Protecting the Travel Consumer

Consumer comment on CEN Standards for Aircraft Cabin Air Quality

prEN 4618
prEN 4666

In Support of Quality Holiday Travel
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Acknowledgement

It is 8 years since the death of our Founder, Brenda Wall. Her outstanding determination and courage, led to a new dialogue between the Consumer and The Travel Industry. Such dialogue has created a greater awareness of corporate behaviour and the need for Safety & Consumer Protections that benefit both the Consumer and The Travel Industry.

At the time of her death, the issue of Aerotoxic or Contaminated Aircraft Cabin Air was relatively unknown amongst Consumer circles.

This report is dedicated to the memory of Brenda Wall and the undeniable courage of passengers, aircrew and the campaigners who have risked everything to bring this 21st century scandal to the top of the aircraft safety agenda!
Introduction to HolidayTravelWatch

HolidayTravelWatch (HTW) has for many years worked with a diverse number of Organisations and Campaigners on common issues. Since 2006/7, we have continued that tradition with our colleagues from the Aerotoxic or Contaminated Aircraft Cabin Air Lobby. In June 2012, along with our colleagues, we presented evidence and opinion to CEN in Brussels, calling for a re-examination of the issues surrounding prEN4618 & prEN4666. CEN decided to open these areas again to Public Consultation, and we consider that this was a courageous and important decision and this report reflects the views of HTW on this vital issue.

HTW is British based consumers organisation founded in 1995. Through 18 years of operation, it has provided information, advice and assistance to over 245,000 holidaymakers, through its dedicated helpline and website. This should however be put into context with the 65,000,000 individual trips taken by British Citizens in 2005. It suggests that HTW only receives a small proportion of all complaints, however, these holiday complaints tend to reflect the more serious element of contractual, illness and injury difficulties faced by the consumer. HolidayTravelWatch is entered onto the EU 'Transparency' Register – ID Number – 63992152960-12. The Organisation currently provides information and advice, assisting some 90% of all travel consumers who contact HTW, to find a resolution to their travel complaint. The remaining complainants are then given the opportunity to progress toward litigation, through travel law specialists. It is estimated that more than 90,000 holidaymakers have received such legal assistance, and have achieved in excess of £20,000,000 in compensation for their holiday complaints, holiday illness and injuries.

Frank Brehany
Consumer Director/Managing Director
HolidayTravelWatch - 30 May 2013

1 https://www.cen.eu/cen/pages/default.aspx
2 Lord Treisman – FCO Reception March 2006
Contaminated Aircraft Cabin Air – The Consumer Experience

Why is the Consumer Experience ‘technically’ relevant?

CEN standards are generally drafted to reflect a technical opinion, for the benefit of an industry. It is sometimes easy to forget that in the case of Aircraft Cabin Air Quality, the issues that arise from those fume events, affect real people; real lives!

The author of this report visited the European Aviation Safety Agency (EASA)\(^4\) in Cologne, to discuss with a technical team, why the Consumer story was important when considering the potential for contaminated air to escape into an aircraft cabin.

What was surprising was the puzzlement expressed by EASA Officials, as to why the Consumer story was important; indeed, it is still the belief of the author that this belief still prevails!

The author explained that in any emergency (and we must always assume that a contaminated air event is an emergency), good investigation will always start with an examination of the base evidence.

That base evidence will come from the passengers or crew exposed to the index event!

Our argument was this; in the event of an air crash, the first thing that any air accident investigator will do, is to establish the extent of the on the ground ‘lay’ evidence, or where it is available, passenger or crew evidence; why should it be any different for a contaminated air event?

We suggest therefore, in considering a technical standard for cabin air quality, the current CEN standards fail on the grounds of its own failure to widely consult and in particular, to seek and consider the passenger experience.

\(^4\) [http://www.easa.eu.int/](http://www.easa.eu.int/)
That passenger evidence exposes the very essence of the aircraft fume event.

By comparison, whilst it is clear that the CEN standard has been narrow in its consult and the range of opinion secured, when compared to the construction of other International Standards.

It is appropriate to consider that the author of this report is a Committee Member of the ASHRAE SSPC 161 Committee on Cabin Air Quality (at reference search for ‘Standard 161 2007’).

That Committee meets twice a year and is made up of representatives from airlines, aircraft manufacturers (Airbus & Boeing), pilots, cabin crew, trade unions and passenger representatives.

This Committee has much work yet to do, but one thing is clear, our work is as a result of a wide cohort of debate & opinion and this constituency should act as an example to CEN!

The importance of the Consumer Experience & the Law:

We are only too well aware of the effect of contaminated cabin or cockpit air upon pilots and cabin crew, and whilst we work to alleviate this problem with our colleagues for all, our primary focus must always be with the Consumer as that is the nature of our constituency.

In considering the Consumer or Air Passenger, we should have in mind, that in the re-creation of standards concerning Aircraft Cabin Air Quality, such standards may well become incorporated into law, hence the important of this Consultation.

5 https://www.ashrae.org/standards-research--technology/standards--guidelines/titles-purposes-and-scopes#161
It is clear that in relation to EU Law, there is now a developing trend to create ‘New Approach’ Directives. This is intended to reflect the ‘new reality’ in law-making, at a time when economies are suffering the effects from the ravages of austerity and a desire to strike a less onerous balance for industry.

Such legal goals (and that includes the creation of any Standard), should not provide for an ongoing Consumer Detriment which compromises their rights or safety; industry’s interests must always be balanced by the interests of those who consume that particular product.

Whatever the issues surrounding a financial crisis, there remains the indisputable fact that our laws are governed by the desires, principles and obligations as set out in the Lisbon Treaty and the Charter on Fundamental Rights of the European Union.

The effect of the growing Cabin Air Quality debate reveals that it is just now a matter of time before legislation will be created, superceding perhaps those laws that already exist, though not necessarily enforced, to protect passengers and air-crew!

Therefore, in considering the Consumer position, we must have regard to the potential that any new Cabin Air Quality Standard may well be incorporated into EU Law and consider in that context, why this review is vital!

It is also vital to recognise that whilst CEN is not an Executive arm of the EU, the EU Commission & Parliament must have regard to the importance of these Standards and consider urgently the need to create a Mandate and incorporate such a Standard(s) into any ‘New Approach’ Directive.

We recognise that in making these comments within this report, there will be some readers who will dismiss these points as not being relevant to CEN. We would remind the reader that at the time that we were making our representations before CEN, an observer from the EU Commission’s DG Enterprise⁶ was present.

It is our view that the work of CEN is closely allied to that of the EU, particularly as the EU has a remit to consider and deal with Consumer Protection issues.

The EU Commission also has the ability to create a ‘mandate’ for CEN, to create an EU Standard on Cabin Air Quality. We would assume that in the creation of that ‘mandate’ would provide the first step toward importing any CEN Standard on Cabin Air Quality into an existing Directive or with the intention of creating a ‘New Approach’ Directive.

In that context, it will be useful to set out the obligations of the EU in the creation of the Law to the benefit of EU Citizens:

1. Under Part 1, Article 4 (2) (a) (e) (g) and (k) of the Lisbon Treaty\(^7\), the EU has competency in the areas of the Internal Market, Consumer Protection, Transport and Public Health matters;

2. Under Part 1, Article 6 (b) & (d) of the Lisbon Treaty, the EU has competency in the areas of Industry and Tourism;

3. Under Title 1, Article 6 of the Lisbon Treaty, the EU recognises the Rights afforded under the Charter of Fundamental Rights of the European Union and that they have the same status of a Treaty;

4. Under Article 38 of the Charter of Fundamental Rights of the European Union\(^8\), it states quite clearly that, “[EU] Union policies shall ensure a high level of consumer protection”;


5. Under Title 2, Article 12 of the Lisbon Treaty, ‘Consumer protection requirements shall be taken into account in defining and implementing other Union policies and activities’.

