AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL – BRAZIL

BRAZILIAN AIRWORTHINESS DIRECTIVE

AD No.: 2011-05-01 **Effective Date: 9 May 2011**

The following Brazilian Airworthiness Directive (AD), issued by the Agência Nacional de Aviação Civil (ANAC) in accordance with provisions of Chapter IV, Title III of Código Brasileiro de Aeronáutica - Law No. 7,565 dated 19 December 1986 - and Regulamento Brasileiro da Aviação Civil (RBAC) 39, applies to all aircraft registered in the Registro Aeronáutico Brasileiro. No person may operate an aircraft to which this AD applies, unless it has previously complied with the requirements established herein.

AD No. 2011-05-01 – EMBRAER / 39-1334.

APPLICABILITY:

This AD applies to Embraer S.A. models ERJ 170-100 LR, ERJ 170-100 SE, ERJ 170-100 STD, ERJ 170-100 SU, ERJ 170-200 LR, ERJ 170-200 STD and ERJ 170-200 SU airplanes in operation, all serial numbers.

CANCELLATION / REVISION:

This AD cancels and supersedes AD 2010-01-01 and AD 2010-07-02, and is being issued to include a terminating action.

REASON:

This AD results from the possibility of loss of automatic activation of the engine inlet ice protection system when flying in ice condition. Even thought the failure is announced by the caution messages “A-I Eng 1 Fail” e “A-I Eng 2 Fail”, if the engines inlet ice protection system is not manually activated, ice may accrete in the engine inlet and causes engine to shut down.

Also there is the possibility of right hand (RH) engine compressor to stall after the Auxiliary Power Unit (APU) becomes the active bleed source for the left side, following left hand (LH) engine failure, under a condition where both engines are close to idle, the APU is running, and the APU bleed button is pushed in (automatic position).

Since these conditions may occur in other aircraft of the same type and affect flight safety, a corrective action is required. Thus, sufficient reason exists to request compliance with this AD in the indicated time limit.

REQUIRED ACTION:

Replacement of the AMS Controller Processor modules.

COMPLIANCE:

Required as indicated below, unless already accomplished.

Restatement of requirements of AD 2010-01-01

(a) For airplanes equipped with Air Management System (AMS) controller cards part number (P/N) 1001050-1-YYY or P/N 1001050-2-YYY containing software version Black Label 08 or lower installed. After 10 days of January 31, 2010 (the effective date of AD 2010-01-01), dispatch with message “RECIRC SMK DET FAIL” displayed on ground, as allowed in section 21 (Air Conditioning), item 24-04 (Recirculation System Smoke Detector), of the Embraer ERJ 170 Master Minimum Equipment List (MMEL), is prohibited unless after troubleshooting action confirms the message has been triggered due to a failure on the recirculation bay smoke detection system (Ref. FIM Task 26-16-00-810-801-A). Doing

the replacement of the AMS Controller Processor modules (slots 18 and 25) as specified in paragraph (c) of this AD terminates the requirements of this paragraph.

Restatement of requirements of AD 2010-07-02

(b) Within 10 days after July 31, 2010 (the effective date of AD 2010-07-02), revise the Limitation Section of the Airplane Flight Manual (AFM) to include the information in the EMBRAER Operational Bulletin (OB) 170-001/09 Revision 01, dated Feb 10, 2010. Doing the replacement of the AMS Controller Processor modules (slots 18 and 25) as specified in paragraph (c) of this AD terminates the requirements of this paragraph.

New Requirements of This AD

(c) Within 3300 flight hours after the effective date of this AD replace both Hamilton Sundstrand AMS Controller Processor modules (slots 18 and 25) P/N 1001050-1-YYY, or 1001050-2-YYY, or 1001050-3-YYY, or 1001050-4-YYY with a suitable AMS Controller Processor module part number. Use the Accomplishment Instructions of Embraer Service Bulletin 170-21-0049 to perform the AMS Controller Processor modules replacement. After replacing the AMS Controller Processor modules, the limitation required by paragraph (a) of this AD and the AFM revision required by paragraph (b) of this AD must be removed from the AFM.

NOTE: For the purpose of this AD a suitable AMS Controller Processor board part number is one containing the software version Black Label – 11, or later approved version, installed.

Alternative Methods of Compliance

(d) A different method or a different compliance time, with the requirements of this AD, may be used if approved by the General Manager of the Aeronautical Product Certification Branch (Gerência-Geral de Certificação de Produtos Aeronáuticos - GGCP).

The detailed instructions and procedures to accomplish this AD are described in the Accomplishment Instructions of Embraer Service Bulletin 170-21-0049 initial issuance, or further revisions approved by ANAC.

CONTACT:

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NOTE: Original in Portuguese language signed and available in the files of the Aeronautical Products Certification Branch (GGCP) of the National Civil Aviation Agency (ANAC).