

PARC CWG

Update

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Federal Aviation
Administration



Introduction

- **PARC – Performance based operations Aviation Rulemaking Committee**
 - FAA sponsored
 - Operates under the FAA Administrator's authority by Code of Federal Regulation and FAA Orders
 - Reports to Associate Administrator for Aviation Safety
- **CWG – Communications Working Group**
 - Operates under the PARC
- **PARC provides recommendations to the FAA concerning regulatory and policy matters**



Other related ICAO work

- **Global Operational Data Link Document (GOLD)**
 - 15 Apr 2013 – GOLD, 2nd Edition, target completion
 - Linked to data link projects, e.g., FOI, FOH, FOICA
 - See GOLD briefing for more
- **SATVOICE Guidance Material (SVGGM)**
 - 24 Jul 2012 – SVGGM, 1st Edition, issued
 - Sep 2012 – endorsed by APANPIRG
 - Nov 2012 – endorsed by NAT IMG on behalf of NAT SPG
 - Linked to SATVOICE project

PARC CWG work program

- Performance-based communication and surveillance framework
- SATCOM voice (Iridium and Inmarsat)
- **New** – FANS 1/A over Inmarsat SwiftBroadband Safety Services
- **Completed** – FANS 1/A over Iridium SBD (FOI)
- **Completed** – FANS 1/A over HF DL (FOH)
- **Completed** – FANS 1/A over Inmarsat I4 Classic Aero (FOICA)

PARC CWG

**Performance based
communication and
surveillance framework**



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ICAO Regional Groups

Performance Based Communication and Surveillance

- **North Atlantic – Implementation Feb 2015**
 - Jun 2011- Endorsed RCP/RSP implementation plan
 - 18-19 Feb 2013 – Task force meets to draft proposal for amendment to NAT Regional SUPPS (Doc 7030)
 - 20-22 Feb 2013 – NAT PBCS Workshop
- **Asia-Pacific – Planning began in November 2010**
 - Sep 2011 – Ad hoc group formed to coordinate on planning
 - Feb 2012 - Seminar and SOCM/2
 - On-going - ISPACG and IPACG planning for implementation
 - March and May 2013 – RCP – RSP Seminars

ICAO Operational Data Link Panel

Performance Based Communication and Surveillance

- **Amend Annexes 6 and 11 to include:**
 - Performance based communication provisions
 - Performance based surveillance provisions
- **Amend Doc 4444 to include flight plan provisions**
- **Amend Doc 9869, Manual on RCP**
 - Rename to Performance Based Communication and Surveillance Manual
 - Will include GOLD, Second Edition, Appendices B (RCP), C (RSP) and D (Post-implementation monitoring)

Separation and Airspace Safety Panel

- **Amend Doc 4444 – separation standards**
 - Revise 30-NM lateral separation minimum
 - Add new 25-NM lateral separation minimum (RLatSM)
 - Revise 30-NM and 50-NM longitudinal separation minima
 - Add new 5-minute longitudinal separation minimum (RLongSM)
 - Consider new separation minima based on RNP 2
- **Also considering reference to RCP – RSP specifications in separation standards**
 - Dependent on work of Operational Data Link Panel

Partial PBCS implementation

Performance Based Communication and Surveillance

- **Parts of PBCS concept are already being implemented in accordance with GOLD**
 - FAA currently monitoring performance at Oceanic Centers
 - Others, e.g., Australia, New Zealand, UK, Iceland, Canada
 - PARC CWG reviews analysis results

Next steps to full implementation

Performance Based Communication and Surveillance

- **Proposal for amendment to Regional Supplementary Procedures**
 - NAT Region Task Force is considering application to
 - RLongSM (5-minute longitudinal separation minimum)
 - RLatSM (25-NM lateral separation minimum)
 - FAA is considering application in New York FIR to
 - 30-NM lateral separation minimum
 - 30-NM and 50-NM longitudinal separation minima

Proposal for PARC CWG

- Revisions needed to A056 OPS SPEC template and associated FAA Orders / ACs

Appendix A. Sample OpSpec Paragraph A056, Data Link Communications: -14 CFR Part 121¶

The certificate holder is authorized to conduct en-route data link communications in accordance with the limitations and provisions of this operations specification.¶

¶
a. → Authorized Aircraft and Equipment for data link. The certificate holder is authorized to conduct data link communications using the following aircraft and FAA-certified data link communication systems:¶

¶

Table 1¶

Aircraft M/M/Sα	Data Link System M/Mα	Remarksα	α
TABL01=	TABL02=	TABL03=	=

¶

b. → The certificate holder is authorized to conduct en-route operations using data link communications in the areas listed in OpSpec B050 of these operations specifications where the air traffic service (ATS) infrastructure supports the use of Future Air Navigation System (FANS-1/A or equivalent) air traffic control data link equipment and/or Aeronautical Telecommunications Network (ATN)-compliant digital data link communications equipment, as applicable, in accordance with the following limitations and provisions:¶

