



## **SMS – Aviation Safety Case: Oil Fumes and contaminated air**

### **Opportunity:**

**Airline management to work with Michaelis Aviation Consulting to prepare an aviation safety case report for oil fumes and contaminated bleed air.**

### **Background:**

Former airline pilot Dr Susan Michaelis having attained a PhD in aircraft contaminated air, qualified in air safety and accident investigation, occupational health and safety and hazardous substances, in conjunction with a world-renowned expert in aviation hazard management<sup>1</sup>, can support airline management responsible for SMS, to develop a safety case involving contaminated bleed air.

### **Safety Case: Aircraft Contaminated Air**

#### **Aim:**

Demonstration of management of risks associated with oil contamination of aircraft air supply systems.

#### **Objective:**

To develop a clear focus on how oil contamination of aircraft air supplies should be managed by airline operators .

#### **Outline:**

The '**Safety Case**' is a subordinate part of the SMS manual and an active part of the SMS process. It is core to the risk and hazard management of a company and is ideally suited to be a stand-alone document. It is a demonstration of how a company ought to manage operational risks of its business. The safety case document is the tool used to show that risk and hazard management, a core requirement of an SMS, is being met.

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<sup>1</sup>. Cliff Edwards is an aircraft licensed engineer Ltd and recently retired principal consultant of Aviation Hazard Management. Having spent over 55 years in the aviation industry as a licensed engineer, manager and advisor, Cliff Edwards is a highly experienced aviation safety consultant and an established aviation safety auditor, formerly employed by Shell Aircraft International culminating in the role of "Senior Advisor - Air Safety". Having facilitated and directed the development of the first creditable, complete hazard analysis for operating and maintaining aircraft, he is well recognized by manufacturer's operators and regulators throughout the aviation industry.  
<http://www.avhazman.co.uk/>

The Safety Case document focuses on 'what' needs to be managed and how and consists of 4 distinct areas:

- 1) Risk assessment for the company;
- 2) Hazard analysis of all significant risks;
- 3) Hazard register;
  
- 4) A statement of safety preparedness (fitness to operate).

**Process:**

- A. Risk Assessment: A risk assessment will be undertaken using a structured matrix approach. Risks identified will fall into intolerable, manageable via normal SMS procedures or incorporate risk reduction measures;
- B. Hazard management: The bowtie hazard analysis will be undertaken using specific software to demonstrate how hazard management related to oil leaking into the aircraft air supply is being achieved. This is the key management means of protection against known risks;
- C. Hazard Register: The outputs will be recorded linking the hazard, hazardous events and risk assessments through the Hazard Register.

The Safety Case document will give company management a clear understanding of the risks the business is accountable for. It will also enable the business to demonstrate in terms of the risks identified (oil leaking into the air supply), a highly professional and efficient operation with no compromise to safety. With an updated safety case for identified risks, the company will be able to proactively provide systematic hazard and threat controls that manage its risks to as low as reasonable practicable. As a company risk profile and statement of fitness changes, the Safety Case document should be updated.

This document is intended therefore primarily for company management, the regulator and additionally for the courts if the company is charged with accountability for an accident or incident.

Overall staff will be in a better position to understand the threats and the controls available to maintain a safe operation related to bleed air contamination.

For further details to take advantage of this unique opportunity, **contact:**

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