

[REDACTED]

21 May 2018
Reference: F0003637

Dear [REDACTED]

I am writing in respect of your recent request of 14 March 2018, for the release of information held by the Civil Aviation Authority (CAA).

Your request:

'Can you please tell me what work the Civil Aviation Authority (CAA) Aviation Health Unit has undertaken in the past 24 months in relation to aircraft cabin air quality.'

'Can you please tell me what advice the Civil Aviation Authority (CAA) Aviation Health Unit, as advisor to government on aviation health matters, has given to UK Government in the past 24 months in relation to aircraft cabin air quality.'

Our response:

Your request has been considered in line with the provisions of the Freedom of Information Act 2000 (FOIA).

Please find attached copies of advice that the CAA's Aviation Health Unit (AHU) has provided to the Government in relation to cabin air quality in the past 24 months. We have redacted personal information in accordance with S40(2) of the FOIA as to release the information would be unfair to the individuals concerned and would therefore contravene the first data protection principle that personal data shall be processed fairly and lawfully. A copy of this exemption can be found below.

The AHU monitors the outcome of research projects and publications and provides advice to the Government, health professionals and the aviation industry on the health aspects of air travel. Several expert studies on the issue of cabin air quality have been carried out in recent years in the UK. Our principal sources of guidance and information remain the [Committee on Toxicity \(COT\) inquiry of 2007](#) and the [COT position paper of 2013](#), which reviews Government sponsored studies carried out by [Cranfield University](#) and the [Institute of Occupational Medicine](#).

The AHU was directly involved in the research funded by the UK Government, as reported in the 2013 COT position paper. The AHU also participated in the EU-funded '[Ideal Cabin Environment](#)' project and continues to be involved in discussing and, where possible, facilitating scientific research in this area.

The AHU reviewed the outcome of [two studies](#) on cabin air published in 2017 by the European Aviation Safety Agency (EASA), which is responsible for approving the safety of aircraft and setting aviation rules across the EU. EASA is carrying out further research in this area; we support their work and will carefully review the results of their research when it is available.

The AHU attended the Cabin Air Conference that took place at Imperial College, London, on 19-20 September 2017.

The CAA also receives and reviews reports of occurrences under the Mandatory Occurrence Reporting (MOR) scheme. All UK airlines are legally required to report any occurrences that could have, or did, endanger aircraft occupants within 72 hours. Airlines are also required to carry out appropriate levels of analysis of a potential incident and determine any further action that may help improve aviation safety. This applies to all types of occurrences including those relating to fire, smoke, fumes or smells. An analysis of reports received during 2016 relating to occurrences involving fire, fumes, smoke or smells inside the aircraft cabin is contained within our [UK Aviation Safety Review for 2016](#).

If you are not satisfied with how we have dealt with your request in the first instance you should approach the CAA in writing at:-

Caroline Chalk
Head of External Information Services
Civil Aviation Authority
Aviation House
Gatwick Airport South
Gatwick
RH6 0YR

caroline.chalk@caa.co.uk

The CAA has a formal internal review process for dealing with appeals or complaints in connection with Freedom of Information requests. The key steps in this process are set in the attachment.

Should you remain dissatisfied with the outcome you have a right under Section 50 of the FOIA to appeal against the decision by contacting the Information Commissioner at:-

Information Commissioner's Office
FOI/EIR Complaints Resolution
Wycliffe House
Water Lane
Wilmslow
SK9 5AF
<https://ico.org.uk/concerns/>

If you wish to request further information from the CAA, please use the form on the CAA website at <http://publicapps.caa.co.uk/modalapplication.aspx?appid=24>.

Yours sincerely

A handwritten signature in black ink, appearing to read 'M Stevens'.

Mark Stevens
External Response Manager

CAA INTERNAL REVIEW & COMPLAINTS PROCEDURE

- The original case to which the appeal or complaint relates is identified and the case file is made available;
- The appeal or complaint is allocated to an Appeal Manager, the appeal is acknowledged and the details of the Appeal Manager are provided to the applicant;
- The Appeal Manager reviews the case to understand the nature of the appeal or complaint, reviews the actions and decisions taken in connection with the original case and takes account of any new information that may have been received. This will typically require contact with those persons involved in the original case and consultation with the CAA Legal Department;
- The Appeal Manager concludes the review and, after consultation with those involved with the case, and with the CAA Legal Department, agrees on the course of action to be taken;
- The Appeal Manager prepares the necessary response and collates any information to be provided to the applicant;
- The response and any necessary information is sent to the applicant, together with information about further rights of appeal to the Information Commissioners Office, including full contact details.

Freedom of Information Act: Section 40

- (1) Any information to which a request for information relates is exempt information if it constitutes personal data of which the applicant is the data subject.
- (2) Any information to which a request for information relates is also exempt information if-
- (a) it constitutes personal data which do not fall within subsection (1), and
 - (b) either the first or the second condition below is satisfied.
- (3) The first condition is-
- (a) in a case where the information falls within any of paragraphs (a) to (d) of the definition of "data" in section 1(1) of the Data Protection Act 1998, that the disclosure of the information to a member of the public otherwise than under this Act would contravene-
 - (i) any of the data protection principles, or
 - (ii) section 10 of that Act (right to prevent processing likely to cause damage or distress), and
 - (b) in any other case, that the disclosure of the information to a member of the public otherwise than under this Act would contravene any of the data protection principles if the exemptions in section 33A(1) of the Data Protection Act 1998 (which relate to manual data held by public authorities) were disregarded.
- (4) The second condition is that by virtue of any provision of Part IV of the Data Protection Act 1998 the information is exempt from section 7(1)(c) of that Act (data subject's right of access to personal data).
- (5) The duty to confirm or deny-
- (a) does not arise in relation to information which is (or if it were held by the public authority would be) exempt information by virtue of subsection (1), and
 - (b) does not arise in relation to other information if or to the extent that either-
 - (i) the giving to a member of the public of the confirmation or denial that would have to be given to comply with section 1(1)(a) would (apart from this Act) contravene any of the data protection principles or section 10 of the Data Protection Act 1998 or would do so if the exemptions in section 33A(1) of that Act were disregarded, or
 - (ii) by virtue of any provision of Part IV of the Data Protection Act 1998 the information is exempt from section 7(1)(a) of that Act (data subject's right to be informed whether personal data being processed).
- (6) In determining for the purposes of this section whether anything done before 24th October 2007 would contravene any of the data protection principles, the exemptions in Part III of Schedule 8 to the Data Protection Act 1998 shall be disregarded.
- (7) In this section-
- "the data protection principles" means the principles set out in Part I of Schedule 1 to the Data Protection Act 1998, as read subject to Part II of that Schedule and section 27(1) of that Act;
 - "data subject" has the same meaning as in section 1(1) of that Act;
 - "personal data" has the same meaning as in section 1(1) of that Act.

From: [External Response](#)
To: [REDACTED]
Cc: [External Response](#)
Subject: RE: Dft Parliamentary Question
Date: 19 January 2017 09:29:00
Attachments: [image002.png](#)

Hi [REDACTED]

Following [REDACTED]'s email of yesterday, please see our input below. Apologies for the slight delay, but this was a tricky one within the time allowed that required legal/medical SME attention.

Question: What are the statutory duties of (1) the Civil Aviation Authority, and (2) owners of British passenger aircraft, towards passengers and crew members to (a) prevent exposure to hazardous substances, and (b) manage incidents where passengers and crew are exposed to hazardous substances, when an aircraft is outside British airspace.

Response:

Under s.1(1A) of the Civil Aviation Act 1982, the Secretary of State is charged with the general duty of organising, carrying out and encouraging measures for safeguarding the health of persons on board aircraft, including both crew and passengers. The Secretary of State has requested, pursuant to s.16 of the Civil Aviation Act 1982, that the CAA provide ongoing assistance and advice to the Secretary of State in connection with this general duty, including by the provision of advice on the health of air passengers and crew, and investigating new aviation health concerns. The CAA is under a statutory duty to provide this assistance and advice to the Secretary of State.

The issuance of airworthiness certificates, required for aircraft to be permitted to fly, is a key mechanism in ensuring the safe and uniform operation of aircraft. The CAA is responsible for issuing Certificates of Airworthiness at a national level for individual aircraft. Most UK registered aircraft (including all public transport aircraft), are however "EASA-aircraft" and the technical requirements that must be met in order for an aircraft and aircraft components (such as the engine) to be certified are primarily set out in EASA Technical Specifications. These requirements include, for example, the fact that aircraft and its engines must not have design features which experience has shown to be hazardous, and the design should take account of the effects of component deterioration or failure to minimise the concentration of potentially toxic products.

In Great Britain, specific duties in relation to health and safety are imposed on employers by the Health and Safety at Work Act 1974, which the Health & Safety Executive is responsible for enforcing. These statutory duties do not apply outside Great Britain.

Under the Civil Aviation (Working Time) Regulations 2004, which apply to persons employed as crew members for commercial air transport, employers have a duty to ensure that "each crew member employed by him is at all times...provided with adequate health and safety protection" so as to preserve the health and safety of the crew from "any hazards that may threaten his health or safety during the course of his undertaking his work and are capable of being provided by his employer." This duty does not extend to passengers. The CAA is the enforcing authority for the 2004 Regulations in respect of the occupational health and safety of crew members while they are on board.

In relation to the management of incidents where passengers and crew are exposed to hazardous substances, immediate responses and subsequent actions including investigation are the aircraft operator's responsibility under its emergency procedures and safety management systems, and any applicable airport procedures.

Regards,

[Redacted]

Civil Aviation Authority

Tel: [Redacted]

www.caa.co.uk

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Please consider the environment. Think before printing this email.

From: [Redacted] [mailto:[Redacted]@dft.gsi.gov.uk]

Sent: 18 January 2017 09:33

To: External Response

Subject: Dft Parliamentary Question

Importance: High

Good Morning

We have received a Parliamentary Question on the following:

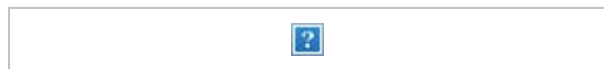
To ask Her Majesty's Government what are the statutory duties of (1) the Civil Aviation Authority, and (2) owners of British passenger aircraft, towards passengers and crew members to (a) prevent exposure to hazardous substances, and (b) manage incidents where passengers and crew are exposed to hazardous substances, when an aircraft is outside British airspace.

I was unaware of any statutory duties! Are you able to provide any lines on this PQ please?

Can I ask for a response by close of play today?

Apologies for the short deadline.

[Redacted]



[Redacted]
[Redacted], Aviation Security International
Operations
6th Floor, Sanctuary Buildings
20 Great Smith Street, London, SW1P
3BT

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From: [REDACTED]
To: [REDACTED]
Cc: [External Response](#)
Subject: RE: Cabin air quality
Date: 09 March 2017 15:03:28
Attachments: [image001.gif](#)
[image002.jpg](#)

Hi [REDACTED]

Unfortunately the Countess has only provided an extract of the book, which doesn't allow me to be absolutely sure of the context or the point she is trying to make. However, given that the book was published in 1939, I can be 100% confident that this is referring to piston-engined aircraft - the first flight by a jet-powered aircraft was the Heinkel HE 178 on 27 August 1939, with the Italian Caproni Camprini N1 following on 27 August 1940. I don't think Harry Armstrong would have had data on either of these aircraft. The British Gloster E28/39 first flew on 15 May 1941 (powered by the Whittle engine) and the US Bell XP-59A on 1 October 1942 - Armstrong was American.

The 2nd paragraph under the heading 'carbon monoxide' states that 'the carbon monoxide of the exhaust becomes well mixed with atmospheric air before reaching the cockpit'. On a piston-engined aircraft, the cabin air is heated by passing ambient air over the engine exhaust, with the temperature adjusted by mixing the heated air with air which has by-passed the engine. The threat from carbon monoxide in piston-engined aircraft is well-known, with the potential for much higher levels of carbon monoxide to enter the cabin if there is a leak from the exhaust pipe. This has caused fatal accidents in the past, but the risk these days is almost entirely confined to general aviation and there is advice available on the use of carbon monoxide detectors e.g. this information from the FAA <http://www.tc.faa.gov/its/worldpac/techrpt/ar0949.pdf>.

