Department for Transport

From the Minister of State
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Rt Hon Fiona Mactaggart MP
House of Commons
London
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12 APR 2016

Dear Fiona

Thank you for your e-mail of 15 March, on behalf of a number of your constituents, about cabin air safety and aerotoxic syndrome. As you might be aware, I attended the Westminster Hall debate on cabin air quality that was held on Thursday 17 March 2016, where I listened to the concerns of the constituents of several Members who spoke, and set out the Government's position.

I can assure your constituents that maintaining the safety record of UK aviation is something we take very seriously. That is why concerns raised about cabin air have been investigated at length over a number of years.

As background, on most commercial aircraft the cabin air supply is provided by air drawn from the compressor stage of the engine, known as engine bleed air. Contamination, or fume events, may occur when oil or hydraulic fluid is released into this air, for example as a result of an oil seal failure, resulting in the formation of an oil mist or odour in the aircraft cabin.

Following a recommendation in 2007 by the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment – an independent advisory committee of toxicology experts – the Department commissioned a series of scientific studies as part of a research programme into cabin air. The principal research study, carried out by Cranfield University, was published in 2011 and found that, with respect to the conditions of flight experienced during the cabin air sampling, there was no evidence for pollutants occurring at levels exceeding health and safety standards and guidelines. Levels observed in the flights that formed part of the study were comparable to those typically experienced in domestic settings.

In addition to the principal study, three further research studies were commissioned and published by the Department. The Department's four published reports were formally submitted to the Committee on Toxicity for consideration in 2012. The Committee on Toxicity considered the research reports, as well as other research published in the scientific literature since 2007, and subsequently published a position paper on cabin air in December 2013[1].

The paper recognises that contamination of cabin air by components and/or combustion products of engine oils does occur and that episodes of acute illness have occurred in temporal relation to perceived episodes of such contamination. However, it found that levels of chemicals in bleed air would need to occur in far higher concentrations than those found during the studies to cause serious toxicity, and that the symptoms which have been reported following fume events have been wide-ranging and less specific than those that typically occur from chemical toxicity.

As a toxic mechanism for the reported illnesses was found to be unlikely, a nocebo effect was considered a plausible alternative explanation for the symptoms. However, neither option can be proven beyond doubt given the available data.

As a toxic mechanism could not be confidently ruled out as the cause of the symptoms, the Committee concluded that more research would be beneficial. It stated, however, that the possible benefits of a new research project would need to be carefully considered against the costs of undertaking the new research.

Due to the unpredictability and rarity of the fume events, and due to the international nature of the aviation industry, it is the Department's view that an international approach to any future research investigations would be appropriate. The opportunity of collecting data from a broader sample base than is available in the UK alone, would lead to higher probability of more meaningful evidence being collated. The Department, therefore, wrote to the European Aviation Safety Agency (EASA) with these views in March 2014.

EASA has launched in spring 2015 a preliminary in-flight cabin air measurement campaign, which will develop a methodology and put into place adequate equipment to perform cockpit and cabin air measurements. The results of this campaign, which will be used to prepare for an envisaged large scale project in the future, are expected in autumn 2016. The Department will follow the progress of this work with interest.

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[1] http://cot.food.gov.uk/sites/default/files/cot/cotpospapcabin.pdf

At a national level, the Aviation Health Unit within the Medical Department of the Civil Aviation Authority (CAA) will continue to monitor issues around cabin air as part of their wider role as specialist adviser to the Government on aviation health issues.

Yours sincerely

ROBERT GOODWILL