6. Under Title 7, Article 91 & 91 (c), the EU Council, the EU Parliament in consultation with the Economic & Social Committee and Committee of the Regions shall ‘lay down’, ‘measures to improve transport safety’;

7. Under Title 14, Article 168 of the Lisbon Treaty, the EU is required to provide a ‘high level of human health protection’;

8. Under Title 15, Article 169 of the Lisbon Treaty, the EU is required to ‘ensure a high level of consumer protection, the Union shall contribute to protecting the health, safety and economic interests of consumers’;

9. Under Chapter 3, Article 114 of the Lisbon Treaty, ‘The Commission, in its proposals envisaged in paragraph 1 concerning health, safety, environmental protection and consumer protection, will take as a base a high level of protection, taking account in particular of any new development based on scientific facts. Within their respective powers, the European Parliament and the Council will also seek to achieve this objective’;

10. Under Title 3 of the Lisbon Treaty, powers and obligations are granted to the EU Council, the EU Parliament and the EU Commission to develop and legislate on issues that affect the citizens of the EU.

Therefore, in considering the future of prEN4618 & prEN4666, we should have regard to the Consumer story. The following examples are set out for consideration and support for the notion, that any Standard or Law on aircraft safety, must have at its core, the principle or understanding that any failure in its depth or breadth will have the effect of failing to protect Consumers!
An Early Consumer Survey:

In March 2009, we created an online survey to determine air passenger’s experience of smoke or fume events on board aircraft.

The surveys created by HolidayTravelWatch are designed to create a snapshot of a particular issue. The uses of snapshot/low participation surveys are widely used by many companies to persuade Consumers of the ‘value’ of their products.

The Organisation did not have the resources to promote participation and therefore was unable to promote the survey onto a wider Public platform. We adopted a limited and cost effective ‘invitation’ to the public to participate, through Google advertising. We considered that this method produced a more accurate survey, as those taking part are more likely to have been affected by the issues we raised and were therefore motivated to contribute.

The survey was closed on 29 November 2009. In total there were 102 responses. We have disallowed 3 of those responses as there were indications of technical difficulty when completing the survey. Therefore the data extracted has come from 99 distinct contributions.

In June 2009, we submitted similar findings to the Australian Government’s Civil Aviation Safety Authority and cited our early findings from the survey. At that stage we stated that we expected to find that the lack of reporting, the symptoms, the failure to seek medical assistance and poor responses from the authorities, would be confirmed as the survey gathered data. We also advised that we expected the survey would confirm the Consumer experience and information received by this Organisation to date.

Those early conclusions were confirmed!

The Survey:

The survey sought to extract the experience and views of aircrew and passengers. The questions either invited a ‘yes/no’ response, a multi-answer response or a ‘free text’
Comment on CEN Standards – Aircraft Cabin Air - HolidayTravelWatch © 2013

opportunity to express views. Where a participant made no responses to a question, these were recorded as ‘no response recorded’ (NRR).

At the conclusion of this survey, we make a comparative study with the aforementioned ‘facebook short survey’ which we carried out in 2007.

**Question 1**

*Have you ever been on an aircraft and experienced smoke or fumes onboard?*

In this initial question 63% stated that they had experienced smoke/fumes, 35% stated they had not and 2% provided NRR. In considering the 35% who had not experienced smoke or fumes, we can see from their further responses that 10 respondents cited health difficulties further into the survey and one merely stated that they were aware of the smoke/fumes problem and avoided travelling in certain types of aircraft. With regard to the 10 who did not answer positively to this question there are two possibilities; either they were unaware of a smoke or fume event or their illness was related to other issues not connected to the Aerotoxic issue.

Date: 30 May 2013
Question 2

Were you a member of the aircrew or a passenger at the time of the smoke/fume event?

This question was designed to identify the status of the survey participant; 75% stated that they were passengers and 11% stated that they were members of aircrew.
Question 3

Did the smoke or fume event occur during the following?

- 32% stated that it was during take-off, 25% stated that it was during the flight and 5% stated that this occurred during landing – 37% were NRR.

- 4 aircrew reported that this occurred during take-off, 4 aircrew stated that this event took place during the flight and 2 stated that it was during the landing procedure. 1 member of aircrew did not provide a response.

Date: 30 May 2013
Question 4

Did you suffer the following effects?

- Headaches
- Headaches, Disorientation, Chest Problems, Skin Problems
- Light-Headiness
- Light-Headiness, Chest Problems
- Light-Headiness, Headaches
- Light-Headiness, Headaches, Chest Problems
- Light-Headiness, Headaches, Chest Problems, Skin Problems
- Light Headiness, Headaches, Disorientation
- Light-Headiness, Headaches, Disorientation, Chest Problems
- Light Headiness, Headaches, Disorientation, Chest Problems, Skin Problems
- Light-Headiness, Headaches, Disorientation, Skin Problems
- NRR

Date: 30 May 2013
The participants were given a list of potential illness/symptoms that they could choose from following a smoke or fume event. The choices were Light-headiness, Headaches, Disorientation, Chest Problems, Skin problems. The range of symptoms reflects the nature of those reported to this Organisation. It can be seen that only 38% reported that they suffered with symptoms and only 9% suffered with headaches and 9% with light-headiness. Within the aircrew responses 6 recorded that they suffered with multi-symptoms and 5 were NRR. Overall 61% recorded NRR; we suggest that this is possibly because they did not experience a smoke or fume event or perhaps their later reported illnesses were not connected to events onboard the aircraft.

**Question 5**

*If you were a member of aircrew did you take the following action?*

When presenting this question we again provided the following options; declare an emergency, don oxygen masks, report the matter to the Civil Aviation Authorities. Surprisingly only 1
member of aircrew respondents stated their actions; that action was to make a report to a Civil Aviation Authority. From an anecdotal perspective, pilots have told this Organisation of their frustration and the apathy they face when making ‘official’ reports and the pressure that is brought to bear upon them to maintain the operational viability of their aircraft; is this suggestive of a ‘culture’ or ‘regime’ that has no place within the quest for air safety?

**Question 6**

*If you were a passenger did you take the following action?*

Passenger respondents to the survey were given several choices when answering this question; report it to the cabin crew, seek medical assistance post flight, report the incident to the Civil Aviation Authorities. As
can be seen, only a small number of passengers reported the incident to the cabin crew; this would be the normal reaction by a passenger to any smoke or fume event. The questions raised are: if passengers do report matters to an airline or the authorities, how is that report investigated, what explanation is given to a complaining passenger and what data is publicly available to intending passengers when choosing an airline?

**Question 7**

*Have you continued to suffer with ill-health following your exposure to smoke and/or fumes on your flight?*

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<th>Yes</th>
<th>No</th>
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<td>51</td>
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This question required a straightforward ‘yes/no’ response. It simply sought to define ongoing symptoms following the exposure to fumes or smoke onboard an aircraft. 7 aircrew responded positively that they continued to suffer with ill-health.
Question 8

Which of the following symptoms do you suffer with?

(Legend for this chart is on the next page – read clockwise)
Within the survey question, we presented the respondents with a number of symptoms and they were required to choose those conditions that continue to affect them. Some 24% responded by stating that they were suffering from ongoing conditions; 8 members of the aircrew taking part in this survey indicated that they were suffering with ongoing conditions – 6 with multi-symptoms, 2 recording that they suffer with ‘forgetfulness’. As we have discovered
with Consumers, many have difficulty in obtaining support from their medical practitioners when reporting these ranges of symptoms; for professionals this is compounded by the lack of support given by airlines and authorities.

Question 9

Are you still able to work?

As we have discovered with Consumers, being able to work following an exposure is a difficult issue for many. Some Consumers hold important positions; some with responsibility of other peoples safety. It would appear from this survey that nearly 2/3rds have responded positively about their work; 28% are classified as NRR – therefore caution should be taken that some of the 28% may be able to work but there are some who may have preferred not to answer this question. Of those surveyed, 6 members of aircrew stated that they were no longer able to work.
Question 10

Would you like to tell us the detail of how this has affected you?