The cabin air supply for jet aircraft with bleed air systems is taken from the compressor stages of the engine, prior to fuel injection and ignition. Carbon monoxide will be present in the engine exhaust, but will not be taken into the cabin (except in an aircraft on the ground which is affected by the efflux from another aircraft - this would not reach concentrations that pose a health risk).

Apologies for the history lesson! I'll leave it to you to produce a tactful response.

Kind regards

[REDACTED]

[REDACTED]

Medical Department
Civil Aviation Authority

Tel: 01293 573664

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From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 08 March 2017 09:57
To: [REDACTED]
Subject: FW: Cabin air quality

[REDACTED] | [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport

1/25 | [REDACTED] | [REDACTED]

From: [REDACTED]
Sent: 06 March 2017 09:32
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: Cabin air quality

[REDACTED],

Please could you add to chapter for response by LA.

Thanks,

[REDACTED]

[REDACTED] | [REDACTED] The Lord (Tariq) Ahmad of Wimbledon, Minister for Aviation, International Trade and Europe, , Department for Transport
5/21 | [REDACTED] | [REDACTED]

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From: tariq ahmad [mailto:[REDACTED]]
Sent: 06 March 2017 08:41
To: [REDACTED]
Subject: Fwd: Cabin air quality

Can we please look into this and get a response drafted

Thank you

----- Forwarded message -----

From: MAR, Countess <MARM@parliament.uk>
Date: Tue, 21 Feb 2017 at 17:46
Subject: Cabin air quality
To: AHMAD OF WIMBLEDON, Lord <AHMADT@parliament.uk>

Dear Tariq

See pages 178 – 180. It seems that they knew about cabin air contamination from oil as long

ago as 1939. Frank Whittle developed the jet engine in 1936. I thought that you might be interested!

With kind regards

Margaret

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From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]; [External Response](#)
Subject: RE: URGENT request - Parliamentary question, UIN HL6241 from Baroness Randerson
Date: 22 March 2017 10:23:10

Hi [REDACTED]

Our understanding is that it was due to be published in Q1 this year, but we have not been involved in the work. We therefore have no information on any delay and, if publication is delayed, when it can be expected.

Kind regards

[REDACTED]

From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 22 March 2017 10:08
To: External Response
Cc: [REDACTED]; [REDACTED]
Subject: URGENT request - Parliamentary question, UIN HL6241 from Baroness Randerson

Good morning,

I hope you are well.

Please see Parliamentary Question below from Baroness Randerson, which is due for a response in Private Office by noon tomorrow.

I would be grateful for a line to take, so that we are able to formulate the response.

Kind regards,

[REDACTED]

[REDACTED] | [REDACTED] [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport
1/25 | [REDACTED] | [REDACTED]

Item summary:

To ask Her Majesty's Government when they expect the European Aviation Safety Agency to publish its report on cabin air quality, commissioned in 2015.

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From: [External Response](#)
To: [REDACTED]
Cc: [REDACTED]; [External Response](#)
Subject: RE: URGENT request - Parliamentary question, UIN HL6241 from Baroness Randerson
Date: 24 March 2017 14:21:15
Attachments: [image001.gif](#)
[image002.jpg](#)

[REDACTED]

Not sure if this PQ has been answered yet but please note EASA's press release from yesterday if you haven't seen it.

<https://www.easa.europa.eu/newsroom-and-events/press-releases/easa-publishes-two-studies-cabin-air-quality>

Regards

[REDACTED]

[REDACTED]
[REDACTED]
Communications Department
Civil Aviation Authority



Tel: [REDACTED]

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From: [REDACTED]
Sent: 22 March 2017 10:23
To: [REDACTED]
Cc: [REDACTED]; External Response
Subject: RE: URGENT request - Parliamentary question, UIN HL6241 from Baroness Randerson

Hi [REDACTED]

Our understanding is that it was due to be published in Q1 this year, but we have not been involved in the work. We therefore have no information on any delay and, if publication is delayed, when it can be expected.

Kind regards

[REDACTED]

From: [REDACTED] [[mailto:\[REDACTED\]@dft.gsi.gov.uk](mailto:[REDACTED]@dft.gsi.gov.uk)]
Sent: 22 March 2017 10:08
To: External Response
Cc: [REDACTED]; [REDACTED]

Subject: URGENT request - Parliamentary question, UIN HL6241 from Baroness Randerson

Good morning,

I hope you are well.

Please see Parliamentary Question below from Baroness Randerson, which is due for a response in Private Office by noon tomorrow.

I would be grateful for a line to take, so that we are able to formulate the response.

Kind regards,

■

■ | ■ ■, Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport

1/25 | ■ | ■

Item summary:

To ask Her Majesty's Government when they expect the European Aviation Safety Agency to publish its report on cabin air quality, commissioned in 2015.

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From: [REDACTED]
To: [REDACTED]; [REDACTED]; [External Response](#)
Cc: [REDACTED]
Subject: RE: Advice required please: [REDACTED] about Toxic Fumes in Aircraft Cabins received 15/03/2017 has been assigned to your Division for reply by 12/04/2017
Date: 05 April 2017 16:12:06
Attachments: [image001.gif](#)
[image002.jpg](#)

[REDACTED],

As always [REDACTED] has done most of the work. In health and safety terms the CAA would enforce using the requirements of Regulation 6 of the Civil Aviation (Working Time) Regulations, as mentioned in [REDACTED]'s correspondence of 15th March 2017. In relation to toxic substances we would look to commonly recognised workplace exposure standards to determine whether an operator is failing in their duties.

EH40 is the commonly recognised UK standard for workplace chemical exposure and to date there is no evidence that cabin air contains any substances that reach any of the exposure limits set out in this standard. I would agree with [REDACTED] that there is no requirement on an employer to prevent all exposure to substances known to have a toxic effect at levels that fall below recognised detrimental limits.

If you require any further information please contact me.

Kind regards

[REDACTED]

[REDACTED]
[REDACTED]

Finance and Corporate Services
Civil Aviation Authority

[REDACTED]@caa.co.uk

Tel: [REDACTED]
Mob: [REDACTED]

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From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 04 April 2017 16:41
To: [REDACTED]; External Response
Cc: [REDACTED]; [REDACTED]
Subject: RE: Advice required please: [REDACTED] about Toxic Fumes in Aircraft Cabins received 15/03/2017 has been assigned to your Division for reply by 12/04/2017

Hi [REDACTED],

[REDACTED] – thanks.

Look forward to hearing from [REDACTED] in due course.

Kind regards,

[REDACTED]

[REDACTED] | Policy Support, Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport

1/25 | [REDACTED] | [REDACTED]

From: [REDACTED] [[mailto:\[REDACTED\]@caa.co.uk](mailto:[REDACTED]@caa.co.uk)]

Sent: 04 April 2017 15:04

To: [REDACTED] <[\[REDACTED\]@dft.gsi.gov.uk](mailto:[REDACTED]@dft.gsi.gov.uk)>; External Response
<External.Response@caa.co.uk>

Cc: [REDACTED] <[\[REDACTED\]@caa.co.uk](mailto:[REDACTED]@caa.co.uk)>

Subject: RE: Advice required please: Phil Morris about Toxic Fumes in Aircraft Cabins received 15/03/2017 has been assigned to your Division for reply by 12/04/2017

Hi [REDACTED]

This is mostly about the regulation of Health & Safety, so [REDACTED] would be the person to answer these questions ([REDACTED] - I'll forward a copy of the original email).

As far as the cabin air research is concerned, the fact that EN 4618 has been withdrawn clearly does not invalidate the research. If the standard had been replaced (which it has not), the results could be assessed against the new standard. As the standard has not been replaced, BS 4618 remains the best available measure against which to judge the significance of the research results.

As far as the substances mentioned are concerned, all were found at concentrations well below those which may cause harm to health, including occupational or environmental health limits where they exist (there is, for example, a US occupational limit for exposure to TOCP). Health and safety requirements do not require employers to prevent any exposure, they require prevention of exposure at levels which are either known to or which are thought to pose a risk to health. There is no evidence that crew are exposed to harmful substances at levels which levels which are unsafe.

Kind regards

[REDACTED]

[REDACTED]
Medical Department
Civil Aviation Authority

Tel: [REDACTED]

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From: [REDACTED] [[mailto:\[REDACTED\]@dft.gsi.gov.uk](mailto:[REDACTED]@dft.gsi.gov.uk)]

Sent: 04 April 2017 14:22

To: External Response

Cc: [REDACTED]

Subject: Advice required please: [REDACTED] about Toxic Fumes in Aircraft Cabins received 15/03/2017 has been assigned to your Division for reply by 12/04/2017

Good afternoon,

Please see attached further correspondence from [REDACTED], regarding cabin air. I also attach the latest response sent to him.

A final response will be sent to [REDACTED], however the Department would like to address the points raised in his letter.

I would be grateful for any input from the CAA before **12 April**, so that we are able to meet the deadline.

Many thanks,

[REDACTED]

[REDACTED] | [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport

1/25 | [REDACTED] | [REDACTED]

From: POCorrespondence@dft.gsi.gov.uk [<mailto:POCorrespondence@dft.gsi.gov.uk>]

Sent: 16 March 2017 10:05

To: [REDACTED] <[\[REDACTED\]@dft.gsi.gov.uk](mailto:[REDACTED]@dft.gsi.gov.uk)>

Subject: A TO, ref 193575 from [REDACTED] about Toxic Fumes in Aircraft Cabins received 15/03/2017 has been assigned to your Division for reply by 12/04/2017

To view or action this case please click here [Chapter](#). If the case is not on your list, click on Advanced search and enter the case ID to view the case.

Please check if this is a matter that you/your team can respond to TODAY. If the letter is for another Division or Department to answer, please contact PO Correspondence as soon as possible to arrange for the case to be reallocated.

For Agency colleagues the case letter is attached.

You should reply to [REDACTED] and complete the case on Chapter by 12/04/2017. Please ensure you enter the date on the letter and your name at the bottom of the text.

Agency colleagues - please reply to the sender and copy your reply to POCorrespondence@dft.gsi.gov.uk.

If you think that no reply is necessary please select the no reply option, adding a note to explain your reasoning.

If you think this should be upgraded to a Ministerial case please contact Chapter Support (4478).

Guidance on using Chapter can be found on Transnet.

<http://transnet.dft.gsi.gov.uk/about-the-dft/private-office-and-ministers/chapter/step-by-step-guides/>

For further advice or assistance contact Chapter Support (4478).

Many thanks
PO Correspondence

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From: [REDACTED]
To: [REDACTED]
Cc: [External Response](#)
Subject: RE: Advice requested please: Ministerial Correspondence, ref 195495 from Countess of Mar received 04/04/2017 for reply by 18:00 19/04/2017
Date: 12 April 2017 16:15:18

Hi [REDACTED]

Should also have mentioned the EASA regulatory limit in CS25 of 1 part in 20,000, which equates to 50ppm.

Kind regards

[REDACTED]

From: [REDACTED]
Sent: 12 April 2017 14:47
To: [REDACTED]
Cc: External Response
Subject: RE: Advice requested please: Ministerial Correspondence, ref 195495 from Countess of Mar received 04/04/2017 for reply by 18:00 19/04/2017

Hi [REDACTED]

The key issue here is one of the level of exposure.