Proposal for PARC CWG

- **ATC automation changes needed to use flight plan information**
 - Item 10, for CPDLC
 - P1 – RCP400
 - P2 – RCP240
 - P3-P9 – [reserved]
 - Item 18, for ADS-C, insert SUR/RSP400 or SUR/RSP180



Proposal for PARC CWG

- **Operator obtains operational authorization, as appropriate, in accordance with National regulations; GOLD and RCP – RSP specifications provide criteria for operations and maintenance**
 - Contractual arrangements/service agreements with CSP(s)/SSP(s)
- **Operator demonstrates 6 months of acceptable RCP/RSP performance for the aircraft types in their fleet**
- **If substandard performance, ANSP and/or State of the Operator or State of Registry issues corrective action notice**
 - Considers severity of the deficiency and magnitude of the change
- **If non-compliance remains after the date indicated in the corrective action notice State of the Operator or State of Registry could remove the RCP [X] – RSP [Y] authorization**
 - The operator may still use CPDLC and ADS-C



Proposal for PARC CWG

- **Full implementation of PBCS framework will**
 - Ensure safe application of separation minima predicated on communication and surveillance performance to eligible aircraft pairs
 - Allow more efficient use of CPDLC and ADS-C in mixed fleet operations
- **Proposals will be discussed at the next PARC CWG meeting**



PARC CWG

Satellite Voice (SATVOICE)



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An important “added” capability

SATVOICE

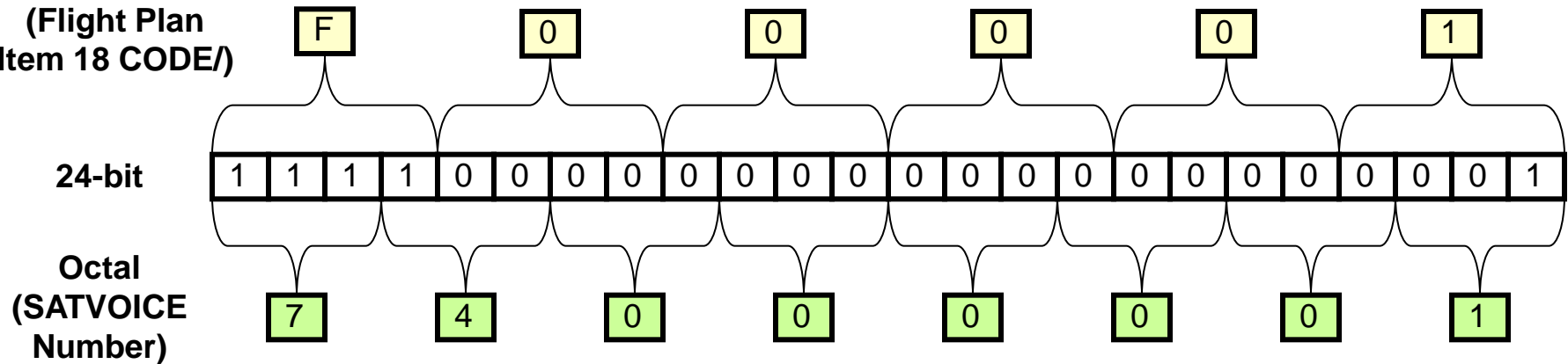
- **We now have ICAO Satellite Voice (SATVOICE) Guidance Material (SVGGM)**
- **PARC CWG is determining what needs to be done to allow operations with one HF radio and one SATVOICE system on a permanent basis**
- **Flight plan information to identify SATVOICE capability**
 - Item 10 – M1 (Inmarsat), M2 (MTSAT) or M3 (Iridium)
 - Item 18 – CODE/[aircraft address]

ICAO aircraft address formats

Hexadecimal Format				
Hexa-decimal	4 (MSB)	3	2	1 (LSB)
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Octal Format			
Octal	3 (MSB)	2	1 (LSB)
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1

Hexadecimal
(Flight Plan
Item 18 CODE/)



Other challenges

- **FAA is reviewing MEL policies to allow one HF radio and one SATVOICE system, however**
 - Operators are bound by airspace requirements in Regional SUPPs and State AIPs applicable on the route of flight
- **Iridium voice switch for safety services is ready for use, however**
 - Suppliers still need to provide service bulletins to update avionics
 - Operators will need to incorporate service bulletins into their fleets
- **PARC CWG will review schedule**

PARC CWG Next Meeting

- **16-17 April 2013 in Tucson, Arizona, hosted by Universal Avionics Systems Corporation (UASC)**
 - Full implementation of performance based communication and surveillance framework
 - SATVOICE and associated MEL policies
 - FANS 1/A over SwiftBroadband Safety Services
 - Any other business