This question was purely optional and invited direct comment into the survey. 23 respondents chose to share their experience – some of the respondents have simply chosen to share their views on this issue (as we have done in previous reports, other than some minor grammatical errors (to facilitate easier reading) we have not made corrections to the commentaries provided – we have removed references to flight numbers and names of airlines, this we believe concentrates the reader on the Consumer experience):

“This did not affect me but I was concerned that we were 'trapped' inside with no apparent fresh air available”

“I haven't worked for 13 months. I have been diagnosed with many problems including nerve damage obstructed lungs and ME. My health social life relationships and finances have all been ruined. My airline has on several occasions threatened to terminate my contract but hasn't done so yet”

“In March 2007 I flew [NAME OF AIRLINE] from Singapore to Yaounde (Cameroun) during the following four weeks whilst on the work site I suffered light headedness and balance problems to such an extent that I was taken to a hospital where I was (mis)diagnosed having blood clots in the carotid arteries I was then medevaced to South Africa for further testing where I was given a clean bill of health however after flying [NAME OF AIRLINE] back to Australia in a very old [TYPE OF AIRCRAFT] I felt seriously ill for weeks I experienced the same symptoms again after flying [NAME OF AIRLINE] and [NAME OF AIRLINE] later that year I now know what I could be suffering from and will demand blood test through my doctor for presence of the chemicals mentioned here. I also suffer now from a constant tingling in my forehead”

“after the flight on [FLIGHT NUMBER] landing on 14 May 2009 I developed” – Note: This respondent did not complete their comments.

“I simply had to give up my job after 16 years with the company. It may not have been the only
reason but certainly the main reason. In the end the pushed me out of he company on the
grounds of “burn out syndrome”; and made the insurance pay a certain amount of money just o
get rid of me. I simply had been asking too many questions”

“Long-term ill health”

“You ought to do a survey on how those on the ground suffer constantly from repeated
overflying which disturbs quality of life and sleep and which in itself can lead to cardiovascular
problems anxiety disorders and interrupted learning (for those at school). You'll find that tens
of thousands of people suffer as a result in contrast to those who fly occasionally”

“It was a very scaring experience”

“Toxins and poisonous fumes are present almost everywhere in our society. They affect muscles
which can then cramp and cause a range of severe and unexpected symptoms for example
simply by causing tightening of the muscles in the face and neck. The more toxic stress the body
is exposed to the more the adrenal glands have to work. The end result is a degrading of the
body's ability to deal with toxins”

“Two occasions - these answers relate to the first time. After landing at the rear of the [MAKE
OF AIRCRAFT] all crew members smelled fumes. Three of us felt lightheaded so went for lunch
before our next flight. Still all felt disorientated and nauseous but when this was reported to the
Cabin Service Director in charge of the whole trip he asked if we wanted to go off sick or stay on
the trip as it was going to be busy. With [NAME OF AIRLINE] we are quite reticent about going
sick as this adds to our likelihood of being called into the office and management meetings
eventually leading to disciplinary action. So we all continued to work the next sector which was
not in fact busy. I took a drinks bar out and was surprised to find myself for the first time in
twelve years' flying attempting to pour orange juice into full glasses of water one more than one
occasion. I continued to feel odd confused and nauseous. A few days later I went sick as I did
not improve and I got a piercing headache that lasted approximately two weeks - right between
my eyes”

“serious sinus problems since being on the flight”
“I almost always get a headache and nausea on aeroplanes. On the occasion reported above there was a significant amount of smoke in the cabin. The crew said it was because the aircraft had just been de-iced. I am not convinced of this”

“Never experienced this problem but always avoided the aircraft associated with it – [TYPE OF AIRCRAFT] and [TYPE OF AIRCRAFT]” – Note: the aircraft identified are subject to intensive debate on the fume/smoke debate.

“before departure from Istanbul Ataturk airport the cabin of my flight was sprayed with some aerosol - no explanation by the crew and no warning. At that time I was suffering from asthma and could just barely cover my nose with my sweatshirt and breathe through that for the next 10 minutes. I never complained but assume I should have”

“Have flown regularly (weekly)”

“I’m concerned about the quality of air in the aircraft when push-back is delayed and passing aircraft produce exhaust fumes which are then taken up by the aircraft on stand. Sometimes (today) the fumes become so strong that I feel nausius”

“It made me feel sick in flight NAUSEA which is not one of your symptom choices. It also caused anxiety because I could not escape the toxins I knew I was inhaling”

“Only ever been on short haul flights of 2-3 hours max and never experienced any problems. This is not to say they don’t exist I don’t know. I simply state that in some 20 flights in about 8 years as a passenger I have never experienced anything. Airport lounges are a lot worse”

“After the flight to Denia 8 years ago I experience a burning sensation throughout my body and tingling feeling as I went through customs. After a few days my left big toe started to go numb. I have had extensive tests at Kings College and they cannot come up with a cause but at this present time I have little feeling in my feet and the numbness goes up to my thighs and have also recently experienced numbness in my fingers. Occasionally I have a burning sensation in my mouth and tongue. I go every year to the specialist who keeps an interest in my condition
and I always hope that there may be a new drug that can help me. I have always blamed the aircraft that day I flew to Denia”

“Have been diagnosed with aerotoxic syndrome/ ME been off sick for over 3 months after being cabin crew for 6 years”

“My life had been completely devastated by this my doctor still will not recognise this condition”

“I started flying in July 2007 I was always very nauseous and occasionally vomited. I then started having problems with my balance and was diagnosed with labrinthitis then my sinuses blocked and on many occasions after landing it would take days for my ears to unblock”

“Temporary effects that lasted for about 5 hours of an 11 hour flight. Felt fully recovered after I left the aircraft”

**Question 11**

*Have you ever complained to the airline, the aircraft manufacturer, the fuel manufacturer or the Civil Aviation Authorities – have they ever responded?*

This question was purely optional and invited direct comment into the survey. 11 respondents chose to share their experience – some of the respondents have simply chosen to share their views on this issue (as we have done in previous reports, other than some minor grammatical errors (to facilitate easier reading) we have not made corrections to the commentaries provided – we have removed references to flight numbers and names of airlines, this we believe concentrates the reader on the Consumer experience):

“I’ve written a report of the Incident to my airline I’ve shown them my medical reports where 4 Doctors believe my ill health is as a result of exposure to toxic air. I’ve written to the CAA twice and received 1 reply. I’ve written to my MP and seen him twice Prince Charles and The House of Lords. All I ever get told is that the Government is doing research”

“no”
“Oh yes I did. More than once! But the answer has been the same all the time. “We don´t know anything about that. There´s now official report”. The report written by myself was not considered “official” enough”

“Yes. Entirely disinterested. They get away with it because they can”

“Your survey is somewhat flawed in my opinion most fumes are experienced on pushback”

“No. I only found out the fundamental flaw in aircraft design recently. I am utterly disgusted with the anything to do with the aircraft manufacturing industry the airlines and governments for perpetuating such obvious bad design. I have never written to these organisations and will not. My response has been to refuse flying as a form of transport and keep all my business inside Europe. I no longer do business in the U.S.A.”

“I think this is a very important problem crucial in the aviation field but certainly not limited to it. I have spoken out in a blog and to people I know. Generally discussion of these problems is met with skepticism and incomprehension. Until a large number of people understand the danger of toxic substances and their prevalence in our daily lives so that it modifies their choices at a consumer level it seems unlikely that our economy-driven society will make the costly necessary changes to remove toxins from our environment such as on airplanes. Thank you for this survey it represents a huge jump forward in raising public awareness”

“I put an Incident Form into [NAME OF AIRLINE]. I have asked for follow-up (from Apri 2008 I believe) and when I last checked they said they investigate all such incidents but that mine had not yet been dealt with”

“I have never complained as I felt it would have been a waste of time as I had no proof”

“I collapsed on a flight from Sydney to Bangkok and spent two days in hospital - I wrote to [NAME OF AIRLINE] to thank the airhostess you looked after me on the flight explaining what happened and expressed my concern about how I have collapsed and felt and thought it was Aerto Toxic Syndrome - they acknowledged my letter but never mentioned what I had said about
the Aero Toxic - my docotor does not what to know - neither does the Nerosurgen I have seen nor the ENT specialist”

“No but I am going to in light of all the evidence”

**Comparing Surveys:**

In 2007, we carried out a Facebook survey on this issue. The survey ran for a 24 hour period and captured 100 opinions. That survey discovered that some 15% of respondents had experienced a smoke or fume event onboard an aircraft and 5% suffered with illness as a result of that exposure.

By comparison, the present HolidayTravelWatch survey has discovered that 63% of those surveyed had experienced a smoke or fume event, with some 38% suffering with illness/symptoms following that exposure.

