Working Group S (WG-S) – Surface Air-Ground Datalink Communication System

AFC Fall 2014 Meeting

Aeronautical Mobile Airport Communications System (AeroMACS)

- <u>Aero</u>nautical <u>M</u>obile <u>A</u>irport <u>C</u>ommunications <u>S</u>ystem (AeroMACS) is a WiMAX based technology (IEEE 802.16) supporting airport broadband communications

- Operation in 5091-5150 MHz (extended MLS band) protected spectrum

- 5 MHz channel BW - 11 adjacent channels

- In band Interference considerations: Globalstar (uplink), telemetry AMT (reverse link only)

- Intended for use on airport surface (not on Runways) with aircraft speeds <= 50 knots

- Supporting both ATC and AOC applications

WG-S Status

- WG-S is an International Civil Aviation Organization (ICAO) sponsored initiative to develop standards for the Aeronautical Mobile Airport Communications System (AeroMACS)

- WG-S Objectives
  - Develop of the System and Recommended Practices (SARPs) standard
  - Develop a Technical Manual (TM) for the AeroMACS system
  - Coordinate with other committees as necessary

WG-S Terms of Reference

- Develop ICAO SARPs and Technical Manuals for AeroMACS
  - *Includes validation*

- Define and describe AeroMACS security framework for worldwide interoperability
  - *System security for AeroMACS link protection and how that fits within the framework of ATN/IPS security*
  - *This includes requirements/recommendations regarding WIMAX Forum security certificate policy/practices versus ICAO/ATA certificate policy & practices*
  - *Define the architecture and role of AAA server*
  - *Identify open items related to AeroMACS security framework*

- AeroMACS addressing and discovery mechanism that is consistent with ATN/IPS for global interoperability while permits local implementation flexibility

- Coordinate with international technical standardization bodies for AeroMACS (ARINC, WMF, RTCA and EUROCAE, Other ICAO committees e. g. ACP WG-I, WG-F, FMG, NSP....)

- Provide input to development of frequency planning criteria (normally done by another WG of ACP) - Interference & Coexistence with Aero Telemetry – WG-F or S

WG-S Status

- WG-S held a meeting on July 14-15, 2014 in Montreal, Canada

- Work accomplished included:
  - Reviewed the status of relevant work programs
  - Continued drafting of the SARPs document
  - Continued verifying the validation of the SARPs

WG-S Status

- AeroMACS SARPs
  - SARPs validation is continuing and needs to be completed before the next meeting
  - ICAO approval expected at the ICAO WG-W meeting scheduled for December 1-5, 2014 in Montreal, Canada
- AeroMACS Technical Manual
  - No work on manual at the last WG-S meeting with completion scheduled for the end of 2015
- Future Work
  - WG-S used teleconferences on 9/14/2014, 9/29/2014 and 10/16/2014 to track progress on work
  - Next meeting of WG-S is scheduled for November 13-14, 2014 in Sendai City, Japan in conjunction with a WiMAX Aviation Forum on November 11-12, 2014

AeroMACS Committee Status

- The AEEC has proposed to carry out the work in two steps. The work will start in the SAI group for step 1 and then decide the best way to proceed to the step 2 activities which will involve the drafting of the specification.

- RTCA SC-223 has completed its work program

- EUROCAE WG-82 is continuing with the development of:
  - A system Minimum Aviation System Performance Standard (MASPS)
  - Ground equipment MOPS

Questions?

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