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Operational Concepts and Data Elements Required to Improve Air Traffic Management (ATM) - Aeronautical Operational Control (AOC) Ground-Ground Information Exchange to Facilitate Collaborative Decision Making

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FOREWORD

This document was prepared by RTCA Special Committee 169 (SC-169) and approved by the RTCA Technical Management Committee (TMC) on October 6, 1997.

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- analyzing and recommending solutions to the system technical issues that aviation faces as it continues to pursue increased safety, system capacity and efficiency;

- developing consensus on the application of pertinent technology to fulfill user and provider requirements, including development of minimum operational performance standards for electronic systems and equipment that support aviation; and

- assisting in developing the appropriate technical material upon which positions for the International Civil Aviation Organization and the International Telecommunications Union and other appropriate international organizations can be based

The organization's recommendations are often used as the basis for government and private sector decisions as well as the foundation for many Federal Aviation Administration Technical Standard Orders.

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EXECUTIVE SUMMARY

ES-1. INTRODUCTION

RTCA Special Committee (SC) 169 was chartered by the RTCA Technical Management Committee to develop information requirements for Air Traffic Management (ATM)–Aeronautical Operational Control (AOC) ground-ground information exchange applications.

This paper presents the results of one key responsibility of SC-169, namely, developing operational concepts and data elements required for ground-ground ATM-AOC information exchange—in particular, between dispatchers/flight planners for an Aeronautical Operational Control[1] (AOC) and traffic flow managers in the Air Traffic Management (ATM) system. SC-169 considered the documented accounts of user needs, future operating concepts, and implementation recommendations found in such volumes as the *Air Traffic Service Plan, 1995—2000* (FAA, 1995a), the *Final Report of RTCA Task Force 3: Free Flight Implementation* (RTCA, Inc., 1995), and *Airline Operational Control Overview* (FAA, 1995).

Both National Airspace System (NAS) users and NAS service providers are eager to improve the efficiency of the NAS, as seen from their separate perspectives, while maintaining the current level of safety. Information exchange and collaboration between ATM and AOCs using ground-ground communications are a crucial element in achieving this goal. The ATM-AOC information requirements identified by SC-169 represent an early step in developing a structure that enables collaborative decision-making, a key feature of the future NAS.

ATM-AOC information sharing is a feasible step in the progression of capabilities envisioned for a Free Flight system of the future. A near-term capability for ATM-AOC exchange can be implemented relatively quickly, using current technology and the operational information that is currently produced.

[1] In this document, the term AOC is defined in accordance with the International Civil Aviation Organization (ICAO) as any organization providing flight planning and flight following services to airspace users.

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