During that survey, we established that the official figure for flights over the UK in January 2008 was 264,083. We discounted that figure by using the 15% figure to establish the number of potential flights affected by smoke or fumes; this created a figure of 39,612 flights over the UK in January 2008. Within that discussion we provided a further ‘discount’ of 50% to allow for ‘misinterpretation’ of events in an aircraft – this created a possible 19,806 flights over the UK in January 2008 that may have suffered a smoke or fume event on-board.

Using the figure of 19,806 flights possibly affected and the 15/5 % (Facebook Survey) & 63/38 % (The HTW Survey), the following table illustrates the potential numbers of passengers potentially or directly affected by smoke/fumes within the aircraft cabin/cockpit environment. We have not assumed that everyone is affected on a flight. As the table descends, we have applied the same percentage ‘discounts’; we have also provided an assumption on passenger numbers per aircraft.
We need to ask the question, why the disparity? The first survey was carried out over a 24 hour period on a social networking site. The second survey was in place for 8 months and was a ‘special interest’ detailed survey of choice. We suggest that the reason for the difference is simply down to the dynamic of the survey’s themselves; what both indicate however, is that...
there is a serious problem which will require resolute and definitive action.

It is important to acknowledge that the final row of the table of the above table only indicates the potential numbers of passengers affected by fume events during the month of January 2008. If you applied the figures throughout 2008, this reveals the potential annual numbers of air passengers who may have experienced or have been affected on flights to/from the UK:

<table>
<thead>
<tr>
<th></th>
<th>15% (experience of smoke/fumes)</th>
<th>5% (experience of illness)</th>
<th>63% (experience of smoke/fumes)</th>
<th>38% (experience of illness)</th>
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<tr>
<td>Estimate of the number of passengers potentially affected during the whole of 2008 on flights to/from the UK</td>
<td>534,780</td>
<td>59,400</td>
<td>9,433,368</td>
<td>3,431,856</td>
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Analysis of these figures are entirely at the discretion of the reader to ‘pick & choose’ the level that they will subscribe to, if at all! We offer these findings from our ‘snapshot’ surveys as indicators of these index events and the experiences that follow.

The surveys do however demonstrate several issues:

1. That it is unlikely that any law or standard produced since 2008 has actually made a difference to these events or the responses you would receive in a survey today;
2. That there has NOT been a sensible examination by most Standards Organisations, the EU Commission or other government authorities on the importance of the Consumer experience;
3. That the figures demonstrate the demographic of base evidence that the Aviation Industry, Standards Bodies or Legislators should not ignore!
Consumer Experiences:

As we have done in previous Consumer reports, we shall provide a summary of the complaints received by HTW and present them in the Consumer’s own words. We consider that the presentation of this ‘non-scientific’ evidence promotes the reality of the experience, a reality that is both truthful and compelling!

The comments we have illustrated below only serve to illustrate a cross section of the contact we receive. Some Consumers following their initial approaches to HTW reject any further contact, or following contact by HTW resist providing further data, preferring to opt for self resolution to their problems.

In some respects this is not surprising; it should be recognised that Aerotoxic clients are generally more difficult to interview, often because they are suffering with real illness and sometimes they demonstrate erratic behaviour (the analogy should be drawn with those who suffer with an acquired brain injury).

This analysis is not meant to provide a poor reflection or demean those suffering with Aerotoxic illness, it simply illustrates the real time damage that has been caused.

In the same way that a lawyer would manage a client with a head injury, all concerned in the investigation of the Aerotoxic phenomena must exercise a greater skill, care and understanding in the management of this issue!

In presenting individual commentaries, we will only make amendments to their words or summaries to allow for an easier understanding of their comments. In the interests of fairness, we have removed all references to airlines, people or names as we consider that the debate should not become embroiled in the notion that one airline is worse than another; in our view, this is a common problem requiring a single solution and a singular sense of purpose!

“I believe that I and members of my family have been a victim of such contamination. We have just returned from Las Vegas flying with [NAME OF AIRLINE] flight number [NUMBER] on a direct flight to Manchester. This was on the 14th/15th February 2008. During the flight I became aware of a strange smell within the plane which came and went but was consistent throughout the flight. People sat near to me also noted the smell and we made the cabin staff aware of the
smell and our concerns. My daughter and her husband were sat some 9 rows or so behind us and almost to the rear of the aircraft, they too noticed the smell. The cabin staff said that they would check but said that they could not smell anything unusual. It made for an unpleasat flight and towards the end of the flight I developed a cough and generally feeling lethargic. On return home I felt somewhat unwell and went to bed (thinking it was maybe jet lag or general fatigue) however the following day I felt no better and my wife was also feeling unwell. On the evening of Saturday 16th February I was quite nauseous and was complaining of chest pains, and flu like symptoms, my wife also went down with the same symptoms. It is now Tuesday 19th February and both me and my wife are still feeling unwell. My wife has been confined to bed for the last 2 days. On ringing my daughter I find that she too is feeling ill with the same symptoms as both me and my wife. A coincidence, may be? but I feel that the smell from that aircraft has something to do with our condition, especially since reading the article on your web site. As I said previously there were a lot of other people who made them selves known to the flight staff and I would be very interested to know if they too have same symptoms”

“he called [NAME] to tell him how unwell [NAME] was , [NAME] told him he was also feeling fatigued he had to keep going outside to try and clear his head but he was putting it down to jetlag”

“The light is affecting her eyes She has vomited Her whole body aches and she feels lethargic and fatigued Headaches Her dad [NAME] says she looks dreadful When coming down the stairs she nearly passed out swaying to the side she knocked a picture of the wall and broke it. High Temperature”

“Her whole body aches and she feels lethargic and fatigued Chesty cough Terrible throbbing headaches Nausea Traces of blood in the nose”

“Pilot for 6 years with [NAME OF COMPANY] flying an A146. Has now lost medical cert to fly and has lost his health and his livelihood. A146 are the worst culprits. Symptoms started about 3-4
Yrs ago, generally feeling under the weather and getting tired sooner. Would lead to a headache where he would be unable to function, pain relief did not work. Nausea would follow and the headache would last for 24-48 hours. The headaches became more often as time went on. He went part time and due to time owing ended up have 2 months off and he felt great. Within 1 day of returning and flying he had a headache. Realised Dec 05 what his condition was. Went to GP and was sent for test which all came back okay but he says it was basic tests as the condition is relatively unheard of. He looked into matters further and went for more specialised test in Oct 06 and after a lot of test he was diagnosed in Dec 06. Last flew Sept 06 and is on continual sick leave at present” (6014)

“When she got onto the [NAME OF AIRLINE] flight (make of aircraft unknown), there was a problem with the flight video system and one of the air crew (female) was getting quite agitated. No smells on the way to the runway, no aware of any aircraft in front. They took off. Within 30 seconds of take-off there was a strong smell of burning and a smell of fuel. They were seated in the Premium section of the cabin (6E/F). The woman in 5C turned to her and acknowledged that she was experiencing the same smell. The client became dizzy and nauseous. She rang the bell, no one came. Her Partner was trying to calm her down. She thinks she may have lapsed into unconscious state. The airholes above them were blocked, the cabin air was coming from the side. Her Partner also smelt the fumes. She became aware that her heart was beating rapidly, she was very frightened. She does not have a heart problem, has a slightly elevated BP problem but does not require medication. When the seatbelt sign went off, [NAME] came to her. He described what she and others smelled as 'perfectly normal' He stated 'When we take off, the engine exhaust fumes get into the cabin'. She responded by stating that she considered that there was nothing normal about smelling fumes. She describes herself as becoming shaky and uncomfortable. She is a regular flier and this was the first such experience of fumes effect. After about 15 minutes she requested a blanket, there was none, so she place her jacket around her shoulders [PERSONAL INFORMATION] Her Partner suffered no effects. When she went to the toilet she found that it had been blocked up and reported it to the cabin crew - she considered that she was 'not there', she was surprised that she did not notice the blockage when she first went into the toilet. She reported visual disturbances through the flight and tried to calm herself down through yoga breathing exercises. She reported seeing liquid gold/blue/white before her eyes. There was a similar smell on descent. By the time she
had landed, she was trembling. They were the last to get off the aircraft. The crew said nothing, they saw one of the pilots at the front of the aircraft and she went to complain to him. She told him what happened, he appeared to be nonplussed and stated that this was normal for this type of aircraft. Whilst she was standing with him, they were all sprayed with something and had to move out of the way. They went into the terminal, by this time she was shaking and her face was bright red. She felt lousy and had face and chest pains. When they went to resort, they complained to the rep on the Wednesday and she completed a CCF [CUSTOMER COMPLAINT FORM]. The rep became very guarded. She e mailed [NAME OF TOUR OPERATOR] but never got a satisfactory response and no answer to her questions. She suffered with chest pains all week and swelling to her legs and body, by the Wednesday she had cold/flu symptoms. She had a forced cough and felt like retching and burping. She stayed on raw food for the week and her Partner (60th Birthday) had to look after her for the week. On the return flight, she spoke with others from the outward flight who all acknowledged the smell, one woman's husband suffered with headaches. She has details. On the return flight they experienced an acrid smell” (7124)

