



EASA Safety Information Bulletin

SIB No.: 2014-08
Issued: 24 March 2014

Subject: Approval for Cold Soaked Fuel Frost Dispatch

Ref. Publications: Regulation (EU) [965/2012](#)¹, (“EASA-OPS”), CAT.OP.MPA.250² – Ice and other contaminants – ground procedures.
 Regulation (EEC) [3922/91](#), amended by (EC) [859/2008](#) (“EU-OPS”), OPS 1.345 – Ice and other contaminants – ground procedures.
 Boeing 737-600/-700/-800/-900 Airplane Flight Manual (AFM) – Miscellaneous Limitations – Cold Soaked Fuel Frost.
 Boeing 737-600/-700/-800/-900 Flight Crew Operations Manual (FCOM) – Supplementary Procedures – Anti-Ice, Rain – Cold Soaked Fuel Frost.

Applicability: Commercial air transport operators with Boeing 737 “Next Generation (NG)” aeroplanes (737-600, 737-700, 737-800, 737-900).

Introduction: According to Regulation (EU) 965/2012 “EASA OPS”, (and similarly stated in Regulation (EEC) 3922/91 “EU-OPS” which, to this date, remains applicable in most EU Member States³), commercial air transport operations in icing conditions must observe CAT.OP.MPA.250²:

Ice and other contaminants — ground procedures

(a) The operator shall establish procedures to be followed when ground de-icing and anti-icing and related inspections of the aircraft are necessary to allow the safe operation of the aircraft.

¹ As amended by (EU) 83/2014, (EU) 71/2014 and (EU) 800/2013.

² Paragraph NCC.OP.185 of the Supplementary Document to ED Decision 2013/021/R “AMC & GM Part-NCC Initial Version” contains the same provisions for non-commercial operations.

³ See http://easa.europa.eu/flightstandards/air_ops_imp.html for detailed information on Opt-out to Regulation (EU) 965/2012.

This is information only. Recommendations are not mandatory.

(b) The commander shall only commence take-off if the aircraft is clear of any deposit that might adversely affect the performance or controllability of the aircraft, except as permitted under (a) and in accordance with the AFM.

The EASA approved AFM for Boeing 737NG aeroplanes describes the conditions and limitations under which take-off with Cold Soaked Fuel Frost (CSFF) is permitted. These conditions and limitations include criteria with respect to frost thickness, the area covered by CSFF and ambient conditions within which the certified performance in the AFM remains satisfactory.

In 2012, European stakeholders and EASA Member States' National Aviation Authorities sought EASA's advice on the possibility to take-off with a Boeing 737NG aeroplane with CSFF, as this is permitted through the AFM but not allowed under U.S. regulation. Canadian operators are permitted to take-off when operating within the AFM conditions and limitations.

Description:

Throughout 2013, the Agency, together with Boeing, conducted an extensive review of CSFF conditions allowing take-off, as established in the Boeing 737NG AFM.

Since Boeing had already demonstrated to the FAA adequate aeroplane performance within the CSFF limits defined in the AFM, this review focussed on demonstrating that, under expected conditions during turn-around, the CSFF would not build up beyond the limits set in the AFM once compliance with the limits and applicable conditions was positively assessed by the flight crew after the previous landing.

Based on the results of this investigation, which was carried out using an improved frost growth model and accretion analysis developed by Boeing, EASA is satisfied that 737NG operators can use the procedures developed by Boeing to allow take-off with CSFF on wing surfaces as currently defined in the AFM and FCOM.

Nevertheless, the Agency recognizes the difficulty for flight crews to inspect the aeroplane for frost and particularly to assess frost thickness. This Safety Information Bulletin (SIB) is therefore issued to highlight that:

- Strict adherence to the conditions and limitations and for dispatch of 737NG aeroplanes with CSFF on wing surfaces is essential for safe operation; and
- Efficient and approved tools are required by flight crew members to ensure that the frost thickness measurement is done accurately.

This is information only. Recommendations are not mandatory.

Recommendation(s): EASA recommends that operators intending to operate 737NG aeroplanes with CSFF under the AFM conditions and limitations should develop detailed operational procedures, including adequate training and tools, in particular for an accurate measurement of frost thickness, in order to ensure full compliance with the AFM.

In case of doubt whether or not AFM conditions are met, flight crews should request appropriate de-icing/anti-icing of the aeroplane prior to take-off, or should postpone departure until appropriate conditions are met. The final decision rests with the pilot in command.

Boeing is in the process of certifying a new simplified procedure which will eliminate the need for frost thickness measurement. Operators will be informed of the new procedure once it is released.

Contact(s): For further information contact the Safety Information Section, Executive Directorate, EASA. E-mail: ADs@easa.europa.eu.

This is information only. Recommendations are not mandatory.