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Agenda Item 3: Air Navigation Matters
3.6 Other Air Navigation Issues

**Plans for ADS-B and Communications Improvements
in Gulf of Mexico Airspace**

(Presented by the United States of America)

SUMMARY

This paper introduces air traffic service improvements that the United States plans to implement in US-controlled Gulf of Mexico airspace in 2010. It outlines air-ground communications improvements as well as planned benefits provided by automatic dependent surveillance broadcast (ADS-B) capabilities.

1. Introduction

1.1 Recent advances in surveillance techniques, satellite-based navigation technologies, and communication data links have combined to offer an opportunity to use Automatic Dependent Surveillance-Broadcast (ADS-B) as a source of surveillance and means to broadcast aeronautical information. Using ADS-B technologies, various ADS-B-enabled operational applications have been developed which have led to the proposal to establish an ADS-B system to support ADS-B operations throughout the United States (US) National Airspace System (NAS).

1.2 The accuracy and broadcast characteristic of ADS-B supports numerous cockpit-based and air traffic control (ATC) applications. ADS-B-equipped aircraft with cockpit multifunction displays can receive ADS-B reports from other suitably-equipped aircraft within the reception range resulting in an air-to-air and airport surface surveillance capability. And, ADS-B surveillance broadcasts can be received by ground-based transceivers to provide air-to-ground and airport surface surveillance information for air traffic services and other functions such as traffic flow management, fleet operations management, or security functions.

1.3 In the US, two different data links have been adopted for ADS-B: the 1090 MHz extended squitter (1090 ES) and the Universal Access Transceiver (UAT). The 1090 ES link is intended for air transport aircraft and the UAT link is intended for general aviation aircraft. In addition to ADS-B, the data links also support receipt of uplink broadcast services: Traffic Information Service-Broadcast (TIS-B) and Flight Information Service-Broadcast (FIS-B).

2. Discussion

2.1 One of the early applications in the US for the use of ADS-B surveillance for ATC is planned to occur in Gulf of Mexico (GOMEX) airspace. The objective is to increase safety, capacity, and efficiency in GOMEX airspace where radar coverage does not exist today. Placement of ADS-B ground based transceivers and air-to-ground communications sites on several oil platforms in the Gulf will provide the Houston Air Route Traffic Control Center with seamless high altitude surveillance and communications. This infrastructure will increase availability of more fuel efficient altitudes, direct routings, and weather deviations without impacting adjacent routes while also eliminating the lengthy delays needed when issuing clearances through a third-party.

3. Conclusion

3.1 Since implementation of ADS-B and improved communications capabilities for GOMEX airspace is planned for 2010, neighboring air navigation service providers and airspace operators should be aware of planned improvements. Appropriate equipage of operators will increase the benefits enabled by these planned improvements.

3.2 The group is invited to note the information contained in this paper.