“Headaches, pins and needles” (6081)

“G.P had diagnosed her with major depressive disorder, she felt suicidal, breathless and headaches, he gave her anti depressants, he then informed her she needed specialist help, he has passed her to a psychiatrist, she went for a medical again last week, she has been told she no longer has to get sick notes anymore she is now classed as long term sick[OTHER PERSONAL DETAILS ABOUT ANOTHER FAMILY MEMBER]...She suffers with forgetfulness and has to create a strategy to deal with her cognitive deficit. She describes the fact that there were fumes in the aircraft cabin and there was residue on their cases and on their clothes”. (6828)

“who was 17 yrs old at the time of the flight has difficulty concentrating, she seems to have a permanent headache” (6991)

“During the course of my flights, I became aware earlier this year of numbness in hands and feet
(during flights), irritation of the eyes and sneezing (immediately post-flight) and chronic on-going tiredness. I started to keep some notes of flights and symptoms since, unscientifically, it struck me that there may be a connection. As a result of [NAME OF AIRLINE] struggling to adhere to timetable, I have more recently switched carrier allegiance to [NAME OF AIRLINE] and have noticed an improvement in my general demeanour. That said, I still concerned enough to have now consulted my GP who is referring me for blood tests. Having read your information however, I am interested to know whether this experience is similar to that quoted by other individuals” (7277)

“They have and are very sick. She also has another family whom flew on [NAME OF AIRLINE] flight one year ago whom was confined to the villa for a whole week with the same symptoms and the infant now suffers with asthma” (6019)

“I have suffered two bouts of severe asthma in my life both after travelling by air. The first time I had to be on respirator for 3 days, the next time was more serious still, and I ended up on respirator for 11 days, and recovering in hospital for one month. These two bouts were 10 years apart - I have never had asthma symptoms at all, never taken inhalers or anything like that and I was 50 years old with the first incident. No incidents in the 10 years in between, several air flights, UK, Europe and international. With no problems, and then a short flight to France, and it all happened again. I have always thought there was some link, although doctors have just put it down to a severe chest infection both times. I would be interested to know of any other people reporting similar problems associated with toxic air” (7375)

“[NAME] reports he is having problems sleeping and his girlfriend is having breathing problems” (6754)

“Summary of Flights and Medical Information - Various flights within Europe are not listed. Flight details recorded using expenses claims, Flying Club statements and passport stamps. I have only ever taken flights for business never for pleasure. Symptoms listed were recorded
contemporaneously by my wife, not with hindsight. Details of flights given in case cause of my CFS proves to be due to OP poisoning during flights - “Aerotoxic Syndrome” rather than viral.

SEP 1982  USA LAX
FEB 1985  USA SFO
APR 1987  USA NY
JULY 1987  USA SFO

June 1989  Started work for a semiconductor company in [LOCATION] as Sales and Marketing Manager

JUNE 1991  Caught Glandular Fever and had 2-3 months off work but seemed to make a full recovery with no post-viral fatigue.

Oct 1992  USA SFO
JAN 1993  USA BOSTON
MAR 1993  USA NEVADA
June 1993  USA NEW YORK
OCT 1993  USA BOSTON
Nov 1993  USA
NOV 1994  USA BOSTON
JAN 1995  USA BOSTON
JULY 1995  MOSCOW
AUG 1995  HONGKONG
OCT 1995  USA Boston
JAN 1996  USA NEW YORK

JUNE 1996  USA Houston + LOTS OF INTERNAL FLIGHTS + EMERGENCY LANDING
JULY 1996  USA SFO

SEPT 1996  USA NY and SFO + LOTS OF INTERNAL FLIGHTS  SUFFERED FROM FLU-LIKE
SYMPTOMS ON ARRIVAL

OCT 1996 or 1997 or 1998?  ILL WITH PINS & NEEDLES IN FINGERS, BODY PAIN AND
FATIGUE. DIAGNOSIS WAS DEPRESSION; PRESCRIBED PROZAC AND REST. I queried this with GP
at the time as the pins and needles didn’t seem to fit in with a diagnosis of depression but GP
wouldn’t listen. BACK AT WORK AFTER 4 WEEKS AND SYMPTOMS LASTED ANOTHER 2 MONTHS.

FEB 1997  USA+ LOTS OF INTERNAL FLIGHTS

AUG 1997  USA BOSTON/LA + INTERNAL FLIGHTS

SEP 1997  USA BOSTON/LA + INTERNAL FLIGHTS

OCT 1997  USA BOSTON/LA + INTERNAL FLIGHTS

NOV 1997  USA BOSTON/LA + INTERNAL FLIGHTS

DEC 1997  USA BOSTON/LA + INTERNAL FLIGHTS

MAR 1998  USA

Jul 1998  USA SFO

SEP 1998  USA SFO

NOV 1998  USA SFO

JAN 1999  USA

MARCH 1999  USA Florida

APR 1999  USA BOSTON

JUNE 1999  PARIS  BA flight from Bristol.  WAS ILL WITH FLU-LIKE SYMPTOMS FOR MUCH OF
THE STAY (5 DAYS). Wife and son were with me and visited Disneyland.

JUNE 1999  USA

Date: 30 May 2013
Moved house. New GP.

AUG 1999   USA
SEPT 1999  USA SFO
MAR 2000   USA SFO
MAY 2000   USA SFO
JULY 2000  USA SFO
AUG 2000   USA
SEPT 2000  USA SFO
OCT 2000   USA SFO
DEC 2000   USA LAX
JAN 2001   USA SFO
APR 2001   USA SFO
JUNE 2001  USA SFO
JUL 2001   USA BOSTON, WASHINGTON
SEPT 2001  USA SFO   Stuck in US due to 9/11 attacks and no flights home.
OCT 2001   USA SFO
30 Nov 2001 Made Commercial Director at same company in [LOCATION].
FEB 2002   MADRID
FEB 2002   BORDEAUX
FEB 2002   USA SFO
APR 2002   USA NEW YORK, LAX * INTERNAL FLIGHTS
JUNE 2002  USA SFO
JUNE 2002  PARIS

JUL 2002  EDINBURGH

AUG 2002  BORDEAUX

AUG 2002  GERMANY

AUG 2002  LITHUANIA

SEP 2002  USA SFO

NOV 2002  MUNICH

NOV 2002  USA

29 MAR 2003  EUROPE

EUROPE

EUROPE

10 MAY 2003  PARIS

MAY 2003  USA, SFO

21 JUNE 2003  PARIS

20 JUNE 2003  BORDEAUX

5 JULY 2003  NANTES

AUG 2003  USA LAX, SFO + INTERNAL FLIGHTS

27 SEP 2003  BORDEAUX

SEPT 2003  USA SFO

OCT 2003  USA NEW YORK

13 DEC 2003  EUROPE

EUROPE

Date: 30 May 2013
MAR 2004  USA SFO

APRIL 2004  SAW GP AS SYMPTOMS I was experiencing still persist ie  EXHAUSTED, ALL OVER BODY PAIN, UNABLE TO THINK PROPERLY OR CONCENTRATE. DIFFICULTY GETTING THROUGH THE WORKING DAY. OFTEN WENT STRAIGHT TO BED FOR A COUPLE OF HOURS AFTER ARRIVING HOME AT 5.30PM. WEEKENDS WERE NOT MUCH BETTER. GP SUGGESTED I TRY CLIFF WALKS ETC !!, CODEINE FOR PAIN AND COME BACK IF NO BETTER.  

