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SUBJECT : OPERATION IN AREAS CONTAMINATED BY CRUDE OIL SMOKE
Subject extracted from former FCOM Bulletin N° 04/1 – Subject N°5
No technical change from previous issue

Applicable : All aircraft

1. REASON FOR ISSUE AND SCOPE

- The purpose of this FCOM BULLETIN is to provide flight crews with background information and operational recommendations for operation in areas contaminated with crude oil smoke.

2. BACKGROUND INFORMATION

- Although no detailed and direct information is available concerning the particulars of the crude oil smoke contamination, information provided by french meteorological and petroleum institutes estimate the oil smoke clouds to be composed of :
 - 90 % heavy particles which would not reach over 5 000 ft,
 - 10 % lighter particles likely to culminate up to, approximately, 25 000 ft.
- Crude oil smoke is understood to be mainly composed of greasy/oily particles and non-abrasive soot. The associated gases are understood to have a high sulphur content.
- In the event of a crude oil smoke cloud encounter, the immediate operation of engines and aircraft systems is not anticipated to be adversely affected.
- However extended or repeated exposure is anticipated to result in engines and airframe/systems contamination. Separate information is planned to be released for maintenance personnel awareness.

3. OPERATIONAL RECOMMENDATIONS

- Although forecasting the horizontal and vertical extension of the contaminated areas (using usual meteorological forecasting models) appears to be largely impeded by the particular nature of the smoke emission as well as by factors such as convection or turbulence, records should be established and kept up-dated gathering any available information regarding the extension or variations of the contaminated area.
- Flight into areas of known crude oil smoke contamination should be avoided, mainly during night time or day time IMC, as crude oil smoke may not be visible.
- Crude oil smoke being composed of small particles, the weather radar should not be relied upon for detection as no weather radar return is to be expected.
- Should a crude oil smoke cloud be encountered, the flight crew should be alert to consider the following procedure steps, as required by particular conditions :

CREW OXYGEN MASKS/
SMOKE GOGGLES AS REQUIRED

- As smoke/fumes may be present in the cockpit and result in breathing discomfort and/or eyes irritation.

PASSENGER OXYGEN AS REQUIRED

- No breathing difficulties are anticipated except, depending on contamination, for passengers with known breathing deficiency.

ENGINE PARAMETERS MONITOR

- Although limited exposure is not anticipated to affect the engine inlet sensors and, consequently, the compressor stability and fuel control functions.
- Any parameter shift should be reported in log book for maintenance awareness and action.
- Flight crew should be also aware of the possible following conditions and alert to react, as required :
 - one or several smoke warnings triggering as a result of contamination within the air conditioning system,
 - unreliable airspeed indication, due to pitot/static system contamination,
 - reduced VHF communication range and/or VHF interference caused by incorrect static discharge due to accumulation of greasy particles on the aircraft skin,
 - reduced visibility due to oily deposit and carbon particles collecting on the windshields.
- When operating in areas contaminated with crude oil smoke, a particular attention should be paid to the following areas, during the normal aircraft walkaround inspection, for any evidence of oily deposit and/or carbon particles contamination :
 - radome,
 - windshields,
 - airframe probes and sensors,
 - engine fan blade and inlet probes and sensors.
- In case of finding or doubt, maintenance determination/confirmation should be called for, and maintenance action taken, as required.

4. FOLLOW-UP

- The above background and recommendations are provided on the basis of preliminary information being available regarding crude oil smoke and its potential effects on aircraft operation.
- This FCOM BULLETIN will be complemented and/or revised, as dictated by in-service experience.