Numerous studies of aircraft cabin air quality have determined that carbon monoxide levels in normal operations are well below not only occupational exposure limits, but also below general environmental limits:

- Environmental limits - German Environment Protection Agency 2013 (consistent with WHO guidance) environmental limit - 15 minute exposure 100mg/cubic metre (87 parts per million - ppm); 60 minutes 35mg/cubic metre (30ppm), 8 hours 10mg/cubic metre (8.7ppm), 24 hours 7mg/cubic metre (6ppm)
- UK HSE occupational exposure limits: 8 hours time weighted average 30ppm (35 mg/cubic metre), short term (15 minutes) 200ppm (232 mg/cubic metre)
- Cranfield study: maximum values during continuous recording - 74 of 81 sectors had a maximum level of 2ppm or less, 6 had maximum values of 3-5 ppm and 1 had a maximum value of 7ppm - in the last case the value exceeded 3ppm for 5 minutes
- EASA study - the mean and median levels in both the main and 787 studies was below the limit of detection (0.5 ppm); the maximum levels were: main study - flight deck 4.8ppm, cabin 3ppm; 787 - flight deck 0.6ppm, cabin 1.6ppm

If we consider exposure during fume events, which are usually short term (a few minutes at most), it has to date not been possible to measure actual exposure and therefore the available evidence would have to consider biological evidence of exposure in the form of measurements of carboxy-haemoglobin in the blood.

Normal values for non-smokers living in a non-urban environment are less than 1-2%, for 20/day smokers or non-smokers living in an urban environment up to 5% and for heavy smokers up to 13% (National Institute for Health & Clinical Excellence Clinical Knowledge Summary

<https://cks.nice.org.uk/carbon-monoxide-poisoning#!scenario>). Levels above the norm for the individual are indicative of possible carbon monoxide poisoning, with levels of 1-2% not associated with symptoms, 20–30% with neurological symptoms such as headache, dizziness, weakness, confusion, nausea, disorientation and visual disturbances, and greater than 50% associated with convulsions, respiratory arrest and death.

I am not aware of any studies or case reports where an individual who has been assessed following exposure in a fume event where there has been evidence of carbon monoxide poisoning.

Kind regards

[REDACTED]

[REDACTED]

Medical Department
CAA Safety and Airspace Regulation Group
Aviation House
Gatwick Airport South
West Sussex
RH6 0YR
Tel: [REDACTED]

www.caa.co.uk

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From: [REDACTED] [[mailto:\[REDACTED\]@dft.gsi.gov.uk](mailto:[REDACTED]@dft.gsi.gov.uk)]

Sent: 12 April 2017 10:21

To: [REDACTED]

Cc: External Response

Subject: Advice requested please: Ministerial Correspondence, ref 195495 from Countess of Mar received 04/04/2017 for reply by 18:00 19/04/2017

Hi [REDACTED],

I hope you are well.

Please see attached email from the Countess of Mar, following on from the response that was sent to her regarding the publication from 1939.

The Countess is looking forward to meeting with the Minister, Jeremy Quin MP and CAA representatives, as an opportunity to put her concerns right, however in the meantime, I would be grateful for lines to take, so that I am able to respond before 19 April.

Many thanks,

[REDACTED]

██████████ | ██████████, Aviation Strategy & Consumers, Air Passenger Rights, Department
for Transport
1/25 | ██████████ | ██████████

From: POCorrespondence@dft.gsi.gov.uk [<mailto:POCorrespondence@dft.gsi.gov.uk>]

Sent: 05 April 2017 14:10

To: ██████████ <██████████@dft.gsi.gov.uk>

Subject: Ministerial Correspondence, ref 195495 from Countess of Mar received 04/04/2017 for reply by 18:00 19/04/2017 about cabin air quality has been assigned to your Division.

To view or action this case please click here [Chapter](#). For Agency colleagues the case letter is attached.

Drafting deadlines for MC cases now extended to 8 working days. Click here for more details.

<https://intranet.dft.gsi.gov.uk/update/we-are-getting-more-ministerial-correspondence-write-first-time>

Please check TODAY if this is a matter for which you/your team can provide a draft. If the letter is for another Division or Department to answer, contact PO Correspondence as soon as possible to arrange for the case to be reallocated/transferred.

Please complete and return the draft reply for Lord Ahmad by 18:00 19/04/2017.

Agency colleagues please return your draft reply to POCorrespondence@dft.gsi.gov.uk

NB: A draft is only recorded as 'on time' once it has been accepted by Private Office. If a redraft is requested the no. of days it takes to return the redraft will be added to the no. of days it took to submit the original draft to assess whether you have met the 8 day drafting target.

Where possible please send the first (and hopefully final) draft to Private Office no later than day five, to allow some breathing space if a redraft is required.

cabin air quality

For further advice or assistance contact Chapter Support (4478). You will also find User Guides on Transnet.

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From: [External Response](#)
To: [REDACTED]; [External Response](#)
Cc: [REDACTED]; [REDACTED]
Subject: RE: Urgent request for advice - Ministerial Correspondence, ref 196573 from Anne Marie Morris MP
Date: 24 April 2017 13:48:26
Attachments: [RE Advice required please \[REDACTED\] about Toxic Fumes in Aircraft Cabins received 15032017 has been assigned to your Division for reply by 12042017.msg](#)
[Advice required please \[REDACTED\] about Toxic Fumes in Aircraft Cabins received 15032017 has been assigned to your Division for reply by 12042017.msg](#)
[image001.gif](#)
[image002.jpg](#)

Hi [REDACTED]

The questions are similar to those posed in the recent correspondence from [REDACTED] (see attached) so the lines should be the same as your responses there (I don't think we've seen your final reply to the second incoming letter).

On the AHU's role, this is a slightly expanded description that you can use.

"The CAA's Aviation Health Unit monitors the outcome of research projects and publications and provides advice to the Government, health professionals and the aviation industry on the health aspects of air travel. The AHU was directly involved in the research funded by the UK Government, as reported in the Committee on Toxicity's 2013 position paper. The Unit also participated in the EU-funded 'Ideal Cabin Environment' project and continues to be involved in discussing and, where possible, facilitating scientific research in this area."

Regards

[REDACTED]

[REDACTED]
[REDACTED]
Communications Department
Civil Aviation Authority



Tel: [REDACTED]

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Please consider the environment. Think before printing this email.



From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 21 April 2017 11:19
To: External Response
Cc: [REDACTED]; [REDACTED]
Subject: Urgent request for advice - Ministerial Correspondence, ref 196573 from Anne Marie Morris MP

Good morning,

I hope you are well.

Please see attached letter from Anne Marie Morris MP, on behalf of her constituent [REDACTED] (sensitive case). I also attach the last correspondence that was sent to the MP.

Given guidance received regarding the pre-election (purdah) period, the final box for Ministerial correspondence for Lord Ahmad is at **3pm on Tuesday 25 April**. I would be really grateful for lines to take before this date.

Grateful if you could kindly treat this as a priority case.

Many thanks for your understanding, as always.

Kind regards,

[REDACTED]

[REDACTED] | [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport
1/25 | [REDACTED] | [REDACTED]

From: POCorrespondence@dft.gsi.gov.uk [<mailto:POCorrespondence@dft.gsi.gov.uk>]

Sent: 19 April 2017 16:35

To: [REDACTED] <[REDACTED]@dft.gsi.gov.uk>

Subject: Ministerial Correspondence, ref 196573 from Anne Marie Morris MP received 13/04/2017 for reply by 18:00 02/05/2017 about toxic fumes in aeroplanes has been assigned to your Division.

To view or action this case please click here [Chapter](#). For Agency colleagues the case letter is attached.

Drafting deadlines for MC cases now extended to 8 working days. Click here for more details.

<https://intranet.dft.gsi.gov.uk/update/we-are-getting-more-ministerial-correspondence-write-first-time>

Please check TODAY if this is a matter for which you/your team can provide a draft. If the letter is for another Division or Department to answer, contact PO Correspondence as soon as possible to arrange for the case to be reallocated/transferred.

Please complete and return the draft reply for Lord Ahmad by 18:00 02/05/2017.

Agency colleagues please return your draft reply to POCorrespondence@dft.gsi.gov.uk

NB: A draft is only recorded as 'on time' once it has been accepted by Private Office. If a redraft is requested the no. of days it takes to return the redraft will be added to the no. of days it took to submit the original draft to assess whether you have met the 8 day drafting target.

Where possible please send the first (and hopefully final) draft to Private Office no later than day five, to allow some breathing space if a redraft is required.

toxic fumes in aeroplanes

For further advice or assistance contact Chapter Support (4478). You will also find User Guides on Transnet.

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From: [REDACTED]
To: [REDACTED]; [REDACTED]; [External Response](#)
Cc: [REDACTED]
Subject: RE: Advice required please: [REDACTED] about Toxic Fumes in Aircraft Cabins received 15/03/2017 has been assigned to your Division for reply by 12/04/2017
Date: 05 April 2017 16:12:06
Attachments: [image001.gif](#)
[image002.jpg](#)

[REDACTED],

As always [REDACTED] has done most of the work. In health and safety terms the CAA would enforce using the requirements of Regulation 6 of the Civil Aviation (Working Time) Regulations, as mentioned in [REDACTED]'s correspondence of 15th March 2017. In relation to toxic substances we would look to commonly recognised workplace exposure standards to determine whether an operator is failing in their duties.

EH40 is the commonly recognised UK standard for workplace chemical exposure and to date there is no evidence that cabin air contains any substances that reach any of the exposure limits set out in this standard. I would agree with Nigel that there is no requirement on an employer to prevent all exposure to substances known to have a toxic effect at levels that fall below recognised detrimental limits.

If you require any further information please contact me.

Kind regards

[REDACTED]

[REDACTED]
[REDACTED]

Finance and Corporate Services
Civil Aviation Authority

Tim.Williams@caa.co.uk

Tel: [REDACTED]

Mob: [REDACTED]

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From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 04 April 2017 16:41
To: [REDACTED]; External Response
Cc: [REDACTED]; [REDACTED]
Subject: RE: Advice required please: [REDACTED] about Toxic Fumes in Aircraft Cabins received 15/03/2017
has been assigned to your Division for reply by 12/04/2017

Hi [REDACTED],

Great – thanks.

Look forward to hearing from [REDACTED] in due course.

Kind regards,

[REDACTED]

[REDACTED] | [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for
Transport
1/25 | [REDACTED] | [REDACTED]

From: [REDACTED] [mailto:[REDACTED]@caa.co.uk]
Sent: 04 April 2017 15:04
To: [REDACTED] <[REDACTED]@dft.gsi.gov.uk>; External Response <External.Response@caa.co.uk>
Cc: [REDACTED] <[REDACTED]@caa.co.uk>
Subject: RE: Advice required please: [REDACTED] about Toxic Fumes in Aircraft Cabins received 15/03/2017
has been assigned to your Division for reply by 12/04/2017

Hi [REDACTED]

This is mostly about the regulation of Health & Safety, so [REDACTED] would be the person to answer these questions ([REDACTED] - I'll forward a copy of the original email).

As far as the cabin air research is concerned, the fact that EN 4618 has been withdrawn clearly does not invalidate the research. If the standard had been replaced (which it has not), the results could be assessed against the new standard. As the standard has not been replaced, BS 4618 remains the best available measure against which to judge the significance of the research results.

As far as the substances mentioned are concerned, all were found at concentrations well below those which may cause harm to health, including occupational or environmental health limits where they exist (there is, for example, a US occupational limit for exposure to TOCP). Health and safety requirements do not require employers to prevent any exposure, they require prevention of exposure at levels which are either known to or which are thought to pose a risk to health. There is no evidence that crew are exposed to harmful substances at levels which levels which are unsafe.

Kind regards

[REDACTED]

[REDACTED]

Medical Department
Civil Aviation Authority

Tel: [REDACTED]

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From: [REDACTED] [[mailto:\[REDACTED\]@dft.gsi.gov.uk](mailto:[REDACTED]@dft.gsi.gov.uk)]

Sent: 04 April 2017 14:22

To: External Response

Cc: [REDACTED]

Subject: Advice required please: [REDACTED] about Toxic Fumes in Aircraft Cabins received 15/03/2017 has been assigned to your Division for reply by 12/04/2017

Good afternoon,

Please see attached further correspondence from [REDACTED], regarding cabin air. I also attach the latest response sent to him.