10 JUL 2004 EUROPE

17 JUL 2004 GERMANY

JULY 2004  WENT BACK TO GP. REFERRED TO RHEUMATOLOGY Dept at [NAME OF HOSPITAL] FOR POSSIBLE RHEUMATOID ARTHRITIS DIAGNOSIS. NEEDING CHAUFFEUR TO DRIVE ME TO APPOINTMENTS AND HAVING OVERNIGHT STAYS TO REDUCE DISCOMFORT. NEEDING TO FLY BUSINESS CLASS TAKING MORE DAYS OFF WORK DUE TO PAIN, TIREDNESS AND OFTEN FOUND ASLEEP IN MY CHAIR IN THE OFFICE AT LUNCHTIME. DIFFICULTY THINKING PROPERLY TO MAKE DECISIONS. NOT GOOD FOR SOMEONE EMPLOYED AS COMMERCIAL DIRECTOR.  

AUG 2004  USA SFO LAX  Was intending cancelling this trip because I felt so ill but about 7 days before I was due to go, I started feeling better and had a wonderful trip.  

SEP 2004  USA LAX

OCT 2004  USA SFO  NOTICED THAT EVEN 1 GLASS OF WEAK BEER MADE ME FEEL VERY UNWELL  

Nov 2004  MUNICH  USED CHAUFFEUR TO DRIVE ME TO HEATHROW AS COULD NOT CONTEMPLATE DRIVING 250 MLS. LEFT CONFERENCE AT 4PM TO REST BEFORE MEETING CUSTOMERS IN EVENING. CUSTOMERS NOTICED THAT I WAS HAVING DIFFICULTY HOLDING KNIFE & FORK DUE TO PAIN AND TREMORS.  

NOV/Dec 2004  SAW Consultant RHEUMATOLOGist IN [NAME OF HOSPITAL]. DUBIOUS OF ANY SEVERE ARTHRITIS DIAGNOSIS. REQUESTED VIRAL BLOOD TESTS, STANDARD ARTHRITIS BLOOD TESTS AND A GAMMA BONE SCAN. NOTHING ABNORMAL DETECTED SUGGESTED CHRONIC FATIGUE SYNDROME AS LIKELY DIAGNOSIS.  

DEC 2004  USA LAX, PHX, SFO  Could not stand to remove shoes at security. Senior colleague
on trip with me commented that my driving was erratic and reactions slow. Difficulty carrying briefcase as pain in hands has got worse. Paid for an upgrade to first class so I could have a bed and arranged assistance at Heathrow

JAN 2005 Wrist/Fingers still very painful and upper back. Still feeling very unwell-Flu-like. Fatigue & malaise following physical or mental activity, with full extent of exhaustion only apparent 24/48 hrs later. Widespread muscle pain & morning stiffness. Difficulty in getting off to sleep, waking during night & not being refreshed after sleep. Problems with short-term memory, concentration and maintaining attention, clumsiness, unsteadiness. Often feel cold & shivery. Alcohol intolerance

JAN 2005 USA SFO for 4 days

FEB 2005 My wife phoned me a work and realised I was very ill and came to work to collect me. Chest pains plus usual symptoms. Informed other directors that I was exhausted. They agreed to me working part-time from home for a while to see if that helps.

9 APR 2005 ITALY

MAY 2005 Not feeling any better, especially cognitive problems so stopped work fully before I make a serious costly error. Officially on statutory sick pay.

5 AUG 2005 Saw Consultant in Respiratory Medicine at [Name of Hospital] who has interest in chronic and occupational health. Reviewed all previous tests and took medical history. His report says: Symptoms support diagnosis of CFS, No neurological abnormality, No signs of depression, May make a slow recovery but not to rely on this, Try and maintain optimistic attitude and rehabilitate myself mentally and physically.

9 NOV 2005 Private appointment with Consultant Psychiatrist at [Name of Hospital] arranged by insurance company. Confirmed diagnosis of CFS with a relapse/ remission pattern. Suggested that long-haul flying may have helped to maintain symptoms due to time zones. Probable cause likely to be viral. Felt a full recovery within 2 years unlikely
APRIL 2007 FEEL AS IF MY BRAIN IS REWIRING ITSELF AS I AM WORKING THROUGH MENDING TEST EQUIPMENT TO KEEP MY MIND ACTIVE. PINS & NEEDLES IN FINGERS NO LONGER A PROBLEM BUT STILL HAVE BALANCE AND CO-ORDINATION PROBLEMS WHEN TIRED.

EXHAUSTION AFTER PHYSICAL EFFORT OR MENTAL EFFORT. HEADACHES IF USED BRAIN TOO MUCH.

JUNE 2007 SAW ARTICLE ON ORGANOPHOSPHATE POISONING AND WONDERED IF THIS MIGHT BE THE CAUSE OF MY CFS RATHER THAN THE VIRAL ROUTE. SAW GP WHO HAS REFERRED ME TO A NEUROLOGIST FOR ASSESSMENT. FRIEND VISITED FOR COUPLE OF DAYS. SAID THAT HE COULD NOT DETECT COGNITIVE PROBLEMS DURING ½ HR PHONE CALLS BUT OBSERVING ME LONGER MADE HIM REALISE THERE WERE COGNITIVE PROBLEMS.

28 AUG 2007 Appointment with [NAME OF DOCTOR], Consultant Neurologist who concluded that my symptoms fulfil the CFS criteria. He sent letter to my GP on 6 September and arranged an MRI Brain Scan for 25 October.I had hoped that he would review the possibility that my CFS was organophosphate induced rather than viral but obviously wasn’t aware of Aerotoxic Syndrome.The symptoms OF AEROTOXIC SYNDROME (some immediate and others lasting several years) are listed as: fluey episode like sheep dippers flu lasting 3 days· numbness in fingers· memory impairment· forgetfulness· sleep disorders· shortness of breath· tightness in chest· chest pain· susceptibility to upper respiratory tract infections· weakness and fatigue leading to chronic fatigue· exhaustion· hot flashes· muscle weakness and painMY CURRENT SYMPTOMS ARE:· FATIGUE MADE WORSE BY PHYSICAL, MENTAL OR EMOTIONAL EXERTION· OVERALL BODY PAIN ESPECIALLY WHEN EXHAUSTED INCLUDING TWITCHING AND WEAKNESS· FEEL I HAVE FLU MUCH OF THE TIME· DECREASED APPETITE· IRRITABLE· ALCOHOL INTOLERANCE· HEADACHES ESPECIALLY AFTER MENTAL EFFORT· UNSTEADINESS, TREMORS IN HANDS WHEN TIRED, PROBLEMS WITH BALANCE, CLUMSY, KNOCK INTO THINGS, OFTEN DROP THINGS· SOMETIMES HAVE NIGHT SWEATS BUT CAN ALSO FEEL HOT OR COLD WHEN INAPPROPRIATE· DRY MOUTH AND EYES, OFTEN THIRSTY· BRIGHT LIGHT AND NOISE INTOLERANT· OFTEN FEEL LIGHT-HEADED, SPACED OUT AND WHEN DRIVING FEEL AS IF OTHER TRAFFIC IS TRAVELLING TOO FAST· DIFFICULTY THINKING CLEARLY, BRAIN-FOG· SPATIAL DISORIENTATION IE THINGS AREN’T EXACTLY WHERE I THINK THEY ARE· DIFFICULTY JUDGING DISTANCES EG DRIVING OR PUTTING CUP DOWN· SOMETIMES DIFFICULTY DOING SIMPLE CALCULATIONS, FINDING THE CORRECT WORD, EXPRESSING IDEAS, LOSE TRAIN OF THOUGHTS, DIFFICULTY ORGANISING THOUGHTS, FORGET WHAT TO DO IN

