

**ST. VINCENT AND THE GRENADINES
ATM/CNS TRANSITION PLAN**

1.0 BACKGROUND

- 1.1 St. Vincent and the Grenadines has recognized the increasing limitations of the present air navigation system and the improvements needed to take civil aviation into the 21st century. The limitations of the present system are intrinsic to the system itself, and the problems cannot be overcome unless we embark on a new communications, navigation and surveillance (CNS) system to support future enhancements in air traffic management (ATM). St. Vincent and the Grenadines is also cognizant that implementation of the concept would require regional coordination and planning. The ATS Committee was established to oversee all aspects pertaining to the ATM/CNS transition.

2.0 INTRODUCTION

- 2.1 The fourth GREPECAS Meeting, held in Panama City (1994 September 20-26) approved the DRAFT CAR/SAM ATM/CNS Transition Plan prepared by the ATM/CNS Sub-group, by means of Conclusion 4/38. Conclusion 4/42, relating to the preparation of national plans for the transition to the new CNS/ ATM system, taking into account the general guidelines established in the Draft ATM/CNS Regional Plan, was also approved. and it was noted that Regional Plans must allow for easy coordination within the Region and with adjacent Regions.

3.0 CURRENT SYSTEM LIMITATIONS

3.1 COMMUNICATIONS

- 3.1.1. Controller -Pilot
a) System in use: VHF
b) System limitations: VHF coverage gaps North coast St. Vincent and frequency congestion.
- 3.1.2 Controller -Controller
a) System in use: AFTN, land line
b) System limitations: inadequate availability and reliability.

3.2 NAVIGATION

- 3.2.1 System in use: NDB for en route navigation and instrument approaches.
- 3.2.2 System limitations
a) Inefficient route structure tied to navaid location

- b) Limited range
- c) Limited as a means of separating air traffic
- d) Reliability and accuracy as an approach aid is questionable, especially in bad weather.

3.3 SURVEILLANCE

3.3.1 System in use: voice position reports

3.3.2 System limitations:

- a) Position report accuracy is not optimal
- b) Procedural separation is inefficient in a radar environment.

3.4 AIR TRAFFIC MANAGEMENT

3.4.1 System in use: ICAO Standards and Recommended Practices (SARPS) Procedural control.

3.4.2 System limitations:

- a) Procedural control inefficient causing congestion in airspace
- b) ATS procedures with neighbouring airspace dissimilar in cases.

4.0 FUTURE ATM/CNS SYMTEM COMPONENTS, APPLICATIONS, BENEFITS

4.1 St. Vincent and the Grenadines accepts ill principle the ICAO CNS/ ATM concept.

4.1.1 In developing the future ATM/CNS system for St. Vincent and the Grenadines. a comprehensive assessment and analysis of the characteristics and capabilities of the present system was undertaken Arising out of that exercise, the following is proposed for its CNS/ ATM transition:

4.2 COMMUNICATIONS

4.2.1.1 Short term (1997 - 2000)

- a) Continued use of VHF voice
- c) Improved AFS

4.2.1.2 Medium term (2001 - 2005)

- a) Continued use of VHF voice
- b) Progressive implementation of ATN
- c) Progressive implementation of VHF Data Link

4.2.1.3 Long term (2006 -2010)

- a) Continued use or VHF voice
- b) Implementation or VHF data link
- c) Full implementation of ATN

4.3 NAVIGATION

4.3.1.1 Short term (1997 - 2000)

- (a) Continued use or NDB
- (b) GPS trials
- (c) Continued use of Barometric Altimetry

4.3.1.2 Medium term (2001 - 2005)

- a) Continued use or NDB
- b) Progressive implementation of GNSS
- c) Continued use of Barometric Altimetry

4.3.1.3 Long term (2006 -2010)

- a) Withdrawal or NDB
- b) Implementation of GNSS
- c) Continued use of Barometric Altimetry

4.4 SURVEILLANCE

4.4.1.1 Short term (1997 - 2000)

- a) Continued use of voice position reports

4.4.1.2 Medium term (2001 - 2005)

- a) Continued use or voice position reports
- b) Mandatory carriage of transponders

4.4.1.3 Long term (2006 -2010)

- a) Continued utilization or voice position reports
- b) Progressive implementation of ADS

4.5 AIR TRAFFIC MANAGEMENT

4.5.1 Short Term

- a) Windshear Detection
- b) Evaluation of Current ATM Capacity
- c) Dissemination of Information ATM/CNS Concepts
- d) Instruction and Training
- e) Dissemination of Human Aspects of ATM/CNS

4.5.2 Medium Term

- a) Windshear Detection
- b) Evaluation of Current ATM Capacity

- c) Dissemination of Information ATM/CNS Concepts
- d) Continued Instruction and training
- e) Dissemination of Human Aspects of ATM/CNS

4.5.3 Long Term

- a) Windshear Detection
- b) Evaluation of Current ATM Capacity
- c) Dissemination of Information ATM/CNS Concepts
- d) Continuation of Instruction and Training
- e) Dissemination of Human Aspects of ATM/CNS
- f) Air/Ground Data Link Applications

5.0 CONCLUSION

In conjunction with the progressive implementation of CNS systems and increased automation. ATM will allow for increased airspace capacity, reduced controller workload, enhanced safety and improved detection and resolution of conflicts.

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