A final response will be sent to [REDACTED], however the Department would like to address the points raised in his letter.

I would be grateful for any input from the CAA before 12 April, so that we are able to meet the deadline.

Many thanks,

[REDACTED]

[REDACTED] | [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport
1/25 | [REDACTED] | [REDACTED]

From: POCorrespondence@dft.gsi.gov.uk [<mailto:POCorrespondence@dft.gsi.gov.uk>]

Sent: 16 March 2017 10:05

To: [REDACTED] <[REDACTED]@dft.gsi.gov.uk>

Subject: A TO, ref 193575 from [REDACTED] about Toxic Fumes in Aircraft Cabins received 15/03/2017 has been assigned to your Division for reply by 12/04/2017

To view or action this case please click here Chapter. If the case is not on your list, click on Advanced search and enter the case ID to view the case.

Please check if this is a matter that you/your team can respond to TODAY. If the letter is for another Division or Department to answer, please contact PO Correspondence as soon as possible to arrange for the case to be reallocated.

For Agency colleagues the case letter is attached.

You should reply to [REDACTED] and complete the case on Chapter by 12/04/2017. Please ensure you enter the date on the letter and your name at the bottom of the text.

Agency colleagues - please reply to the sender and copy your reply to POCorrespondence@dft.gsi.gov.uk.

If you think that no reply is necessary please select the no reply option, adding a note to explain your reasoning.

If you think this should be upgraded to a Ministerial case please contact Chapter Support (4478).

Guidance on using Chapter can be found on Transnet.

<http://transnet.dft.gsi.gov.uk/about-the-dft/private-office-and-ministers/chapter/step-by-step-guides/>

For further advice or assistance contact Chapter Support (4478).

Many thanks
PO Correspondence

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From: [REDACTED]
To: [External Response](#)
Cc: [REDACTED]
Subject: Advice required please: [REDACTED] about Toxic Fumes in Aircraft Cabins received 15/03/2017 has been assigned to your Division for reply by 12/04/2017
Date: 04 April 2017 14:24:51
Attachments: [FW The reply to your correspondence ref 190019 about Toxic Fumes in aircraft cabins is attached.msg](#)
[170307 - Letter -TO190019 - \[REDACTED\] - Cabin air.docx](#)

Good afternoon,

Please see attached further correspondence from [REDACTED], regarding cabin air. I also attach the latest response sent to him.

A final response will be sent to [REDACTED], however the Department would like to address the points raised in his letter.

I would be grateful for any input from the CAA before **12 April**, so that we are able to meet the deadline.

Many thanks,

[REDACTED]

[REDACTED] | [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport
1/25 | [REDACTED] | [REDACTED]

From: POCorrespondence@dft.gsi.gov.uk [mailto:POCorrespondence@dft.gsi.gov.uk]
Sent: 16 March 2017 10:05
To: [REDACTED] <[REDACTED]@dft.gsi.gov.uk>
Subject: A TO, ref 193575 from [REDACTED] about Toxic Fumes in Aircraft Cabins received 15/03/2017 has been assigned to your Division for reply by 12/04/2017

To view or action this case please click here [Chapter](#). If the case is not on your list, click on Advanced search and enter the case ID to view the case.

Please check if this is a matter that you/your team can respond to TODAY. If the letter is for another Division or Department to answer, please contact PO Correspondence as soon as possible to arrange for the case to be reallocated.

For Agency colleagues the case letter is attached.

You should reply to Phil Morris and complete the case on Chapter by 12/04/2017. Please ensure you enter the date on the letter and your name at the bottom of the text.

Agency colleagues - please reply to the sender and copy your reply to POCorrespondence@dft.gsi.gov.uk.

If you think that no reply is necessary please select the no reply option, adding a note to explain your reasoning.

If you think this should be upgraded to a Ministerial case please contact Chapter Support

(4478).

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<http://transnet.dft.gsi.gov.uk/about-the-dft/private-office-and-ministers/chapter/step-by-step-guides/>

For further advice or assistance contact Chapter Support (4478).

Many thanks
PO Correspondence

From: [REDACTED]
To: [REDACTED]
Subject: FW: The reply to your correspondence, ref 190019 about Toxic Fumes in aircraft cabins, is attached
Date: 04 April 2017 14:14:30

[REDACTED] | [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport

1/25 | [REDACTED] | [REDACTED]

From: [REDACTED] [mailto:[REDACTED]@hotmail.co.uk]

Sent: 15 March 2017 11:22

To: POCorrespondence

Subject: Re: The reply to your correspondence, ref 190019 about Toxic Fumes in aircraft cabins, is attached

Your Ref: 190019

Toxic Fumes incidents

Dear [REDACTED],

Thank you for your further email of 7 February 2017, regarding my further question on cabin air. I recognise that your Departments' current position on cabin air has been communicated to me on several occasions. However I do not agree that this has always been accurate and responses have not always fully answered my questions. I welcome your latest clarification on certain points and make the following comments.

Regarding which health and safety standards and guidelines were used in the research project commissioned by your Department. The only reference I can find in the reports you have directed me to is the European Standard BS EN 4618: 2009 and as I have pointed out this Standard has since been withdrawn. As such any reports based upon this standard will now be invalid irrespective of the fact the Standard was in place when the Study was undertaken and published. If you do not agree than please tell me how a study based on a withdrawn standard can still be considered a valid study and what rationale you are applying to claim the study is still valid.

Regarding my query reference the HSE guidance document I mentioned. As it is your Department that commissioned the studies and it is your Department that is referencing these studies as proof that aircraft cabin air is safe it must be your Departments responsibility to answer any questions regarding these studies or seek such answers from those bodies that your Department commissioned. I therefore await your Departments answer on this point.

You state that the Health & Safety Executive is responsible for enforcing the 1974 Act, can you please confirm that this is the case for aircraft.

Aircraft certification standards stipulate that 'crew and passenger compartment air must be free from harmful or hazardous concentrations of gases or vapours'. You also state that under Civil Aviation (Working Time) Regulations 2004 employers have a duty to ensure that "each crew member employed by him is at all times...provided with adequate health and safety protection" so as to preserve the health and safety of the crew from "any hazards that may threaten his health or safety during the course of his undertaking his work and are capable of being provided by his employer".

The studies you refer to found a number of substances present in cabin air including the following:

Tri-ortho cresyl phosphate (TOCP) - The World Health Organisation stated in 1990 that "Because of considerable variation among individuals in sensitivity to TOCP, it is not possible to establish a safe level of exposure", and "TOCP are therefore considered major hazards to human health." H370: Causes damage to organs*

Tri-cresyl phosphate (TCP) – H361: Suspected of damaging fertility or the unborn child*

Tri-butyl phosphate (TBP) – H351: Suspected of causing cancer*

*Globally Harmonized System of Classification and Labelling of Chemicals

Can you please explain how when such substances have been found by government studies in aircraft cabin air, airlines are complying with the Health & Safety at Work Act 1974 and maintaining their duty to preserve the health and safety of their crews?

As the CAA's Aviation Health Unit is the specialist adviser to the Government on aviation health issues, can you please tell me what advice the CAA have given your Department in respect of cabin air.

Yours Sincerely

[REDACTED]

From: POCorrespondence@dft.gsi.gov.uk

Sent: 07 March 2017 16:30

To: [REDACTED]@hotmail.co.uk

Cc: POCorrespondence@dft.gsi.gov.uk

Subject: The reply to your correspondence, ref 190019 about Toxic Fumes in aircraft cabins, is attached

Dear [REDACTED]

Please find attached the response to your correspondence about Toxic Fumes in aircraft cabins.

Thank you,

Department for Transport
PO Correspondence
5/22 Great Minster House
33 Horseferry Road
LONDON
SW1P 4DR

<http://www.dft.gov.uk/about/contact/>

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Department
for Transport

Aviation Strategy & Consumers
Department for Transport
Great Minster House
33 Horseferry Road
London
SW1P 4DR
Tel: 0300 330 3000

Web Site: www.gov.uk/dft

Our Ref: 190019

7 March 2017

By email

Dear [REDACTED],

Cabin air

Thank you for your further email of 2 February 2017, regarding cabin air.

Having reviewed your correspondence carefully, I can confirm that the Departments' current position on cabin air has been communicated to you accurately, on several occasions.

I note that you have already been provided with responses to your questions, however I would like to clarify certain points.

Regarding which health and safety standards and guidelines were used in the research project commissioned by the Department. As already stated, these health and safety standards and guidelines, which were all available during the Study, are outlined in Chapter 5 (pp.35-42) of the report "Aircraft Cabin Air Sampling Study; Part 1 of the Final Report"¹. In particular, you refer to the European Standard BS EN 4618: 2009 and point out that this Standard has since been withdrawn. The Standard was, however, in place when the Study was undertaken and published. I would also note that the Standard was not the only health and safety guideline that was used during the Study.

All of the studies were independently peer reviewed, and the Committee on Toxicity produced their position paper based on the research project and other available scientific studies. You may wish to approach the COT with your query regarding the HSE guidance document you mention and whether it was considered during the process.

¹ Institute of Environment and Health, Cranfield University (2011a). Aircraft cabin air sampling study, part 1 of the final report. Research Report YE29016V. (March 2011).
<https://dspace.lib.cranfield.ac.uk/handle/1826/5305>

In Great Britain, specific duties in relation to health and safety are imposed on employers by the Health and Safety at Work Act 1974, which the Health & Safety Executive is responsible for enforcing. Under the 1974 Act, employers also owe general duties to ensure the health, safety and welfare of employees so far as is reasonably practicable, including duties to control dangerous substances and to maintain safe systems of work. Further and more specific duties in relation to risk assessments and the provision of information in particular are set out in the Management of Health and Safety at Work Regulations 1999, and associated Approved Code of Practice.

Under the Civil Aviation (Working Time) Regulations 2004, which apply to persons employed as crew members for commercial air transport, employers have a duty to ensure that “each crew member employed by him is at all times...provided with adequate health and safety protection” so as to preserve the health and safety of the crew from “any hazards that may threaten his health or safety during the course of his undertaking his work and are capable of being provided by his employer.

As already mentioned, I understand from the Civil Aviation Authority (CAA) that no further action or investigation is ongoing or planned regarding flight BA286. You may wish to contact them directly for further clarification.

To note, the CAA is a public corporation, established by Parliament as an independent specialist aviation regulator, and is not a Government agency or department. It is part of the CAA’s safety duties to maintain the MORS database, which includes reports regarding cabin air quality. As stated in previous correspondence, this data is not held by the Government.

At a national level, the CAA’s Aviation Health Unit monitors the outcome of research projects and publications and provides advice to the Government, health professionals and the aviation industry on the health aspects of air travel.

I hope that I have set out the Department’s position on cabin air.

Yours sincerely,



Aviation Strategy & Consumers

From: [REDACTED]
To: [REDACTED]
Cc: [External Response](#)
Subject: Fw: Contribution for 2016/0000761 (OR), Target date: 09/02/2016
Date: 22 January 2016 08:56:02
Attachments: [S20160000761.PDF](#)

Hello [REDACTED],

Could you have a quick look into this email from the Scottish government regarding cabin air? I provided Iain yesterday with the basic lines to take on the issue that have been cleared with COT, but this case asks specifically about a research that a solicitor (?) is proposing to undertake. I have not heard of this research before this, would you have any information re this? I expect our line of EASA doing research would still be appropriate here.

Many thanks,

[REDACTED]

From: [REDACTED]@transportscotland.gsi.gov.uk
Sent: Friday, 22 January 2016 08:11
To: [REDACTED]
Subject: Contribution for 2016/0000761 (OR), Target date: 09/02/2016

[REDACTED]

Thank you for your contribution to my earlier case.

I now have another which I will again use your contribution.

However, as you will note, this new case asks whether the Scottish Government has any plans to invest in research into toxins in aircraft cabins in relation to work being undertaken by solicitor Frank Cannon of Cannons Law Practice who is undertaking legal action on behalf of deceased pilots in relation to so-called "aerotoxic syndrome".

