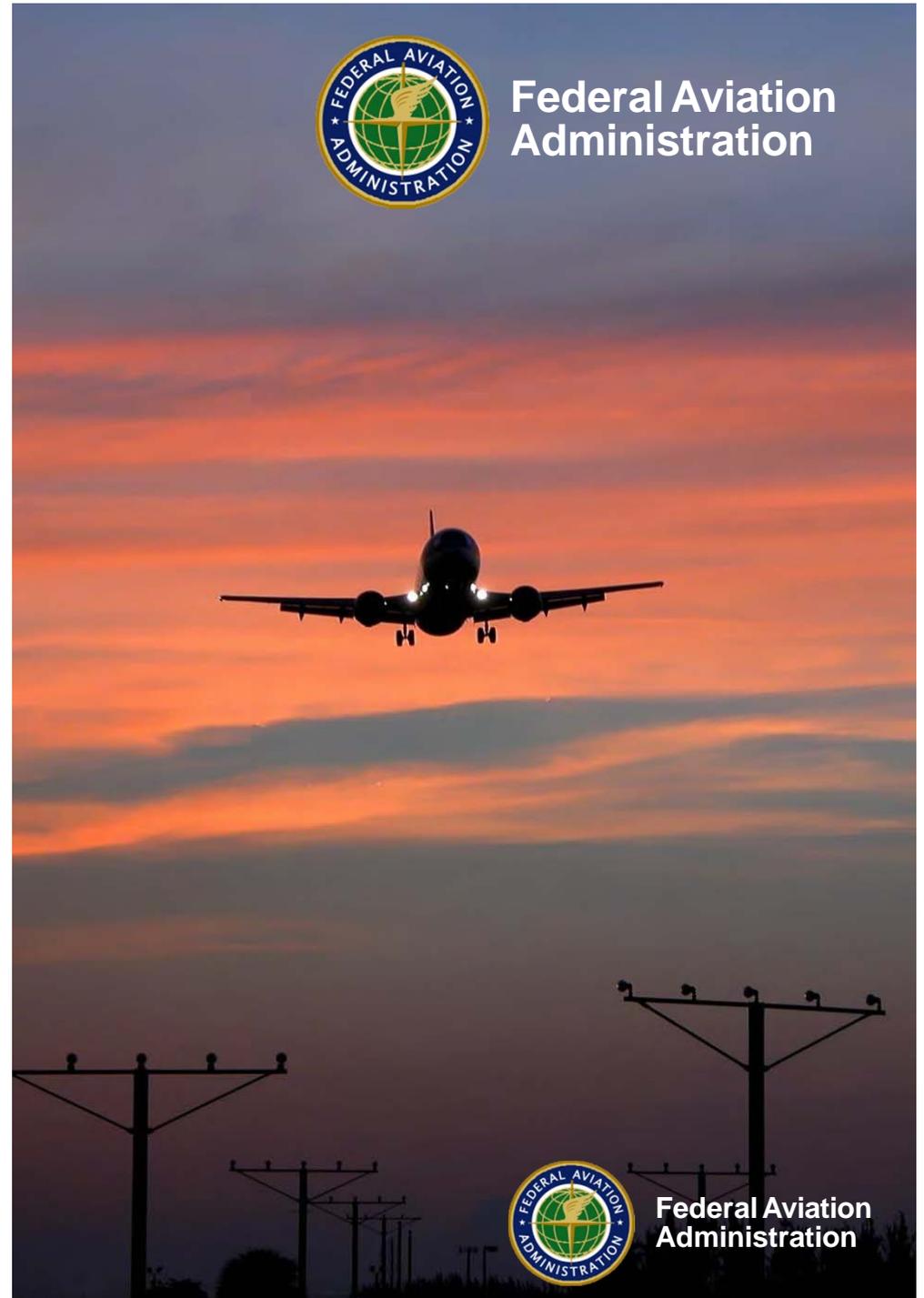


# GNSS/RNAV Non-Radar Longitudinal Separation in the Caribbean

For: ICAO/IATA/CANSO PBN  
Harmonization, Modernization, and  
Implementation Meeting