Date: 30 May 2013
“8 hrs into the flight my daughter [NAME] age 6 violently vomitted, i started feeling light headed and my husband headaches. when we arrived in orlando we lost our dvla and had to purchase transfers, we booked our holiday last year and purchased 1st class seats for all villa rental for 10 nights and car hire, [NAME OF TOUR COMPANY] let us cancel the car hire as we never redeemed the voucher.also we purchased seperately theme park tickets and a 4 night disney cruise. the whole holiday cost us around 10.000 pounds. within 48 hrs myself, husband and youngest [NAME] 6, started presenting severe flu like symptoms, fatigue, delerium, shakes and head pain, severe respiratory symptoms also presented in myself and daughter my other two daughters had mild symptoms of headavhes ect. we saw a doctor and she asked to see me again the next day then admitted me to hospital as an emergancy, all four walls of my lungs were filled with fluid and the hospital gave me steroid breathing treatments. none of us had prior conditions and were fine untill the plane journey. we still went on the cruise as we did not want to disapoint our kids and thought we could rest as the kids clubs are excellent. my daughter [NAME] had to seek emergancy medical treatmant within hours as her respiratory also worsened, accute respiratory illness. we could not go on our pre booked excursions or anything. we arrived back at sanford airport on the 15th feb 07 ......... as we were put back together with passengers that had flown out on [FLIGHT NUMBER] we started to realise very quickly we were not the only passengers that were ill with the same symptoms and time frames. in fact mass amounts........the outbound flight we travelled on was very hot 2 hrs longer than usual no one in my family gets travel sick and an aviation worker from another airline travelling on that flight said the air con was not working properly. .......obviously i started lodging complaints asap with
[NAME OF AIRLINE] and [NAME OF TOUR COMPANY] and hpa and enviromental health.........i then recieved a letter from [NAME OF AIRLINE] saying that due to tech difficulties the aircraft suffered an AIR VALVE BLEED, and it was extraordinary circumstances and there definitve response that no p.i was being paid or cancellation costs. i then phoned [NAME] cust rel manager, asked her for the reg no of the aircraft outbound [NUMBER], cancelled inbound also [NUMBER]. i later phones again and spoke to [NAME] who also confirmed these reg nos. within 48 hrs i recieved another letter from [NAME OF AIRLINE] saying actually the aircraft reg was different and also the mechanical fault was different and our [NUMBER] actually flew to tobago for late operational change but still will not pay comp for cancellation or pi? the story went to press and [NAME] of [NAME OF TOUR COMPANY] still refuted any other passengers notifying them of any illness while i have original letters (copies) to disprove this, and so did [NAME] deny any one else writing in as did [NAME] [NAME OF AIRLINE]. they are clairly lying about many different aspects of this case and i have written evidence of this, and now the airline wish to meet with me at there offices and want to see my correspondence? also i recieved another letter just this morning saying we were not going to get any more comp! i have the chqs here but have not cashed them” (5635)

“after take off. strong smell of burning I was quite worried and consulted my mother who could also smell it....The member of the crew said it was normal at take off, I would have complained further if the smell had persisted after take off.....My mother also noted the fumes before and during take off I have flown extensively and have experienced no burning smells at take off Prior to this.....but maybe connected maybe not Returning from holiday both me and my mother were both very ill with viral infection (flu type symptoms) I was off work for over 2 weeks and had to consult the doctor We put the illness down to poor air circulation on the flights”. (7450)

“The return flight was on a [NAME OF AIRLINE] Aircraft (she cannot remember the make of the aircraft). their flight was an overnightrer from Barbados to London Gatwick. They were both seated toward the front of the aircraft in the premium cabin. They were about one hour into the flight when both she and her husband experienced a musty smell (they thought at first that someone had passed wind and started to use books to try and disperse the smell). The smell did not go away. During this period, they heard a bang - this came from behind a curtain which
separated their section from the toilet. They noted the crew were in attendance and discovered that someone had collapsed. They describe themselves as people who do not sleep easily on any flight. Shortly after the smell became apparent, they both fell asleep until they were close to the UK. Both describe themselves as being in good health before this flight. She describes herself as waking up and feeling quite ill. She developed a bad cough, sore throat and lost her voice. She spent the first year on anti-biotics and was examined through an endoscopic procedure on her vocal cords which were found to be pink and healthy. She now suffers with similar symptoms and severe arthritis, particularly with her jaw. It was apparent during the interview that she had problems with her memory as she had difficulty recalling various issues. She has also had numerous steroid injections. She also reports that she has had blood tests, she cannot recall what they were for, but reports that they have come back reporting everything as normal. Her husband suffered with a chest infection following the flight, he has been less affected than his wife, but suffers with joint pains. It is very clear that she is currently very ill”. (7656)

The Latest Consumer Experiences:

Throughout 2012 and into 2013, we have continued to receive complaints from Consumers about the condition of the flight they had taken.

Some recall that they simply became aware of fumes or smells, others relate how they had become quite ill.

One group of passengers were subjected to two emergency landings following separate fume events. They witnessed crew either donning emergency breathing apparatus or panicking!

They received no information, no medical advices and were simply packed off in a coach from their diverted airport to their final destination.

In that case, the passengers were subjected to indifference and misinformation from the airline, and despite guidance from us, they did not contact the Civil Aviation Authorities and many of the group simply gave up on their complaints!

In another case, a passenger became quite ill with breathing difficulties and was ‘allowed’ to lie on the floor by the rear galley/exit for the remainder of the flight. He too did not receive any support from the crew of that flight, particularly in accessing medical assistance.

Date: 30 May 2013
In the latest complaint to be received, we heard from a holidaymaker who was travelling on a flight from Birmingham to the Canary Islands. He was seated at the rear of the aircraft with his wife and a number of other passengers. As the aircraft was taxiing, he and other passengers detected an odour. That odour remained through the take-off phase into some 5 minutes of the flight. On approach to the Canary Islands, the same smell invaded the rear of the cabin again and they did not escape the odour, until they were leaving the aircraft.

In the early stages of the flight, this holidaymaker complained to the crew, along it would appear with other passengers; the result of the complaints made is best summed up as a failure by the cabin crew to acknowledge the problem and to take action to protect the health of themselves and the passengers.

This holidaymaker did not just experience odour smells, he also became seriously ill with respiratory difficulties and was several days later admitted to hospital in his holiday resort.

Because of the seriousness of his illness, the family were advised that they ‘should prepare for the worst’; we wondered how far the medical staff went to establish a differential diagnosis? This again is an important point in the Consumer experience, as we believe that any cabin air standard should also encourage a strong medical input in how to deal with exposure to toxins and as such be written into any standard!

This holidaymaker had no obvious existing medical conditions.

Fortunately he recovered sufficiently to return to the UK but he continues to suffer since his return to the UK and diagnosis remains uncertain.

His wife also suffered minor health difficulties, mainly headaches but she appears for the moment to have fully recovered.

To date, the tour operator has not offered any explanation, nor was he and other passengers offered anything in the way of explanation for this fume event or advise on medical matters.

We can therefore only conclude that since the beginning of our involvement on the Cabin Air Quality issue, despite the evidence demonstrating the potential for fumes to escape into the aircraft cabin and the potential of risk to health, airlines, civil aviation authorities and government’s have failed to take action to protect passenger health – it has been a continued policy of procrastination!
CEN must take the lead and help create the conditions for a Europe-wide Standard on Cabin Air Quality that not only matches other International Standards but also raises the bar on such standards!
Commentary on prEN4618 & prEN4666

We refer to Schedule 1 and 2 which is attached to this report.

These schedules have already been jointly submitted with our campaigning colleagues.

We support wholly the conclusions of those Schedules.

As a Consumer Organisation there are additional factors that we take into consideration and we add additional comment in relation to prEN4618 & prEN4666.

Having regard to these ‘standards, we also have regard to our work through the ASHRAE SSPC 161 Committee on Cabin Air Quality and would suggest that any CEN Standard would also need to incorporate commentary on the following issues:

1. A Passengers Right to Know (Please see the following section for more detail);
2. Contaminants other than that from bleed-air:
   a. Flame retardants;
   b. De-icing fluid;
   c. Hydraulic fluid;
   d. Other contaminants as detailed within the ASHRAE 161 standard;
   e. Carbon Monoxide. This is of particular concern to this organisation, as we campaign on a wide platform on this issue within the holiday arena. We were alarmed to read that prEN4618 ‘recommended’ that a maximum of 50ppm was suitable in the cabin environment. Within the general consensus (accepting that there is a school of opinion that advocate 0ppm), there is an acceptance that 9ppm is the accepted standard and this is reflected within ASHRAE standards. The CEN ‘standards’ on this point alone, represents in our view, a statement that contradicts a widely held view; urgent action is required to address this point.
3. In-Flight Entertainment (IFE) units and the potential for fume/smoke escape;
4. In the Forward, para 2 of prEN4618, general comment has already been made with regards to ‘balanced representation’.
Whilst we are completely convinced that those taking part in earlier discussions and debates on prEN4618 & prEN4666 are entirely honourable, there is some difficulty for CEN, with the potential for the general public to believe that such deliberations were not open to a wider debate. As the debate on this highly controversial area increases in intensity and the prospect of Standard(s) being incorporated into EU Law, we suggest that image is everything when presenting completed Standards or Laws to the Public.