Are you aware of this action and, if so, what lines have been taken?

The correspondence is attached.

Regards.

[REDACTED]

[REDACTED]

Aviation Branch

Transport Scotland
Aviation, Maritime, Freight & Canals
Victoria Quay, Edinburgh EH6 6QQ

T: [REDACTED], F: [REDACTED]
iain.cameron@transportscotland.gsi.gov.uk

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Dh'fhaodadh gum bi teachdaireachd sam bith bho Riaghaltas na h-Alba air a chlàradh neo air a sgrùdadh airson dearbhadh gu bheil an siostam ag obair gu h-èifeachdach neo airson adhbhar laghail eile. Dh'fhaodadh nach eil beachdan anns a' phost-d seo co-ionann ri beachdan Riaghaltas na h-Alba.

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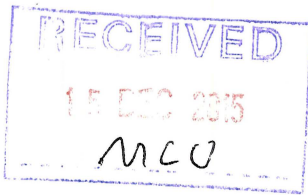
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From: [REDACTED] ([REDACTED])
Sent: 12 January 2016 09:53:08
To: Ministerial Correspondence Unit
Subject: [REDACTED]

Attachments: [REDACTED].pdf

[REDACTED]
[REDACTED]
Ministerial Correspondence Unit
E: [REDACTED]
[REDACTED]@scotland.gsi.gov.uk<mailto:[REDACTED]@scotland.gsi.gov.uk>
T: [REDACTED]
SCOTTISH GOVERNMENT | ST.ANDREWS HOUSE | REGENT ROAD |
EDINBURGH | EH1 3DG |



**The Scottish
Government**
Riaghaltas na h-Alba

We are sorry if you did not have the opportunity to ask your question. Please write your question and contact details in the space below and we will provide you with a reply as soon as possible.

Are you or do you have plans to look into the issue of Air Cabin toxins. 100's of Scottish people are suffering life debilitating illness as a result of this issue, with lives already lost (only 2 we know about in this country, but 2 too many). Is there plans to invest in the current research that is being undertaken by Frank Cannon et al?

We would welcome your comments on how useful you found this event.

Your name and email or contact details.

Please place this form in the box provided.

Comments submitted to the Scottish Government, including your name (but not your email or contact details), may be used in the future for evaluation purposes by the Scottish Government. If you do not wish your comments to be used in this way please tick this box. ☐

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]; [External Response](#)
Subject: RE: URGENT - Ref ER 16038 - REPLY REQUIRED BY 29 January 2016
Date: 25 January 2016 10:06:04

Hi [REDACTED]

Frank Cannon has an interest in aviation (see the website http://www.cannonslaw.com/our_people.html) and has been closely involved with the cabin air issue, having represented several of the complainants (including [REDACTED] family), John Hoyte (Aerotoxic Association) etc. He has written to the CAA on the topic in the past.

I suggest that you stick to the existing line, but adding that we would of course be interested in the outcome of any other new scientific research in this area. You may wish to point out that it would be surprising for a solicitor to be engaged in this sort of technical / scientific research and that you would expect such research to be led by an institute or collaborative partnership with the necessary scientific capability/credibility. Depending on who it is you are responding to, might be worth warning them that Collegium Basilea and its Journal of Biological Physics and Chemistry would not meet that expectation.

Kind regards

[REDACTED]

From: External Response
Sent: 22 January 2016 11:35
To: [REDACTED]
Cc: [REDACTED]
Subject: URGENT - Ref ER 16038 - REPLY REQUIRED BY 29 January 2016
Importance: High

Please see the attached request for input for your urgent attention.

Job number: ER 16038

Response required by: **29 January 2016**

Distribution: [REDACTED]

Requirement: Necessary information for DfT to be able to respond

Subject: Cabin Air

<< Message: Fw: Contribution for 2016/0000761 (OR), Target date: 09/02/2016 >>

The approved response should be returned to the External Response mailbox by the deadline above.

If you have any queries regarding this request please contact us:

Regards

[REDACTED] [REDACTED] [REDACTED]
(queries about distribution, deadlines etc.)

[REDACTED] [REDACTED] [REDACTED]
(queries about content, format etc.)

External Information Services

From: [External Response](#)
To: [REDACTED]
Subject: RE: Mark Lancaster MP
Date: 15 June 2016 14:55:00
Attachments: [20160614Draft2.doc](#),
[image001.gif](#),
[image002.jpg](#)
Importance: High

Dear [REDACTED]

Please find CAA's response attached.

Yours sincerely

[REDACTED]
[REDACTED]
Communications Department
Civil Aviation Authority



Tel: [REDACTED]

Follow us on Twitter: [@UK_CAA](#)

Please consider the environment. Think before printing this email.



From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 13 June 2016 11:56
To: External Response
Cc: [REDACTED]
Subject:

Hi,

Please see attached MC from Mark Lancaster MP on behalf of his constituent [REDACTED].

Following a report by the BBC that "there are about 900 -1,200 smoke related incidents on aircraft on the US" - Mr Lancaster has asked for figures for similar incidents of this nature in the UK.

Deadline: Wednesday 15th June – 4pm

Thanks,

[REDACTED] | , , Department for Transport
1/26 | 0207 944 6238 |

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DRAFT FOR DFT REPLY TO MARK LANCASTER MP

Thank you for your letter of 7 June 2016 regarding queries raised with you by your constituent, [REDACTED]. [REDACTED] has asked about smoke related incidents on UK aircraft in relation to an article published on the BBC website about fires on aircraft.

Smoke events on board aircraft are very rare. The UK's independent aviation safety regulator, the Civil Aviation Authority (CAA), works closely with the UK aviation industry to ensure the specific risk of on board fires is fully accounted for in an airline's Safety Management System. This allows an airline to develop the correct procedures for dealing with specific types of incident.

Airline cabin crew are also very well trained in fire fighting techniques and procedures, and this training is overseen by the CAA. In the event of an incident, standard operating procedures are deployed by crew to identify its source and to take appropriate action to ensure the safety of the aircraft and its occupants.

In relation to Mr Waistell's request for information on both smoke related incidents and 'all other incidents', occurrence reporting in the UK and the rest of Europe is governed by European Regulation No. 376/2014. This requires occurrences, meaning any safety-related event which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person, to be reported to the CAA.

The Regulation requires that appropriate measures are put in place to ensure that information collected through occurrence reporting schemes is kept confidential, and that the information should be used strictly for the purpose of maintaining or improving aviation safety. For this reason information on occurrence reports is not routinely available to the general public.

The purpose of occurrence reporting is to improve aviation safety by ensuring that relevant safety information relating to civil aviation is reported, collected, stored, protected, exchanged, disseminated and analysed. The civil aviation safety system is established on the basis of feedback and lessons learned from accidents and incidents. Occurrence reporting and the use of occurrence information for the improvement of safety depend on a relationship of trust between the reporter and the entity in charge of the collection and assessment of the information. This requires strict application of rules on confidentiality.

The purpose of protecting safety information from inappropriate use, and of limiting access to occurrence information solely to interested parties participating in the improvement of civil aviation safety, is to ensure the continuing availability of safety information so that appropriate and timely preventive action can be taken and aviation safety improved.

Access to occurrence information is possible where an applicant can demonstrate to the CAA that they require the information for the purpose of maintaining or improving aviation safety. If Mr Waistell is requesting information for that purpose he can make an application to the CAA directly using the form at www.caa.co.uk/srg1605.

From: [REDACTED]
To: [REDACTED]
Cc: [External Response](#); [REDACTED]; [REDACTED]
Subject: RE: Correspondence received from Rt Hon Jeremy Hunt MP
Date: 07 April 2016 10:14:00
Attachments: [image001.png](#)

Dear [REDACTED]

I am not aware of any mechanism by which any component of contaminated bleed air would cause a skin reaction. In particular, although organophosphates may be absorbed through the skin, their effects are due to neurotoxicity and they do not cause skin rashes. A chemical burn would require sufficient quantity of a caustic chemical to be applied to the affected area of skin and, if present in the cabin air, would affect all cabin occupants and would particularly affect sensitive areas such as the eyes and respiratory tract.

I cannot speculate on the cause of [REDACTED]' skin rash, as we do not have sufficient information, but am confident that it was not related to bleed air contamination or indeed any contamination of the cabin air.

Kind regards

[REDACTED]

[REDACTED]
[REDACTED]
Medical Department
CAA Safety and Airspace Regulation Group
Aviation House
Gatwick Airport South
West Sussex
RH6 0YR

Tel: [REDACTED]
Mobile: [REDACTED]
Email: [REDACTED] [@caa.co.uk](mailto:[REDACTED]@caa.co.uk)

www.caa.co.uk

Follow us on Twitter: [@UK_CAA](https://twitter.com/UK_CAA)

Please consider the environment. Think before printing this email.

From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 06 April 2016 15:46
To: [REDACTED]
Cc: External Response; [REDACTED]
Subject: Correspondence received from Rt Hon Jeremy Hunt MP

Dear [REDACTED],

I hope you are well.

Firstly, please let me take the opportunity to introduce myself – my name is [REDACTED], and I have recently joined the Aviation Strategy and Consumers Directorate, and [REDACTED] is my line manager.

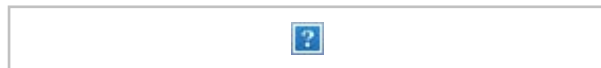
I refer to the attached correspondence received from The Rt Hon Jeremy Hunt MP, regarding his constituent [REDACTED] of [REDACTED].

Mr Lees email details his concerns about Cabin Air Safety Aerotoxic Syndrome. He also gives details about his wife, who had a skin reaction on a long haul flight and he highlights that the problem of 'bleed air' contamination is not necessarily restricted to respiratory and neurological problems. He has asked for the information to be added to the body of evidence being compiled on the subject.

I have been asked to reply to the MP, and I would be grateful for any information you can provide, so that I am able to address the concerns raised in relation to the skin reaction on the long haul flight.

Many thanks,

[REDACTED]



[REDACTED], Aviation Strategy &
Consumers, Air Passenger Rights
1/25, Great Minster House
33 Horseferry Road, London, SW1P 4DR

0207 944 8889 07554 439523
[Follow us on twitter @transportgovuk](#)

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From: [REDACTED]
To: [REDACTED]; [REDACTED]; [External Response](#); [REDACTED]
Cc: [REDACTED]; [REDACTED]
Subject: RE: CLEARANCE REQ - PQ on Cabin Air - Due noon Thu 21 April
Date: 20 April 2016 16:11:58
Attachments: [image002.gif](#)
[image003.jpg](#)
[image004.png](#)

Hi [REDACTED]

Your reply is concise and complete - fine by me.

Kind regards

[REDACTED]

[REDACTED]
[REDACTED]

Medical Department
Civil Aviation Authority



Tel: [REDACTED]

Follow us on Twitter: [@UK_CAA](#)

[Please consider the environment. Think before printing this email.](#)



From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 20 April 2016 16:06
To: [REDACTED]; [REDACTED]; External Response; [REDACTED]
Cc: [REDACTED]; [REDACTED]
Subject: CLEARANCE REQ - PQ on Cabin Air - Due noon Thu 21 April

Dear colleagues,

Please find attached, for you to clear, a PQ with my draft response regarding the monitoring of cabin air quality.

The deadline for submitting the response is **midday, Thursday 21 April**. Should you have any comments or amendments, could I ask you to send them over to me by 11am, for me to have time to amend before the deadline.

If you have any queries, please don't hesitate to contact me.

Kind regards,

[REDACTED]



[REDACTED], Air Passenger Rights
1/25, Great Minster House

From: [REDACTED]
To: [REDACTED]; [REDACTED]; [External Response](#): [REDACTED]
Cc: [REDACTED]
Subject: CLEARANCE REQ - PQ on Cabin Air - Due noon Thu 21 April
Date: 20 April 2016 16:08:35
Attachments: [image001.png](#)
[160421 PQ 162478 Hoyle Monitoring of cabin air.docx](#)

Dear colleagues,

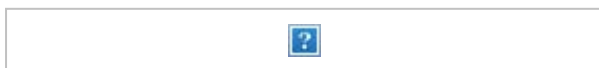
Please find attached, for you to clear, a PQ with my draft response regarding the monitoring of cabin air quality.

