



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

(Tokyo, Japan, 11 & 12 December 2019)

Agenda Item 6: CNS Issues

**RESULTS OF FAA SATELLITE VOICE (SATVOICE) SAFETY PANEL (FOR USE BY NEW YORK
AND SAN FRANCISCO RADIO)**

(Presented by *United States*)

SUMMARY

The FAA conducted a Safety Risk Management Panel (SRMP), September 10-11, 2019, to assess the suitability of SATVOICE to be the voice long-range communication system (LRCS) for oceanic flights with voice services provided by New York or San Francisco Radio. The panel found one minor hazard, for which a mitigation was identified. The FAA plans to implement the more accommodating policy beginning in July, 2020.

1. Introduction

1.1 Traditionally, oceanic voice communications have relied on high frequency (HF) radios, with services provided by dedicated radio operators in aeronautical radio stations. More modern long-range communication systems (LRCS) have gradually been introduced, to where SATVOICE calls can be accommodated alongside HF radio calls, by many aeronautical radio stations.

1.2 Recent ground infrastructure upgrades at New York Radio and San Francisco Radio drove the FAA to assess the suitability of SATVOICE rather than HF to be the voice LRCS for oceanic flights in airspace where voice services are provided by those two radio stations. The FAA conducted a Safety Risk Management Panel (SRMP), September 10-11, 2019, which identified one minor hazard classified as posing a “medium” risk, and one pending upgrade as an implementation prerequisite. The FAA plans to publish guidance allowing SATVOICE rather than HF to be used as primary voice LRCS, beginning in the July 16, 2020 editions of the U.S. Aeronautical Information Publication, and the Aeronautical Information Manual (AIM).

1.3 The SRMP only considered communication between the aircraft and the appropriate air traffic control unit. Additional communication requirements may be imposed via State regulations on Extended Operations (ETOPS) communications with the appropriate dispatch office.

2. Discussion

Mission of the change evaluated by the SRMP

2.1. The SATVOICE SRMP evaluated the following mission:

“Acceptance of SATVOICE as a Long-Range Communication System (LRCS) which is sufficiently comparable to HF voice as to allow SATVOICE to be an operator’s sole voice LRCS for maintaining a continuous air-ground voice communication watch on the appropriate communication channel in operations where routine aeronautical voice communication is provided by San Francisco or New York Radio.”

2.2. Participants of the SRMP included representatives from the Aeronautical Mobile Satellite Route Services providers, oceanic pilots, oceanic air traffic controllers, and radio operators. Areas discussed included satellite network availability, the ability to place and receive calls, and how SATVOICE compares to HF radio.

2.3. The SRMP reviewed Required Communication Performance (RCP) data from the JetBlue/ New York Radio SATVOICE effort, August 15, 2017 – October 20, 2017, as well as from the United Airlines/ San Francisco Radio effort, February 3, 2019 – March 18, 2019. The policy, described in the draft AIM entry (found at Appendix A), includes:

- 2.3.1. previously published “SATVOICE Callback check,”
- 2.3.2. clarifications on how to maintain a continuous voice listening watch in accordance with ICAO Annex 2, and
- 2.3.3. what the FAA considers to be “independent” LRCS’s in the context of 14 CFR regulations requiring redundant systems, applicable to U.S. operators.

Hazard, Pending Upgrade

2.4. The SRMP identified one hazard, with minor severity and remote likelihood, that insufficient radio operator resources would cause a delay in voice messages, resulting potentially in a loss of separation. The FAA plans to use relevant contracting mechanisms to ensure resources are adequate to the demand.

2.5. The SRMP, given the planned infrastructure upgrade, which will allow radio operators to identify the priority of incoming emergency calls, imposed that upgrade as a prerequisite. The “assumed environment” for the more accommodating policy is one where incoming emergency calls can be distinguished from other calls so they can be routed to receive priority handling. Development work on this upgrade is expected to be complete by Q1 CY 2020, and operational testing is planned for Q2, CY 2020. This is consistent with the planned implementation date of July 16, 2020.

Applicability to PAC

2.6. The FAA is actively participating in the ICAO Communication Panel joint SATVOICE Project Team. Given the PAC Region's "NIL" entry under "SATCOM VOICE COMMUNICATIONS" in ICAO Document 7030, Regional Supplementary Procedures, there are no regional constraints to the FAA's more accommodating policy with respect to SATVOICE. [The FAA is supportive of a similar "NIL" entry for the North Atlantic Region, to relieve operators in New York East Oceanic Control Area from the requirement to carry HF radios.].

2.7. Main areas of potential benefits SATVOICE in the PAC could offer are:

2.7.1. Flexibility. SATVOICE would allow operators more options for a voice LRCS. Aircraft equipped with one HF plus one SATVOICE can use one system to talk with the appropriate air traffic control unit if the other one is unavailable.

2.7.2. Conference call, possible temporary equivalency to VHF direct pilot controller communications (DCPC). In oceanic areas where Space-Based ADS-B is available, establishing a conference call with a small number of aircraft in a given area could be considered equivalent to VHF DCPC. It could facilitate short-duration application of domestic separation standards, for example, to facilitate an altitude change (climb-through) for weather deviation without invoking the ICAO weather contingency procedures. This proposal is notional at the moment, and should be evaluated by the relevant ICAO panels (e.g., the Communications Panel and the Separation and Airspace Safety Panel (SASP)).

2.7.3. DCPC SATVOICE with RCP xx* to enable new separation standard? A joint team comprised of members of the Operational Data Link Working Group (OPDLWG) and the Data Communication Infrastructure Working Group (DCIWG) (under the Communications Panel) is defining a new RCP applicable to SATVOICE DCPC, with potential supportable values of 50-75 seconds (hence the use of RCP xx here). This could allow the SASP to develop a new separation standard, allowing improved efficiencies.

*Where xx is a value between 50 and 75

3. Conclusion

3.1 The meeting is invited to note the information provided.