The current review process, and the recommendations that work should start again on the creation of these standards, offers a new opportunity to create an inclusive body of opinion and this will go a considerable way to allaying any public misperception.

To aid this discussion of a greater inclusivity, we would point to the ASHRAE experience and in particular, the reference concerning the operations of the technical committees whereby a great deal is done to achieve a balanced viewpoint.9

It may assist to consider the words of guidance provided to the technical committees on the question of balance, they state that:

“Balance – Condition existing when:

a) No single interest category constitutes more than 1/3 of the membership for an PC dealing with safety, or

b) No single interest category constitutes a majority of the membership of a PC dealing with product standards

Balance in subcommittees is desirable but not required”

The over-arching Standards Project Liaison Sub-Committee acts as oversight into how the process of Standard creation operates and seeks to import three pillars –

Due Process, Openness and Balance.\textsuperscript{10}

It is appropriate to repeat the words of the latter (Standards Project Liaison Sub-Committee:

\textbf{Due Process:}

"Any person (organization, company, government agency, individual, etc.) with a direct and material interest has a right to participate by:

\begin{itemize}
  \item[a)] Expressing a position and its basis,
  \item[b)] Having that position considered, and
  \item[c)] Appealing if adversely affected
\end{itemize}

Due process allows for equity and fair play"

\textbf{Openness:}

"Participation shall be open to all persons who are directly and materially affected by the activity in question. Participation in a process is not necessarily the same as membership or vote on a committee. Participation can be as simple as submitting a public review comment. There shall be no undue financial barriers to participation”.

\textbf{Balance:}

"Balance means at the time a standards action vote is taken:

\begin{itemize}
  \item[a)] No single interest category equals more than half of a committee membership dealing with product standards;
  \item[b)] No single interest category equals more than one third of the membership of a committee dealing with safety;
\end{itemize}

\textsuperscript{10} \url{https://www.ashrae.org/File%20Library/.../SPLS-Training-2011-Final.ppt}
c) To ensure PC balance, no interest category shall have a majority except with the recorded assent of the members in the other categories and approved by SPLS (for a non-policy level PC);


d) A balance within SPC subcommittees and GPCs is desirable but not required”.

We also consider it relevant to cite the current experience of the author of this report. He sits on a sub-group of the All-Party Parliamentary Carbon Monoxide Group\(^\text{11}\) – The Carbon Monoxide All Fuels Action Forum\(^\text{12}\) – and is required to adopt the Nolan Standards for those in Public Life\(^\text{13}\). Again we suggest, given the importance of the work associated with Aircraft Cabin Air Quality, and the potential for any future Standard(s) to be incorporated into an EU Law, we consider that it is appropriate to set out briefly those Standards that the author subscribes to in his work elsewhere. It is clear that for some Organisations, working in a quasi-legislative role, there is a strong attempt to demonstrate how far they consider it is necessary to go in order to establish in the Public’s eye, that they can be confident of the impartiality of their work; the Standards that he subscribes to are:

1. Selflessness;
2. Integrity;
3. Objectivity;
4. Accountability;
5. Openness;
6. Honesty, and
7. Leadership.

\(^{11}\) [http://www.policyconnect.org.uk/appcog/](http://www.policyconnect.org.uk/appcog/)

\(^{12}\) [http://www.policyconnect.org.uk/coafaf/](http://www.policyconnect.org.uk/coafaf/)

A Passenger’s Right to Know

We consider this to be one of the most important elements of any Cabin Air Standard.

HolidayTravelWatch has long campaigned and highlighted the need to have an EU-specific ‘Passenger’s Right to Know’. The Organisation has taken this discussion to the highest level of EU policy making organisations, in particular, EASA, DG Move at the EU Commission and the House of Lords in the UK. We have also commented on the need for this important ‘protection’ with the Australian Civil Aviation Safety Authority\(^\text{14}\).

A passenger ‘protection’ is found within the ASHRAE 161 Cabin Air Quality Standard; it states:

“The record of the duration and levels of each exceedance [Toxins arising from a fume event] shall be made available as follows for at least the 60 days following a flight on which an exceedance occurs:

1) to airline maintenance staff to aid in identifying appropriate corrective actions and
2) to any occupants present on the given flight, including crew members or their representatives, with a medical record indicating symptoms that could reasonably be attributed to exposure to one or more relevant contaminants, in order to assist their physicians in diagnosis and treatment”.

Under the Canada Labour Code\(^\text{15}\), Part II, aircraft are covered by its provisions and it also provides the crew with a ‘Right to Know’. Those rights state that:

“Through the provisions of the Code, employees have the right to be informed of known or foreseeable hazards in the work place and to be provided with the information, instruction, training and supervision necessary to protect their health and safety.”


This right to know is strengthened by ensuring that the methods of communication are appropriate for all employees, including employees with special needs.

Through their health and safety committees or representatives, employees are given the right to have access to government or employer reports relating to the health and safety of employees, but do not have access to medical records of any person except with that person’s consent”.

That ‘Right to Know’ is also extended to the Passengers through the same Code’s provisions at Page 104 – Duties of Employers – which provides a ‘Right to Know’ where someone is not an employee; it states:

“[that they will] take all reasonable care to ensure that all of the persons granted access to the workplace, other than the employer’s employee’s, are informed of every known or foreseeable health or safety hazard to which they are likely to be exposed to in the workplace”

Our own proposals recommend that:

1. In the event that a smoke or fume event arises during the operation of an aircraft, passengers should be advised of that event by the crew, if not already apparent;

2. Where a smoke or fume event arises during the operation of an aircraft, where possible, passengers should be advised as to the source of that event and its chemical or other constituency;

3. If a smoke or fume event arises during the operation of an aircraft, passengers should be provided with immediate written confirmation of the event along with contact details for further information on that event;

4. A right for passengers to know the reasons why aircraft crew are removed to hospital following a smoke or fume event;

5. In the event of crew being exposed to fumes, that passengers are equally advised as to the health issues and offered immediate medical treatment;

6. That National Civil Aviation Authorities publish details of all enquiries carried out by them relating to any smoke or fume events;

7. That a pan-European register of smoke or fume event complaints be created which is fully open and accessible to all Consumers;

8. That a pan-European body be created, possibly through EASA, charged with the investigation of all smoke or fume event complaints compiled on the register;

9. That an independent body be created to receive and accept pilot and crew complaints into the operation and safety issues affecting aircraft, which is open to public scrutiny;

10. That the EU creates a pan-European wide ‘Whistleblow’ campaign to heighten aircraft safety issues so as to encourage an environment of disclosure.

In our view, it is therefore vital that CEN reconsider how prEN4618 & prEN4666 were constituted. They should place at the heart of any consideration, the needs of passengers and by that measure, we would suggest that crew requirements on safety are parallel.
**Conclusion**

We hope that the content of this report, which should be considered as supplementary to the joint submissions, will give further information to the British Standards Institute (BSI) and CEN.

We are at a critical junction in the battle for establishing a new compact between passenger, crew and the aviation industry. Travelling along the same road are governments and various Standards Organisations; the collective submissions in this debate present the best opportunity to create something valuable for Consumer safety in Europe and throughout the world.

We are of the view that the Board of CEN should reconstitute the Standards Committee, so that enquiry into Cabin Air Quality can be assessed anew and ensure that any new ‘Standards Committee’ reflects a wider cohort, thereby ensuring a Cabin Air Quality Standard that is fit for purpose and ready for the rigours of any ‘New Approach’ Directive!

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