CLEARED TO
DEVIATE UP TO
(lateral deviation)
OF ROUTE

COMU-9
CPDLC ACTIVE
WITH (unit name)

Regional Messages
Supporting local operations

Free Typed Messages

Predefined Message Elements

e.g.

Preformatted Free Text Message Elements

(available in airborne/ground data link systems)

FANS I/A

UM169
For controllers
DM67
For flight crew

UM82 CLEARED
TO DEVIATE UP
TO (distance offset)
(direction) OF
ROUTE

UM169
CPDLC ACTIVE
WITH
(Facility Name)

UM169
LOCAL
EXAMPLE

ATN B1

Free typed messages not allowed

UM82 CLEARED
TO DEVIATE UP
TO (specified distance) (direction)
OF ROUTE

UM183
CPDLC ACTIVE
WITH
(Unit Name)

UM183
LOCAL
EXAMPLE

B2

UM169
For controllers
DM67
For flight crew

UM82R CLEARED
TO DEVIATE UP
TO (lateral deviation) OF
ROUTE

UM183
CPDLC ACTIVE
WITH
(Unit NameR)

UM183
LOCAL
EXAMPLE

Remaining work for Job card 001

- **Consequential amendments to Annexes and PANS-ATM to align with updated GOLD manual**
- **Target date for proposed amendment to Annexes and PANS**
 - End of 2020 with proposed applicability in November 2022
- **“GOLD PT” renamed “A-G data link PT” to correctly reflect the scope of the remaining work**
 - New PT leader: Mr. Bjarni Stefansson (Iceland)



Job Card 002: ICAO Doc 9869, PBCS Manual

- Intended to **improve safety** and **maximize operational benefits** by promoting the PBCS concept and its general application to **diverse and emerging technologies for communication and surveillance supporting ATM operations**
- Provides guidance and information concerning PBCS operations and is intended to facilitate the uniform application of:
 1. the SARPs contained in
 - Annex 6
 - Annex 11
 - Annex 15
 - PANS-ATM (Doc 4444)
 - PANS-ABC (Doc 8400)
 2. Regional Supplementary Procedures (Doc 7030)



Edition 3 progress

- **Draft 1.0 being wrapped up and will be sent out for comment**
- **The publication will be deferred to more comprehensively address three major areas:**
 - i. Compliance assurance for the required network performance and availability to support separation standards dependent upon data link
 - ii. Assess the required communication performance (RCP) 130 based on concept of operations and performance data from States currently and planning to implement domestic CPDLC
 - iii. Define the objectives for measuring the actual communication performance (ACP) and improve the guidance on using the monitoring data to report non-compliance and initiate corrective action



RCP130 validation survey

- **Survey sent out to member States to solicit feedback on:**
 - where and how CPDLC is being used in continental airspace
 - what, if any, time requirements are considered necessary for obtaining response
- **Initial survey sent out 11 September**
 - 3 responses received (Japan, China, Canada)
- **Revised survey, as discussed at OPDLWG/9, sent out 3 November**
 - Response requested by 31 December



