



**THE FORTY-FOURTH MEETING OF THE
INFORMAL PACIFIC ATC CO-ORDINATING GROUP
(IPACG/44)**

(Honolulu, Hawaii, 22 & 23 August 2018)

Agenda Item 2: Report on Relevant Outcomes from Other Meetings

Updates from PARC CWG

(Presented by the Federal Aviation Administration)

SUMMARY

This paper provides updates from the activities of the Performance-based operations Aviation Rulemaking Committee (PARC) Communications Working Group (CWG).

1. Introduction

1.1 The PARC is an Aviation Rulemaking Committee chartered by FAA that operates under the FAA Administrator's authority (49 U.S.C. Section 106(p)(5)) to "provide a forum for the U.S. aviation community to discuss, prioritize, and resolve issues, provide direction for U.S. flight operations criteria, support ... NextGen ... and to produce U.S. consensus positions for global harmonization," and provide "advice and recommendations to the Associate Administrator for Aviation Safety".

1.2 The PARC CWG is a Working Group of the PARC and works on matters concerning aeronautical communications, establishing projects to manage its work program and developing project reports that provide advice and recommendations for the PARC Steering Group (SG) to review and submit to the FAA.

1.3 The 39th meeting of the PARC CWG was held in Austin, Texas, United States from 7-8 February 2018. The next meeting will be held in Renton, Washington, United States from 11-13 September 2018. This paper provides information from the last meeting and relevant activities since the last meeting that may be of interest to the IPACG.

2. Discussion

2.1. The PARC CWG maintains a "project workbook" to track the status of and report on the projects supported and worked by the group. Below is a list of the CWG projects, status and relevant discussion points from the recent meeting.

Completed Projects (Recommendations submitted to FAA)

- Jul 2006 – **Roadmap for data link**
- Sep 2010 – **FANS 1/A over Iridium (FOI)**

- * During the recent meeting, the group was reminded of the tasking on Iridium to lead investigation for causes of poor performance. It had been proposed that depending on the outcome of the investigation, CWG may consider revisiting its recommendations regarding

FOI, but Iridium informed the group that no operators had requested help with investigation thus far.

- Mar 2011 – **FANS 1/A over High Frequency Data Link**
- Sep 2012 – **FANS 1/A over Inmarsat-4 Classic Aero**
- Nov 2014 – **FAA data link recording (DLR) rule**
- May 2016 – **FANS 1/A over non-VDL M2 project**

Current Activities (Work in progress)

(1) Performance-based communication and surveillance (PBCS)

- FAA presented latest results of monitoring within FAA oceanic airspace and updates on FAA and global implementation, and JCAB presented latest monitoring within Fukuoka oceanic airspace.
- There was information provided on the impact of existing design standards for avionics, particularly the CMU, on media transitions. The media preference and re-try timers are programmed into the avionics based on the objective that was defined during the initial development phase, to minimize operator costs, not to maximize performance. The newly defined timer, RAT1 in ARINC 618 has the potential to significantly improve performance in VHF transition situations. There is currently one CMU manufacturer working to include the new timer and Boeing is trying to get into airplane program requirements.
- There was discussion on the availability of the option for an operator to proceduralize the forcing of SATCOM media, e.g. setting VHF 3 to voice mode at a specific point along certain problematic routes. In addition, it was pointed out that some avionics have lat/long based rectangles (maps) where the operators can prescribe what media to use in a defined region.
- It was cautioned that performance issues are sometimes caused by a combination of issues and that the most productive way forward was to develop targeted recommendations based on specific operators, avionics configurations, and routings flown.
- Based on extensive discussions on performance impact of media transitions and other commonly occurring issues, an action was opened for the DLMA to use lessons learned through the problem report process to develop a “menu” of potential options for aircraft operators to improve CPDLC and ADS-C performance.

