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Aircraft Secondary Barriers and Alternative Flight Deck Security Procedures

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Foreword

This document was prepared by Special Committee 221 (SC-221) and approved by the RTCA Program Management Committee (PMC) on September 28, 2011.

RTCA, Incorporated is a not-for-profit corporation formed to advance the art and science of aviation and aviation electronic systems for the benefit of the public. The organization functions as a Federal Advisory Committee and develops consensus based recommendations on contemporary aviation issues. RTCA's objectives include but are not limited to:

- Coalescing aviation system user and provider technical requirements in a manner that helps government and industry meet their mutual objectives and responsibilities;

- 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 Telecommunication 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.

Since RTCA is not an official agency of the United States Government, its recommendations may not be regarded as statements of official government policy unless so enunciated by the U.S. government organization or agency having statutory jurisdiction over any matters to which the recommendations relate.

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

1.1 Purpose and Scope

Since September 11, 2001, the Department of Transportation (DOT), the Federal Aviation Administration (FAA), the U.S. Congress, and the International Civil Aviation Organization (ICAO) have issued a series of new standards to protect flight decks from intrusion and penetration by small-arms fire (14 CFR 25.795). These have resulted in the installation of reinforced flight deck doors by U.S. and international passenger-carrying[1] air carriers flying to/from the United States. These doors provide protection when they remain closed and locked throughout a flight. The operational reality, however, is more complex.

On many flights the flight deck door cannot remain closed for the entire duration of the flight. On longer flights the flight deck door must be opened for crewmembers to access lavatory facilities, to transfer meals to aircrew, and also to switch crew positions on longer flights for crew rest purposes. The flight deck access procedures used by crewmembers are integral in protecting the flight deck, as is the door itself.

During the opening and closing of the flight deck door, or "door transition", the protective anti-intrusion/anti-penetration benefits of the reinforced door are reduced if established procedures and/or equipment are not properly utilized by crewmembers. Regulators have noted this vulnerability and mandated supplemental procedures during door transition. Both the FAA and ICAO have defined these supplemental procedures. For example, according to 14 CFR 121.584(a)(1), no one may unlock the flight deck door unless, "The area outside the flight deck door is secure." ICAO provides for similar guidance during door transition.

The FAA has determined that additional regulatory guidance material, to supplement the existing regulations, would be desirable to provide more specific guidance to the FAA and to industry.

When closed and locked, as required in 14 CFR 121.587 (a), the flight crew compartment door provides increased security against potential threats. However, 14 CFR 121.587 (b) allows the door to be opened under certain circumstances, and it is during these times that the flight deck becomes vulnerable to hostile individuals or groups. FAA regulation 14 CFR 121.587 specifies requirements related to the closing and locking of the flight crew compartment door:

A. Except as provided in paragraph (b) of this section, a pilot in command of an airplane that has a lockable flight crew compartment door in accordance with Sec. 121.313 and that is carrying passengers shall ensure that the door separating the flight crew compartment from the passenger compartment is closed and locked at all times when the aircraft is being operated.

B. The provisions of paragraph (a) of this section do not apply at any time when it is necessary to permit access and egress by persons authorized in accordance with 14 CFR Part 121.547 and provided the 14 CFR Part 119 operator complies with FAA approved procedures regarding the opening, closing and locking of the flight deck doors.

To date, passenger-carrying air carriers have utilized several methods to support security during the periods of flight when the flight deck door is open. One method employs a combination of procedures using crewmembers to monitor the area and/or aircraft equipment, including galley carts to block access to the flight deck.

[1] The FAA mandate for a fortress door only applies to passenger-carrying air carriers.