The deadline for submitting the response is **midday, Thursday 21 April**. Should you have any comments or amendments, could I ask you to send them over to me by 11am, for me to have time to amend before the deadline.

If you have any queries, please don't hesitate to contact me.

Kind regards,

[REDACTED]



[REDACTED], Air Passenger Rights
1/25, Great Minster House
33 Horseferry Road, London, SW1P 4DR

[REDACTED] [REDACTED]
[Follow us on twitter @transportgovuk](#)

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HOUSE OF LORDS
WRITTEN PARLIAMENTARY QUESTION

**Signing Minister to return the approved answer to Parliamentary by:
midday Wednesday 4 May 2016**

**Portfolio Ministers clearing the reply before final approval to action at
least 48 hours ahead of this deadline**

Date answered: *(Parliamentary to enter)*

DfT Ref: 162478 15/16

Lord Hoyle

To ask Her Majesty's Government what action they are taking to ensure that airlines monitor the quality of cabin air. **[HL7764]**

Lord Ahmad of Wimbledon

Draft answer

Currently there is no scientific evidence to suggest that continuous monitoring of aircraft cabin air is necessary.

From a safety perspective, the Civil Aviation Authority's (CAA) Mandatory Occurrence Reporting Scheme (CAP382) ensures that an event that is considered by crew to be a "safety-related event which endangers or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person" is reported and investigated.

Background Note – *Further factual information (this may be put into the public domain)*

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.

Relevant published target/pledge (including date and title of source)

Drafted by: Jonne Olkinuora

Contact Number: 02079444530

Email: (for agencies only)

Approved by (SCS PB1 or above/Head of Org Unit): Eirik Pitkethly

Contact Number: 02079444526

Email: (for agencies only)

From: [REDACTED]
To: [External Response](#)
Subject: FW: Letter from The Rt. Hon Theresa Villiers MP
Date: 24 October 2016 09:29:57
Attachments: [image001.gif](#)
[image002.jpg](#)
[REDACTED].pdf

For your records, please see the attached letter from Theresa Villiers MP.

Kind regards

[REDACTED]

From: [REDACTED]
Sent: 24 October 2016 09:25
To: [REDACTED]
Cc: [REDACTED]; External Response
Subject: RE: Letter from The Rt. Hon Theresa Villiers MP

Dear [REDACTED]

Nothing new to say on this. We aren't directly involved in the EASA work and will only find out the outcome when it is published. In any case, the work will only involve a small number of flights, for the purpose of testing the functionality of the equipment they have put together for the purposes of cabin air testing - we don't expect that it will take us forward in any substantive way. I believe that EASA do intend to proceed with a subsequent programme of flight tests, but don't have any information about whether a contract is in place and who will be / might be involved.

One thing I would say is it is inconceivable that the illness [REDACTED] describes could be related to exposure to contaminated air on a flight - both in terms of the severity and range of illness that is described. As examples, the safety data sheets for Mobil Jet Oil 254 <http://erjair.com/MSDS/Mobil%20Jet%20Oil%20254.PDF> and Mobil Jet Oil II <http://www.avlab.com/v/vspfiles/templates/aviationlab/images/forms/Mobil%20Jet%20Oil%20II.pdf> do not indicate any such risks under any exposure conditions.

Kind regards

[REDACTED]

[REDACTED]
Medical Department
Civil Aviation Authority

Tel: [REDACTED]

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From: [REDACTED] [[mailto:\[REDACTED\]@dft.gsi.gov.uk](mailto:[REDACTED]@dft.gsi.gov.uk)]
Sent: 21 October 2016 17:02
To: [REDACTED]
Cc: [REDACTED]
Subject: Letter from The Rt. Hon Theresa Villiers MP

Hi [REDACTED],

I hope you are well.

Please see attached Ministerial correspondence to Chris Grayling, Secretary of State for Transport from the Rt. Hon Theresa Villiers MP, on behalf of her constituent [REDACTED].

Theresa Villiers has already set out the DfT's action, and has referred to the EASA's in-flight air measurement campaign, however Ms Standing would like an update on the campaign.

You will note the 5 points listed by [REDACTED], regarding her involvement on the subject of cabin air, and I thought I would bring this letter to your attention.

If you can provide me with any updates on the campaign, or lines to take to address the MP correspondence, it would be appreciated.

The response is due in the Minister's office by **31.10.2016**.

Thanks in advance, and I hope you have a lovely weekend.

Kind regards,

[REDACTED]

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The Rt. Hon. Mrs Theresa Villiers MP
Member of Parliament for Chipping Barnet
House of Commons, London, SW1A 0AA
Tel 020 8449 7345 theresa@theresavilliers.co.uk
www.theresavilliers.co.uk

ASC

17 October 2016



Dear Chris

My constituent, [REDACTED] of [REDACTED], has sent me the enclosed email, the contents of which are self-explanatory.

In a further email, [REDACTED] told me that following a flight from Perth to the UK she was ill. She was diagnosed with a diffuse brain injury, damage to her lungs and blistering to her nose and pharynx. She further informed me that the damage was exactly as written on a tin of jet lubricating oil. She was unable to proceed with litigation because she was too ill.

In my reply, I have set out the DfT's action on this matter and mentioned the significant research carried out into this issue by the department. Furthermore, I referred to the European Aviation Safety Agency's in-flight air measurement campaign, the results of which are expected this autumn.

I would welcome your comments on what [REDACTED] has written together with an update about the EASA campaign.

Regards

The Rt Hon Chris Grayling MP
Department for Transport
Great Minster House
33 Horseferry Road
London SW1P 4DR

Reference (please quote if replying) TV/CC/CB26127

[REDACTED]

From: theresavilliers@googlemail.com on behalf of Theresa Villiers
<theresa@theresavilliers.co.uk>
Sent: 29 September 2016 15:03
To: [REDACTED]
Subject: Fwd: Aircraft Cabin and Toxic Fumes: effects on Aircrew and Passengers - including pilot incapacitation in flight.
Categories: TO DO

----- Forwarded message -----

From: [REDACTED] <[REDACTED]>
Date: 28 September 2016 at 08:32
Subject: Aircraft Cabin and Toxic Fumes: effects on Aircrew and Passengers - including pilot incapacitation in flight.
To: Theresa Villiers <theresa@theresavilliers.co.uk>

Wednesday 28th September, 2016
[REDACTED]

Theresa Villiers MP

Subject : Aircraft Cabin and Cockpit Toxic Fumes: effects on Aircrew and Passengers - including pilot incapacitation in flight.

1. I have written in Hansard, through the Science and Technology Committee on the subject of cabin air.
2. I arranged a Conference at Cranfield University on the subject of toxic fumes in aircraft cabins.
3. I am aware of reports in the press and on television about toxic fumes in aircraft that affect passengers and crew - that of morbidity and mortality.
4. I am also aware of a growing body of research by respected scientists who are solving the health problems of the unfortunates who suffer from the illnesses caused by seepage of toxic engine oil fumes into the air that we breathe.
5. Some of these papers are cited in winning litigation cases. One such example, Exhibit E in the Turner v Boeing case demonstrates that the industry is well aware of the problem and that aircraft engineers have been concerned since the development of Boeing in the 1950s. If the industry is 'unaware' of this then they are being wilfully blind and the only recourse the public has is either litigation or to appeal to their governments to protect them.

This letter is a request for you to ask the Secretary of State for Transport, The Rt Hon Chris Grayling MP, the following question based on the above points.

"As toxic oil fumes (from bleed air off aircraft engines) containing organo-phosphates enter the cabin and cockpits of aircraft and have cause illness to many cabin crew, pilots and passengers, and may have caused the death of some, what action he is taking to stop this happening."

Thank you.
[REDACTED]

From: [REDACTED]
To: [REDACTED]
Cc: [REDACTED]; [External Response](#)
Subject: RE: Letter from The Rt. Hon Theresa Villiers MP
Date: 24 October 2016 09:24:54
Attachments: [image001.gif](#)
[image002.jpg](#)

Dear [REDACTED]

Nothing new to say on this. We aren't directly involved in the EASA work and will only find out the outcome when it is published. In any case, the work will only involve a small number of flights, for the purpose of testing the functionality of the equipment they have put together for the purposes of cabin air testing - we don't expect that it will take us forward in any substantive way. I believe that EASA do intend to proceed with a subsequent programme of flight tests, but don't have any information about whether a contract is in place and who will be / might be involved.

One thing I would say is it is inconceivable that the illness [REDACTED] describes could be related to exposure to contaminated air on a flight - both in terms of the severity and range of illness that is described. As examples, the safety data sheets for Mobil Jet Oil 254 <http://erjair.com/MSDS/Mobil%20Jet%20Oil%20254.PDF> and Mobil Jet Oil II <http://www.avlab.com/v/vspfiles/templates/aviationlab/images/forms/Mobil%20Jet%20Oil%20II.pdf> do not indicate any such risks under any exposure conditions.

Kind regards

[REDACTED]

[REDACTED]
Medical Department
Civil Aviation Authority



Tel: [REDACTED]

Follow us on Twitter: [@UK_CAA](#)

Please consider the environment. Think before printing this email.



From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 21 October 2016 17:02
To: [REDACTED]
Cc: [REDACTED]
Subject: Letter from The Rt. Hon Theresa Villiers MP

Hi [REDACTED],

I hope you are well.

Please see attached Ministerial correspondence to Chris Grayling, Secretary of State for Transport from the Rt. Hon Theresa Villiers MP, on behalf of her constituent [REDACTED]

██████████.

Theresa Villiers has already set out the DfT's action, and has referred to the EASA's in-flight air measurement campaign, however ██████████ would like an update on the campaign.

You will note the 5 points listed by ██████████, regarding her involvement on the subject of cabin air, and I thought I would bring this letter to your attention.

If you can provide me with any updates on the campaign, or lines to take to address the MP correspondence, it would be appreciated.

The response is due in the Minister's office by **31.10.2016**.

Thanks in advance, and I hope you have a lovely weekend.

Kind regards,

██████████

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From: [External Response](#)
To: [REDACTED]
Cc: [REDACTED]; [External Response](#)
Subject: RE: PQ 180909 from The Countess of Mar for draft reply by 12:00 on 04/11/2016, subject Aviation IASE - EASA, has been allocated to you
Date: 04 November 2016 09:01:40
Attachments: [image001.gif](#)
[image002.jpg](#)

[REDACTED]

This is our suggested reply -

As the UK's aviation safety regulator the Civil Aviation Authority (CAA) has a comprehensive programme of safety oversight in place and takes all reports it receives from airlines very seriously. The CAA has discussed this event with British Airways. While there were initially reports of a strong smell on board no faults were found with the aircraft and it has returned to service.

Regards

[REDACTED]

[REDACTED]
[REDACTED]
Communications Department
Civil Aviation Authority



Tel: [REDACTED]

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From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 03 November 2016 09:39
To: [REDACTED]
Cc: [REDACTED]; External Response
Subject: FW: PQ 180909 from The Countess of Mar for draft reply by 12:00 on 04/11/2016, subject Aviation IASE - EASA, has been allocated to you

Morning [REDACTED],

I hope you are well.

Please see PQ below from The Countess of Mar regarding the diversion to Vancouver on 25 October of BA flight 286 from San Francisco to London.

The PQ is due in Private Office by midday tomorrow, and I would be grateful if you could please let me know if you are able to provide any comments, so that we are able to respond

accordingly.