(2) FAA NextGen project

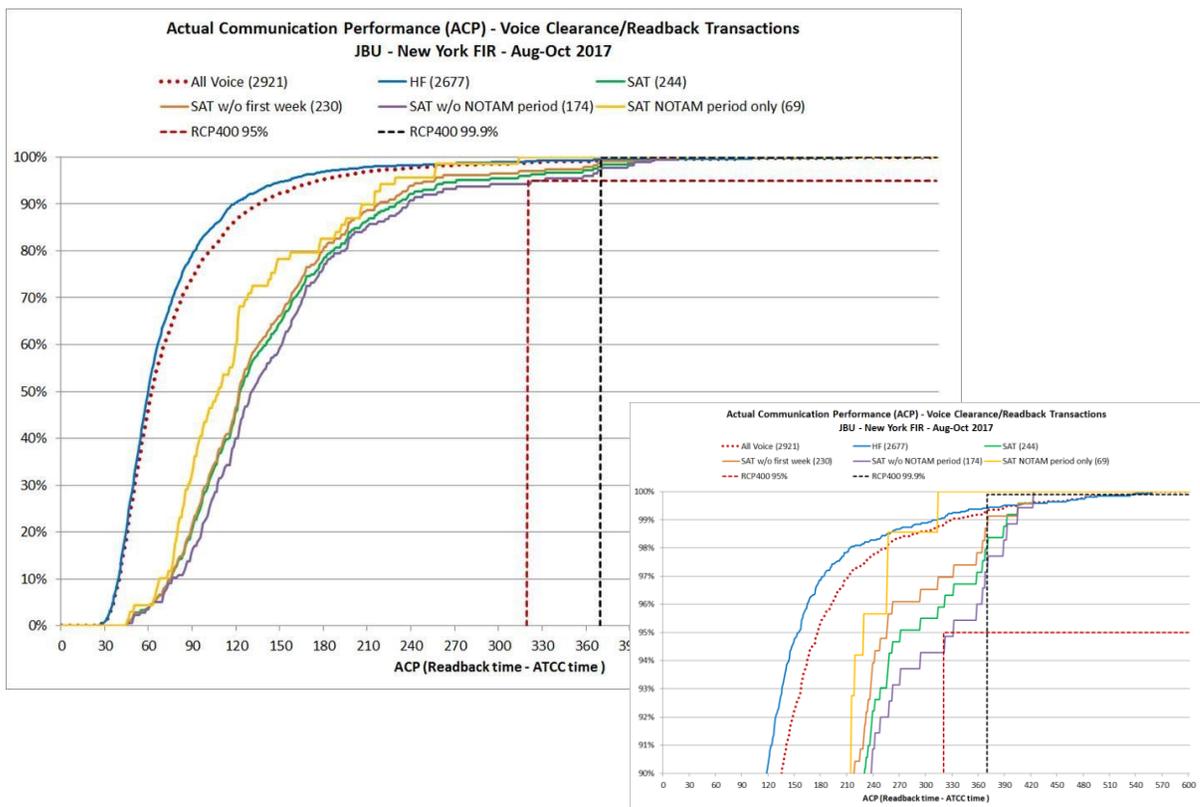
- A briefing was provided by the FAA domestic data communications program (Data Comm) on program status. See current details in TIG IPxx, “US DOMESTIC DATA COMMUNICATIONS UPDATE”.
- There was concern expressed that the FAA Data Comm program is not pursuing a performance-based approach as indicated in the FAA response to the PARC CWG **FANS 1/A over non-VDL M2 project** project. This would continue to limit the sub-networks eligible for use for data link in the domestic United States. This concern has recently been brought to the attention of the PARC Steering Group by the PARC CWG chairs, and they will continue to monitor the situation.

(3) FANS 1/A over SwiftBroadband (SBB)

- Inmarsat provided a briefing on the status of implementation and the proposed recommendations for the report including FAA acceptance of FANS 1/A over SwiftBroadband as a viable medium for FANS 1/A operations in airspace which require application of RSP 180 and RCP 240 for reduced aircraft separations.
- Monitoring results were provided for the UAL B763 and HAL A321-neo, recently equipped with SBB.
- The project report and recommendation letter to the FAA were submitted in June 2018.

(4) Satellite voice (SATvoice) communications

- An update was provided by JetBlue on the SATvoice trial that was conducted in the western portion of New York Oceanic Control Area (OCA) between August and October 2017.
- Out of 239 messages relevant for assessment against RCP400, 95.4% were completed within 320 sec (95% requirement) and 98.3% were completed within 370 sec (99.0% target).
- There was a notable difference in observed performance during the time period when the NOTAMs were issued by FAA and several other ATS providers, prohibiting the use of CPDLC and ADS-C via Iridium. These NOTAMs were issued in reaction to the operational height deviation, involving an aircraft that had climbed in response to a clearance which had been queued in the Iridium network for several hours and delivered unexpectedly to the aircraft. Performance was notably best within that the timeframe that the NOTAMs were active, with both RCP400 requirements being met.



- The lessons learned included:

- Initially, the volume level of the NY Radio dialing switch was set too low. This caused the Iridium voice switch to fail to recognize some of the tones.
- New York Radio recommended using the ICAO SATVOICE short codes in lieu of actual telephone numbers (area code plus 7-digit phone number) in aircraft dialing directory.
- Radio operators need to adjust sensitivity of microphones when communicating over SATVOICE, or ensure radio operators speak closer to the microphones.
- The SATCOM system utilized by JetBlue prioritizes data communications over voice, and uses a single antenna for both communication types.
- Aircraft were FANS-equipped and included the applicable codes in the ATC flight plan, for safety reasons. However, this resulted in events where crews made requests through voice but received CPDLC communication in response.
- A briefing was provided by Avionica on the status of the SATvoice report, which since the meeting has been finalized and provided to the PARC Steering Group chair for submission to the FAA. The primary recommendation is that Iridium and Inmarsat SATCOM operations be accepted for normal ATS voice safety services beyond temporary MMEL relief and that guidance be published on normal dual SATCOM and HF (1+1) operations in FAA oceanic airspace.
- A briefing was provided by the FAA on relevant updates to the United States Aeronautical Information Publication (U.S. AIP) and Aeronautical Information Manual (AIM). The change to the U.S. AIP will remove the proviso that SATVOICE may be used only “when unable to communicate on HF.” The change to the AIM will spell out that the FAA defines “independent” long-range communication systems to mean they are using different satellite service providers.
- The project report and recommendation letter to the FAA were submitted in May 2018.

(5) Iridium accepted a new action to develop a draft FANS-over-Iridium Certus project plan for discussion at CWG/40 in late August or early September 2018.

3. Conclusion

3.1 The meeting is invited to note the information provided.