Joint Session

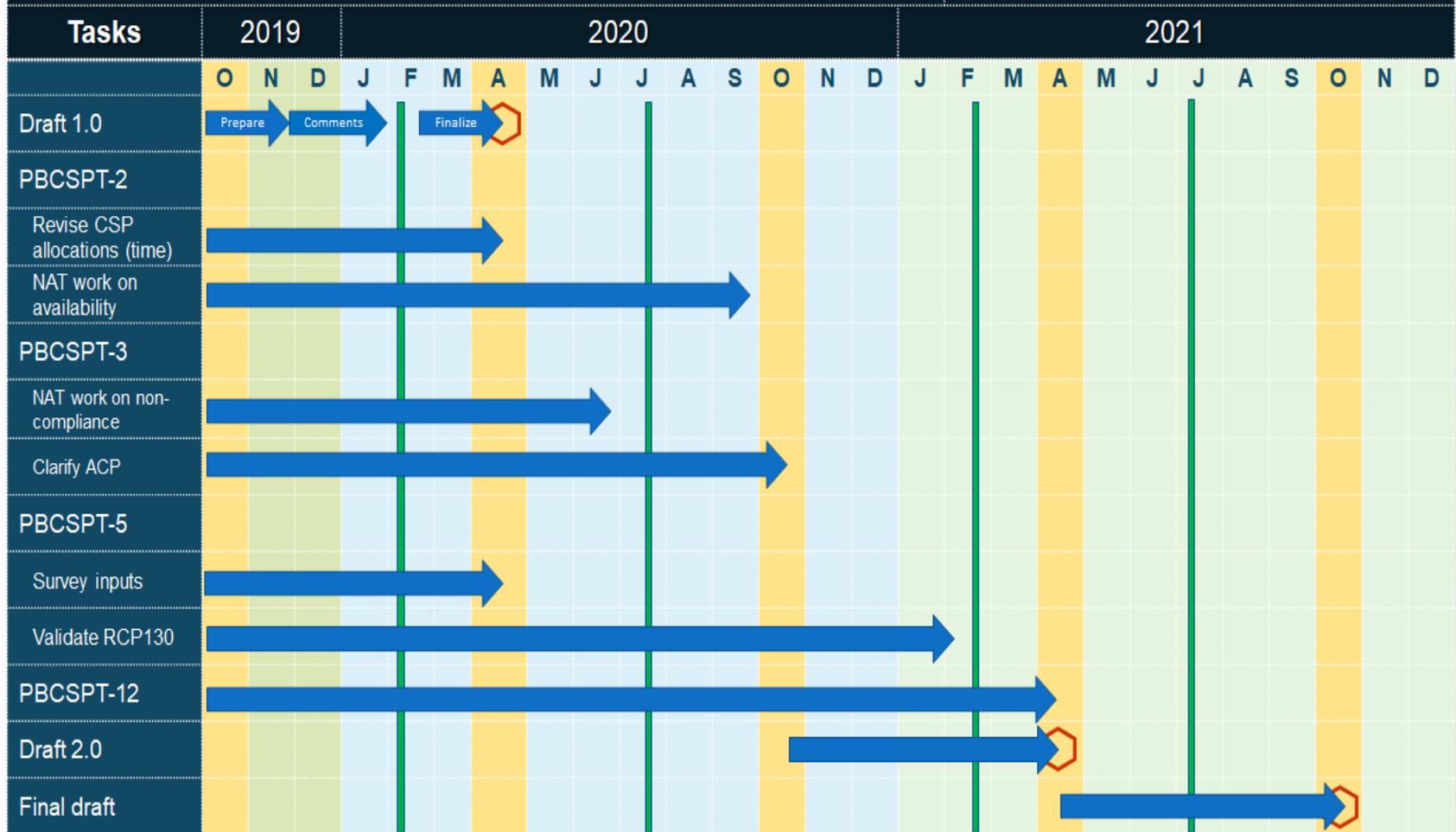
DCIWG PT-SAT/ OPDLWG PBCS-PT

- 1) Review the proposed logic by PT-SAT in comparison with existing RCP and RSP specifications for time
 - Consider SAT, VHF and HF message delivery
 - How to manage the service agreements amongst the various service (subnetwork) providers and with the end users
 - Limit new terminology versus using existing terminology
- 2) Update allocation diagrams for all RCP and RSP specifications
- 3) Develop table that provides details on the various interfaces, responsibility, ability to measure, compliance mechanisms
- 4) Develop descriptive language in relevant sections of the Manual (Appendices B, C, Chapter 4)
- 5) Need similar exercise to define what is meant by “availability”, what exactly is measured, who has responsibility
- 6) Revisit how the Global Charter factors into the PBCS framework