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Air Traffic Standards and Procedures

Date: 2 - 6 July 2018



# Overview

- **Review of Current Longitudinal Separation Minima**
- **Potential Longitudinal Separation Reductions**
- **Summary**



# Houston ARTCC

- **Current Longitudinal Separation Minima**
  - Monterey ACC
    - 10 NM radar
    - 10 minutes Mach Number Technique (MNT)
    - 5 minutes faster in front by M .06 or greater
  - Merida ACC
    - 10 minutes MNT
    - 5 minutes faster in front by M .06 or greater
- **Potential Longitudinal Separation Reductions**
  - Procedural issues clarified to allow for reduced GNSS/RNAV non-radar longitudinal separation
  - LOA discussions ongoing with Monterey and Merida
  - Estimated time for implementation of reduced separation
    - 4 - 6 months



# Miami ARTCC

- **Current Longitudinal Separation Minima**
  - Havana ACC
    - 10-20 NM radar
    - 10 minutes non-radar or 40 NM MUHA to KZMA with coordination
      - Greater separation minima typically associated with traffic management initiatives
  - Port-au-Prince ACC
    - 10 minutes with MNT
  - Santo Domingo ACC
    - 10 NM radar
    - 10 minutes non-radar
  - New York ARTCC
    - 10 minutes with MNT
    - 15 minutes all others
  - San Juan CERAP
    - 5 NM radar



# Miami Center (cont.)

- **Potential Longitudinal Separation Reductions**
  - Havana ACC
    - Current radar procedures in effect
      - non-radar separation rarely applied
        - » No current discussions on non-radar longitudinal separation
  - Port-au-Prince ACC
    - Currently working on new LOA proposal to include 40 NM Longitudinal separation
  - New York ARTCC
    - Separation Standards currently 10 minutes
    - Negotiations ongoing with ZNY to implement distance based separation using 30 or 50 NM
  - Santo Domingo ACC
    - Non-radar operations generally limited to “mid-shift” during low traffic
      - No discussions on non-radar longitudinal separation planned



# San Juan CERAP

- **Current Longitudinal Separation Minima**
  - New York ARTCC, Piarco ACC, Maquetia ACC, Curacao ACC, Santo Domingo ACC
    - 10 minutes with MNT
    - 15 minutes all others
      - St Maarten Approach: Aircraft below FL200 require 20 minutes
  - Miami ARTCC
    - 5 NM radar separation
      - In areas of non-radar below FL200, 10 minutes



## San Juan CERAP (cont.)

- **Potential Longitudinal Separation Reductions**

- New York ARTCC, Piarco ACC, Maquetia ACC, Curacao ACC
  - Procedures being reviewed for applying distance based separation in oceanic airspace
  - Requirements issue
    - Utilization of ICAO PANS-ATM, Chapter 5 requires direct pilot controller voice communication
      - » Areas along common boundaries with these facilities have limited frequency coverage
      - » Work to analyze cause and address is underway
        - » Timeline- TBD
- St. Maarten Approach
  - Issue with applying distance based separation in oceanic airspace
  - International agreement required by FAA
    - Work underway to finalize agreement for FAA air-to-ground communication equipment at St. Maarten; radar data sharing may also be possible
    - Site survey for communication equipment completed
    - Installation/certification of equipment with expected implementation in 2 years



# San Juan CERAP (cont.)

- **Potential Longitudinal Separation Reductions**
  - Santo Domingo ACC
    - Manual radar handoff procedure LOA drafted
      - Under review by San Juan CERAP Collaborative Working Group
      - Expected implementation of manual radar handoffs - TBD
    - Automated radar handoffs
      - Requires Automated Data Exchange Class III
        - » TBD



# Summary

- **Areas for potential GNSS/RNAV longitudinal separation being evaluated**
  - Procedures being reviewed and modified to support
  - Technical requirements and international agreements under development or review
  - LOA discussions and required safety work being conducted



# Questions/Comments?

