BRE Cabin Air Quality Workshop

Hunton Park, Watford. 20/21 February 2012

Outcome Statement made on behalf of the Workshop

Concerns have been expressed by some pilots and cabin crew that exposure to contaminants in aircraft cabin air may impact on flight safety and cause short or long term adverse health effects. Whilst there are many sources of smells and fumes in aircraft cabins, those assumed to be associated with bleed air contamination by engine and hydraulic oil are of particular concern to some crew members.

An invited international group of aviation, health and toxicology experts participated in a workshop in the UK, under the auspices of BRE, in February 2012 to consider these issues.

1) The workshop reviewed evidence associated with cabin air fume events. It was concluded that there are no published peer reviewed reports of acute organophosphate poisoning with analytical confirmation of the diagnosis after cabin air fume exposures. Similarly, there are no published peer reviewed reports of organophosphate-induced delayed neuropathy after cabin air fume exposure, with no evidence to support a causative association between cabin air fume exposure and short or long term nerve damage.

2) The workshop noted lack of clarity and consistency in reporting definitions and terminology which may lead to difficulties in establishing the true incidence of events.

3) It was also observed that there is a need for standardisation in the methodology and calibration of the sampling and analytical procedures carried out when making the relevant cabin air quality measurements reported so far.

4) The workshop agreed that there is a need for consistent guidance on the medical assessment of crew members following a cabin air fume event. It was noted that there is similarity between the reported symptoms of some crew members after fume events, particularly when emergency oxygen masks have been used, and the classical symptoms of hyperventilation.

5) The workshop made a number of recommendations. These included risk assessment and the harmonisation and standardisation of international research on the occurrence and health effects of aircraft cabin bleed air contamination.

6) The workshop recommends that the need for further research should be considered after the UK Committee on Toxicity (CoT) has reviewed the UK Department for Transport (DfT)

sponsored Cranfield University and Institute of Occupational Medicine (IoM) research, and after the review of the ASHRAE study and a toxicological risk assessment.

List of participating organisations:

- Air Accidents Investigation Branch (AAIB), UK
- ASD-STAN, Belgium
- Airbus
- Association of Aviation Medical Examiners (AAME), UK
- The Boeing Company, USA
- European Society of Aerospace Medicine (ESAM)
- Building Research Establishment Limited (BRE), UK
- AsMA Air Transport Medicine Committee
- Civil Aviation Authority Aviation Health Unit (CAA), UK
- Civil Aviation Authority of Singapore (CAAS), Singapore
- GE Aviation, USA
- Honeywell, USA
- Institute of Occupational Medicine (IOM), UK
- International Air Transport Association (IATA), Canada
- Intertox, USA
- National Poisons Information Service (NPIS), UK
- University College London, Dept of Chemistry, UK