ICAO Doc 9869, PBCS Manual, Edition 3 Work Plan

⬠ milestone
 | PBCSPT meeting
 OPDLWG meeting



Job Card 003: Develop guidance material for ground-ground data link

- Project team being led by member from Germany, Andreas Krebber, and composed of members and advisors from Iceland, Singapore, India, US, UK and Eurocontrol
- The target delivery date for the guidance material is November 2020
- Revised plan discussed during OPDLWG/9
 - High-level guidance with references to existing regional implementation documents such as PAN AIDC ICD, OLDI specifications
 - Prepared by the end of 2019



Job Card 005: Develop long range voice communications implementation strategy

- **SATVOICE joint PT (OPDLWG/DCIWG) meeting held from 17-18 October 2019**
- **Draft CONOPS (OPDLWG/9-IP/12 refers) would be improved to document the evolution of SATVOICE:**
 - capture the current operational uses
 - determine any known limitations
 - identify any system requirements
 - include a template for SATVOICE CONOPS
- **Draft SVOM, 1st edition (submitted to the Secretariat for publication) was identified as already outdated**
 - Suggested that corrections should be made prior to the actual publication

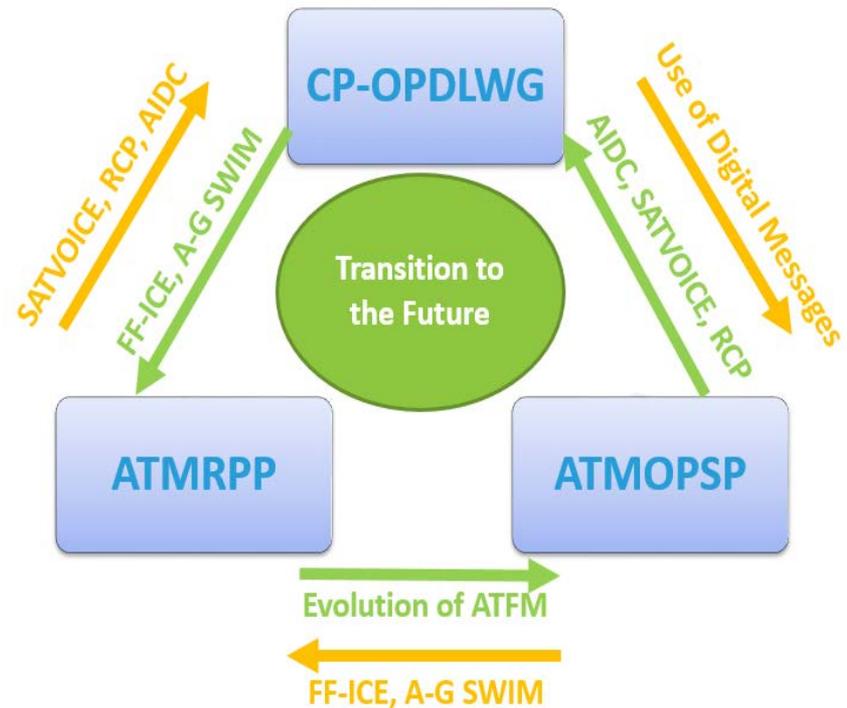
Future meetings

2019				2020				2021				2022			
Sep	Oct	Nov	Dec	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
	▲			▲			▲	▲			▲	▲			▲
	OPDLWG/9 (21-25)			OPDLWG-DCIWG Joint PT (TBD)			OPDLWG/10 (19-23 Oct)	OPDLWG/12 (10-14 May)			OPDLWG/13 (1-5 Nov)	OPDLWG/14 (TBD)			OPDLWG/15 (TBD)
	GOLD Doc 10037			ATMRPP-ATMOPSP- OPDLWG Coordination Meeting (TBD)							PBCS 9869 AIDC 9694	SVOM 10038			



Tri-panel coordination meeting

Expert Group	Job Cards	Target Delivery
OPDLWG	Job card 002 PBCS	2021
OPDLWG	Job card 005 SATVOICE	2022
OPDLWG	Job card 004 AIDC	2021
ATMOPSP	Job card 008 ATFM	2020
ATMRPP	Job card 001 FF-ICE	2020
ATMRPP	Job card 007 A-G SWIM	2020



Questions?