Many thanks,

[REDACTED]

[REDACTED] | [REDACTED] [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport
1/25 | [REDACTED] | [REDACTED]

From: dftpqteam@dft.gsi.gov.uk [<mailto:dftpqteam@dft.gsi.gov.uk>]

Sent: 03 November 2016 08:35

To: [REDACTED] <[\[REDACTED\]@dft.gsi.gov.uk](mailto:[REDACTED]@dft.gsi.gov.uk)>

Subject: PQ 180909 from The Countess of Mar for draft reply by 12:00 on 04/11/2016, subject Aviation IASE - EASA, has been allocated to you

Dear [REDACTED],

Reply required by: 12:00 on 04/11/2016

A House of Lords written PQ 180909 has been allocated to you for answer. To view or action this case please click [Chapter](#). If the case is not on your list, click on Advanced search and enter the case ID to view the case.

For Agency colleagues the case letter is attached.

Lord Ahmad

Subject: To ask Her Majesty's Government, further to the diversion to Vancouver on 25 October of BA flight 286 from San Francisco to London after crew members become unwell, and in the light of reports that the cabin air was contaminated, whether British passengers on that flight are entitled to medical screening to ascertain whether they have been affected; and if so, where they should apply to receive that screening.

You can reassign this to any other Chapter user if it is more appropriate for them to deal. Please agree this with the other user before reassigning.

Please provide a draft reply and supplementary information for the Minister by the deadline.

If this is for another department, please contact Parly on 4468 or reply to this email.

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From: [REDACTED]
To: [REDACTED]
Cc: [External Response](#)
Subject: RE: Five urgent Parliamentary Questions - The Countess of Mar - Responses required
Date: 01 July 2016 12:05:18
Attachments: [image001.gif](#)
[image002.jpg](#)
[image003.png](#)

Hi [REDACTED]

Link is:

<http://cot.food.gov.uk/cotstatements/cotstatementsyrs/cotstatements2007/cotstatementbalpa0706>.

Suspect the Countess may have this saved / printed!

Kind regards

[REDACTED]

From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 01 July 2016 11:59
To: [REDACTED]
Cc: External Response
Subject: RE: Five urgent Parliamentary Questions - The Countess of Mar - Responses required

Hi [REDACTED],

I refer to the red text below – would you happen to have a link to this statement?

Many thanks,

[REDACTED]

[REDACTED] | [REDACTED] [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport
1/25 | [REDACTED] | [REDACTED]

From: [REDACTED] [mailto:[REDACTED]@caa.co.uk]
Sent: 01 July 2016 09:33
To: [REDACTED] <[REDACTED]@dft.gsi.gov.uk>
Cc: External Response <External.Response@caa.co.uk>; [REDACTED] <[REDACTED]@dft.gsi.gov.uk>; [REDACTED] <[REDACTED]@dft.gsi.gov.uk>; [REDACTED] <[REDACTED]@dft.gsi.gov.uk>
Subject: RE: Five urgent Parliamentary Questions - The Countess of Mar - Responses required

Hi [REDACTED]

Bit short notice as usual, but some comments that will hopefully will be useful:

PQ 167727

- Probably, but I don't have time to research this this morning
- it would be the manufacturer's responsibility to comply with the regulation

- HSE would enforce the regulation <http://www.hse.gov.uk/chemical-classification/legal/clp-regulation.htm>

PQ 167728

- In 2001 the CAA commissioned research on pyrolysed oils in collaboration with DSTL Porton Down - this was published in 2004
- The Committee on Toxicity (COT) referred to this and other research on pyrolysed oils in it's 2007 Statement (see sections 29-31 on pp8-9)
- The CAa has not consulted lubricant manufacturers directly, but the potential toxicity issues have been fully explored by the COT

PQ 167729

- Yes (in accordance with the CAA's Mandatory Occurrence Reporting Scheme) - see CAA website <http://www.caa.co.uk/Our-work/Make-a-report-or-complaint/MORS/>

PQ 167730

- this is one for the Airworthiness team to answer, I think

PQ 167731

- anosmia (complete loss of smell) is rare and many of the medical conditions/medications which may cause this are incompatible with pilot medical certification
- hyposmia (reduction in sense of smell) is most commonly associated with acute or chronic upper respiratory tract infections (URTI) - crew who have a significant URTI should not operate
- there are other 'clues' to the occurrence of a fumes event, such as the presence of smoke or a visible haze
- any fumes event associated with bleed air contamination would be distributed throughout the cockpit/cabin, so detection does not rely on the sense of smell of one individual
- any pilot experiencing symptoms of possible cabin air contamination, such as eye or throat irritation, should follow the SOPs and don their goggles and oxygen mask regardless of whether they can smell anything - particularly if they are aware (as they would be) that they have a poor sense of smell
- there is no evidence of toxicity as a result of of fumes events that would justify installation of monitors (even if monitors suitable for routine use on aircraft were available)

Hope this helps

Kind regards

[Redacted]

[Redacted]

Medical Department
Civil Aviation Authority



Tel: [Redacted]

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From: [redacted] [[mailto:\[redacted\]@dft.gsi.gov.uk](mailto:[redacted]@dft.gsi.gov.uk)]
Sent: 30 June 2016 10:10
To: [redacted]
Cc: External Response; [redacted]; [redacted]; [redacted]
Subject: Five urgent Parliamentary Questions - The Countess of Mar - Responses required

Dear [redacted],

I hope you are well.

The Department has received **five** Parliamentary Questions (PQ's) from The Countess of Mar, which are all due in the Ministers Private office by **noon tomorrow**. For ease, I have listed the PQ's below:

- **PQ 167727**

To ask Her Majesty's Government whether jet engine oils and hydraulic and de-icing fluids contain substances that attract harmonised and notified hazard classifications under the CPL Regulation (EC) No 1272/2008.

- **PQ 167728**

To ask Her Majesty's Government whether the Department for Transport has ever consulted ExxonMobil and other lubricant manufacturers about whether they have ever undertaken inhalation toxicity testing of heated engine oils as a whole, and if so, with what results.

- **PQ 167729**

To ask Her Majesty's Government whether incidences of fumes and contaminated air in the cockpit or in the passenger compartment of commercial aircraft that have, or could have, endangered the aircraft, its occupants or any other person are required to be reported under Commission Implementing Regulation (EU) 2015/1018.

- **PQ 167730**

To ask Her Majesty's Government, further to the Written Answer by Lord Ahmad of Wimbledon on 20 June (HL503), on what basis they state that European Aviation Safety Agency certification standard 25.1309c does not require warning systems for engine oil that leaks onto hot aircraft engines over which cabin "bleed air" is drawn.

- **PQ 167731**

To ask Her Majesty's Government, further to the Written Answer by Lord Ahmad of Wimbledon on 20 June (HL503), and in the light of the fact that there are no detection systems fitted in commercial aircraft to indicate the presence of fumes, how pilots or crew with little or no sense of smell are expected to be able to identify the presence of fumes in cabin air that might constitute a potential safety incident.

I would be ever so grateful if you could please offer any suggested lines, so that the Department is able to respond to The Countess of Mar. I attach the PQ response the Countess makes reference to (HL503) above.

Kind regards, and thank you again.



**[Redacted], Aviation Strategy &
Consumers, Air Passenger Rights**
1/25, Great Minster House
33 Horseferry Road, London, SW1P 4DR

[Redacted] [Redacted]
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From: [REDACTED]
To: [External Response](#)
Cc: [REDACTED]; [REDACTED]
Subject: FW: Ministerial Correspondence, ref 182396 from Jeremy Quin MP received 07/11/2016 for reply by 18:00 28/11/2016 about toxic fumes in cabin air has been assigned to your Division.
Date: 18 November 2016 11:31:00
Attachments: [REDACTED]

Good morning,

I hope you are well.

Please see attached Ministerial Correspondence received from Jeremy Quin MP, on behalf of his constituent, [REDACTED], regarding the diversion of flight BA286 to Vancouver, following reports of toxic gas fumes.

In the letter received from the MP, [REDACTED], an independent journalist and business author writes in support of [REDACTED] letter, and states he will be contacting Dame Deirdre Hutton at the CAA.

Can I please ask if you have already responded to Jeremy Quin MP, [REDACTED], or [REDACTED], so that I am able to draw some key messages in the DfT's Ministerial response to Jeremy Quin.

Kind regards,

[REDACTED]

[REDACTED] | [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport
1/25 | [REDACTED] | [REDACTED]

From: POCorrespondence@dft.gsi.gov.uk [mailto:POCorrespondence@dft.gsi.gov.uk]

Sent: 17 November 2016 12:56

To: [REDACTED] <[REDACTED]@dft.gsi.gov.uk>

Subject: Ministerial Correspondence, ref 182396 from Jeremy Quin MP received 07/11/2016 for reply by 18:00 28/11/2016 about toxic fumes in cabin air has been assigned to your Division.

To view or action this case please click here [Chapter](#). For Agency colleagues the case letter is attached.

Please check TODAY if this is a matter for which you/your team can provide a draft. If the letter is for another Division or Department to answer, contact PO Correspondence as soon as possible to arrange for the case to be reallocated/transferred.

Please complete and return the draft reply for Lord Ahmad by 18:00 28/11/2016.

Agency colleagues please return your draft reply to POCorrespondence@dft.gsi.gov.uk

NB: A draft is only recorded as 'on time' once it has been accepted by Private Office. If a

redraft is requested the no. of days it takes to return the redraft will be added to the no. of days it took to submit the original draft to assess whether you have met the 7 day drafting target.

Where possible please send the first (and hopefully final) draft to Private Office no later than day five, to allow some breathing space if a redraft is required.

toxic fumes in cabin air

For further advice or assistance contact Chapter Support (4478). You will also find User Guides on Transnet.

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from JEREMY QUIN, MP

Member of Parliament
for Horsham

ASC

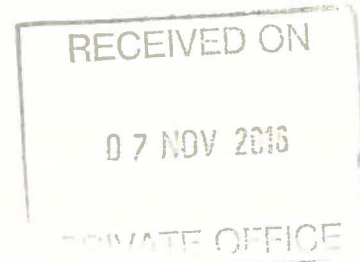
House of Commons
London SW1A 0AA

Lord Ahmad of Wimbledon
Parliamentary Under Secretary of State
Department for Transport
Great Minster House
33 Horseferry Road
London
SW1P 4DR

Tel: 020 7219 6139

Email: jeremy.quin.mp@parliament.uk

3 November 2016



Dear Lord Ahmad,

I am writing to you having received correspondence from my constituent, [REDACTED], a former BA pilot who campaigns on the issue of toxic fumes in cabin air which is of significant concern to my constituents.

Please find enclosed a copy of his letter to the Acting Chief Inspector of Air Incidents where he outlines his concerns following the diversion of flight BA286 to Vancouver following reports of toxic gas fumes.

I would be grateful for your response.

Yours sincerely

Jeremy Quin

RADIA, Devi

From: QUIN, Jeremy
Sent: 03 November 2016 11:23
To: [REDACTED]
Subject: FW: BA286 - Airbus A380 diversion to Vancouver - G-XLEB

From: [REDACTED] [mailto:[REDACTED]@[REDACTED].com]
Sent: 03 November 2016 09:09
To: [REDACTED] <[REDACTED]@[REDACTED].com>; [REDACTED]@aaib.gov.uk; enquiries@aaib.gov.uk
Cc: [REDACTED], [REDACTED] <[REDACTED]@aol.com>; MAR, Countess <MARM@parliament.uk>; ELLWOOD, Tobias <tobias.ellwood.mp@parliament.uk>; TYLER, Lord <Tylerp@parliament.uk>; QUIN, Jeremy <jeremy.quin.mp@parliament.uk>; [REDACTED]; BURNHAM, Andy <andy.burnham.mp@parliament.uk>; LEWIS, Clive <clive.lewis.mp@parliament.uk>; LUCAS, Caroline <caroline.lucas.mp@parliament.uk>; REYNOLDS, Jonathan <jonathan.reynolds.mp@parliament.uk>; OSWALD, Kirsten <kirsten.oswald.mp@parliament.uk>; mymp@kirstenoswaldmp.scot; MACNEIL, Angus <angus.macneil.mp@parliament.uk>; FirstMinister@scotland.gsi.gov.uk; [REDACTED] <[REDACTED]@unitetheunion.org>; information@holidaytravelwatch.com; gcaqe@gcaqe.org; leader@labour.org.uk
Subject: RE: BA286 - Airbus A380 diversion to Vancouver - G-XLEB

Dear [REDACTED]

I write in support of this correspondence, as an independent journalist and business author, who has investigated this issue. I particularly stress to the Members of Parliament on this list that your will is being thwarted by repeated refusals to investigate ill-health resulting from fume events.

The incident involving flight BA286 on 26th October 2016 was a serious health and safety breach. There is nothing 'suspected' or 'alleged' about it. The official transcript confirms firstly that there was a leaking of fumes causing an emergency landing:

<https://m.youtube.com/watch?feature=youtu.be&v=odAHH5AkqRE>

Secondly, that there was 'incapacitation' of the affected crew, requiring hospitalization, according to the Civil Aviation Daily Occurrence System:

<http://tiny.cc/gsahgy>

This is the official record. If a leak of fumes into a warehouse or factory in any of your constituencies were to result in incapacitation and hospitalization of any member(s) of staff, the Health & Safety Executive would carry out a full investigation, and enforce sanctions against the employer if found to be at fault. Parliament does not exempt workers whose workplace happens to be airborne from these provisions. By refusing to carry out or publish a full investigation into the incident on 26 October, British Airways and the relevant authorities are acting *ultra vires*, contrary to the expressed will of elected members of Parliament.

This is a very serious matter, and there is a clear legal duty to reverse the decision not to investigate or make the findings public. I shall forward this message also to Dame Deirdre Hutton of the Civil Aviation Authority.

Kind regards

[REDACTED]
[REDACTED]

From: [REDACTED] [mailto:[REDACTED]@[REDACTED].com]
Sent: 02 November 2016 11:33
To: [REDACTED]@aaib.gov.uk; enquiries@aaib.gov.uk
Cc: [REDACTED]; MAR, Countess <MARM@parliament.uk>; tobias.ellwood.mp@parliament.uk; Tylerp@parliament.uk; jeremy.quin.mp@parliament.uk; paulflynnmp@talk21.com; andy.burnham.mp@parliament.uk; clive.lewis.mp@parliament.uk; caroline.lucas.mp@parliament.uk; jonathan.reynolds.mp@parliament.uk; OSWALD, Kirsten <kirsten.oswald.mp@parliament.uk>; mymp@kirstenoswaldmp.scot; macneila@parliament.uk; FirstMinister@scotland.gsi.gov.uk; [REDACTED] <[REDACTED]>; angus.macneil.mp@parliament.uk; [REDACTED]@unitetheunion.org; information@holidaytravelwatch.com; gcage@gcage.org; leader@labour.org.uk
Subject: BA286 - Airbus A380 diversion to Vancouver - G-XLEB

OPEN COMMUNICATION

[REDACTED]
[REDACTED]
Air Accidents Investigation Branch
Farnborough House
Berkshire Copse Road
Aldershot
Hampshire
GU11 2HH

Wednesday, 2nd November 2016

Dear [REDACTED]

BA286 Airbus A380 In-flight diversion to Vancouver due to reported 'toxic fumes, toxic gas like fumes'

I was informed yesterday by one of your Operations Officers, [REDACTED], that the Air Accidents Investigation Branch (AAIB) has decided not to investigate the inflight diversion of British Airways flight BA286, an Airbus A380-800 registered G-XLEB, which was operating San Francisco to London Heathrow and diverted into Vancouver last week. The crew stated to Air Traffic Control (ATC) using the call sign 'Speedbird 6 Bravo' they had toxic fumes. toxic gas like fumes.' The relevant audio can be heard from time 03:07 at the following YouTube link:

<https://m.youtube.com/watch?feature=youtu.be&v=odAHH5AkqRE>

I am a former [REDACTED], [REDACTED] and former [REDACTED]. I have investigated the issue of contaminated air on aircraft for over 15 years and briefed the European Aviation Safety Agency (EASA) extensively on this issue in 2015. Last year, I was awarded, by the British people, a [REDACTED] [REDACTED] for my work on this issue to date.

I am writing to you as numerous aspects of the BA286 diversion flight would indicate a potential exposure of 432 people to pyrolysed synthetic jet engine oil, hydraulic fluids or some other chemical. The testimony of the crews and passengers I have received, the inflight ATC audio transcript and the feedback from

Transport Safety Bureau - Canada (TSB) and others, all indicate a potential significant exposure for those onboard. Some of the crew I understand are still signed off work sick, a week later by their doctors.

TSB-Canada has informed me that it will not be investigating the event any further and neither will the AAIB. This was a British registered aircraft carrying many British citizens including young children and pregnant women. The commander of the aircraft used emergency oxygen and numerous cabin crew were on emergency oxygen, unable to carry out their duties.

I understand that Centre for Disease Control (CDC) and the University of Washington (UW) in Seattle are willing to screen the crew members blood to look for any evidence of an exposure to neurotoxins. Crew unions and the Royal Australian Air Force (RAAF) have spent nearly 15 years supporting the research for a blood test and preparing the protocols to test for exposure to the aryl phosphates in synthetic jet engine oils. All the AAIB needs to do is ask them to do it.

CDC will be able to check for exposure to phosphate compounds that are known to be present in aryl phosphates and UW will very soon be able to look at the proteins decorated by these exposures and potentially confirm not only an exposure but time of exposure. This would be an invaluable report for any air accident team to have to help them better understand any potential contaminated air exposure event. Do you think this would be a sensible option for the AAIB to ask CDC and UW to do this work? There is no cost to the UK tax payer.

The AAIB has been one of the leading air accident investigation teams in the world. As you know the AAIB have twice recommended the fitting of contaminated air detection systems to commercial jet and turbine aircraft so that crews can know when the air is contaminated. DHL have fitted activated carbon filtration systems to even protect their crews from exposure to jet engine oil fumes on their Boeing 757, many of these are previous BA aircraft. The Swiss Aircraft Accident Investigation Bureau, in their report into the serious incident on HB-IXN in 2005, stated that:

'The medical examination of the co-pilot after the flight showed that during the flight a toxic exposure took place.'

You may recall the serious incident BA had on the 7th November 2000. It was a Boeing 757 (G-CPEL), operating BA 815, CPH LHR (CAA Occurrence Report: 200008363). The crew forgot to slow aircraft during approach until reminded to do so at 3.7 mile from touchdown by ATC. The report concluded that the crew were unaware that they were becoming partially incapacitated due to oil fumes. There are hundreds of such incidents around the world. In fact in an internal Boeing email from 2007 a senior engineer stated:

"Bottom line is I think we are looking for a tombstone before anyone with any horsepower is going to take interest."

These events clearly show the serious flight safety implications that pyrolised oil fumes can have on flight safety. If a crew divert due to oil fumes and fail to use emergency oxygen, what happens if they go on to have a serious problem to deal with? This point was made very clear by the AAIB investigating an incident on a BA aircraft on 7 September 2003 (G-CPER), the aircraft suffered oil fumes after take off from Heathrow and diverted to Gatwick. On approach the crew had a flap problem. Thankfully the crew both used oxygen as the AAIB report commented:

"The flight crew made a positive decision to action the emergency checklist and don their oxygen masks in a timely manner. This was a prudent course of action, given that experience shows that pilot's well-being and judgement can be affected by exposure to engine oil fumes. Had they not taken this action, the subsequent handling difficulties on the final approach to London Gatwick could have been further compounded, increasing the degree of risk."

Yet 13 years later, under-reporting is still significant, a fact the FAA acknowledged a decade ago and

aircraft still have no form of detection system to warn when the air is contaminated, yet under the FAR 25.1309c and CS 25.1309c it states:

(c) Warning information must be provided to alert the crew to unsafe system operating conditions, and to enable them to take appropriate corrective action. Systems, controls, and associated monitoring and warning means must be designed to minimize crew errors which could create additional hazards....

I would suggested contaminated air is a clear sign of a system failure yet there are no warning systems fitted.

Surely events of the past should be learnt before an incident becomes a serious accident? The US aviation industry has been aware of this issue for 6 decades as highlighted in the 2011 PhD by Doctor Susan Michaelis "Health and Flight Safety Implications from Exposure to Contaminated Air in Aircraft."

It is possible the cabin crew impaired on BA286 might not have been able to carry out their emergency duties should the aircraft have needed to have been evacuated on landing. For so many crew to have been impacted so significantly in flight, clearly something happened on board. Mass hysteria or an exposure to chemicals such as pyrolised jet engine oil fumes? I urge the AAIB to conduct an independent investigation and support CDC and UW with a crew blood analysis.

Should you require any further information please do not hesitate to contact me.

I attach the Swiss 2005 air accident report referred to above and a published survey of BALPA pilots from 2003, a report that highlighted under-reporting of contaminated air events which may be helpful.

I am copying in a few of the MPs and interested parties who have expressed an interest in these issues including Mr. Tobias Ellwood MP. Mr Ellwood was informed by Exxon Mobil some years ago that they are unaware of any published inhalation toxicity data for exposure to synthetic jet engine oil fumes. If there is no published data how can any exposure to contaminated air, especially to the unborn be deemed safe?

Yours sincerely,

[Redacted signature]

[Redacted signature]

Phone:

Cell:

E

From: [External Response](#)
To: [REDACTED] : [External Response](#)
Cc: [REDACTED]
Subject: RE: Urgent PQ request from Henry Smith MP
Date: 24 November 2016 09:38:54
Attachments: [image001.gif](#)
[image002.jpg](#)

[REDACTED]

Since last year such reports come under the requirements of the Occurrence Reporting Regulation which requires that they are kept confidential. So I would suggest the answer below -

If serious enough such incidents would be counted amongst data for safety related events. In accordance with Regulation (EU) No 376/2014, safety-related events which endanger or which, if not corrected or addressed, could endanger an aircraft, its occupants or any other person have to be reported to the Civil Aviation Authority (CAA). The Regulation requires that the reporting, analysis and follow-up to such occurrences remain confidential. However, the Regulation does permit information to be released on request to interested parties that have a genuine safety related need for the information. An application can be made at www.caa.co.uk/srg1605.

The CAA also plans to publish an Annual Review in 2017 which will include aggregated and dis-identified occurrence information in accordance with the requirements of the Regulation. The Annual Review will include context and interpretation of data analysis, which will enable an informed understanding of the occurrence information presented.

This is based on the response to a previous PQ - see <http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2016-03-08/30229/>.

Regards

[REDACTED]

[REDACTED]
[REDACTED]
Communications Department
Civil Aviation Authority

Tel: [REDACTED]

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From: [REDACTED] [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 23 November 2016 10:35
To: External Response
Cc: [REDACTED]; [REDACTED]
Subject: Urgent PQ request from Henry Smith MP

Good morning,

Please see PQ from Henry Smith, MP for Crawley who asks:

'To ask the Secretary of State for Transport, what estimate the Government has made of the number of reported commercial aircraft cabin and flight deck smoke or fume events in each year since 2014'.

I would be grateful for any information so that I am able to prepare the response for the Minister, which is due in Private Office tomorrow at noon.

Many thanks in advance.

Regards,

[REDACTED]

[REDACTED] | [REDACTED] [REDACTED], Aviation Strategy & Consumers, Air Passenger Rights, Department for Transport
1/25 | [REDACTED] | [REDACTED]

From: [REDACTED]@dft.gsi.gov.uk [mailto:[REDACTED]@dft.gsi.gov.uk]
Sent: 23 November 2016 08:10
To: [REDACTED] <[REDACTED]@dft.gsi.gov.uk>
Subject: Please take over a task for Parliamentary question, UIN 54127 from Henry Smith

Dear [REDACTED],

[REDACTED] has asked you to take over a task in Chapter.

If this item is not for you, please reassign immediately.

Thank you.

Item summary:

To ask the Secretary of State for Transport, what estimate the Government has made of the number of reported commercial aircraft cabin and flight deck smoke or fume events in each year since 2014.

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