

MONDAY 27 JULY 2010

Present

Bradshaw, L
Clinton -Davis, L
Fearn, L
O’Cathain, B (Chairman)
Paul, L
Plumb, L
Walpole, L

Lea of Crondall, L

Witnesses: **Mr Jonathan Moor**, Director of Aviation, **Mr Francis Morgan**, Head of International Aviation and Safety Division, **Mr David Best**, Head of Domestic Airspace Branch, and **Mr Andrew Ashbourne**, Head of Consumer Protection and Health Branch, Department for Transport, examined.

Q1 Chairman: Welcome and thank you very much for coming at relatively short notice. Would you like to introduce yourselves? Jonathan Moor, you are the Director of Aviation. Are you in charge of the whole thing today?

Mr Moor: I am, yes. I am Jonathan Moor. I am Director of Aviation.

Mr Morgan: Francis Morgan, Head of the Division for International Aviation and Safety working in Jonathan’s directorate.

Mr Best: My name is David Best. I am head of the Domestic Airspace Branch of the Department for Transport.

Mr Ashbourne: Good afternoon. Andrew Ashbourne from the Aviation Regulatory Consumer Division of the Department for Transport working for Jonathan.

Q2 Chairman: Thank you all very much for coming and thank you for that. The meeting, as you can see, is taking place in public and will be webcast. A full transcript will be taken. You will be able to see the transcript on the website before it is corrected but you will have the chance to correct the transcript afterwards. The first member to ask a question is Lord Bradshaw.

Q3 Lord Bradshaw: I am sorry I am sitting here but I have to leave early. The London Volcanic Ash Advisory Centre had been issuing warnings about the consequences of an eruption. What we are really interested to know is what did anybody do before the actual eruption of this volcano took place? What preparations were made and what precautions were adopted?

Mr Moor: If I can answer that. There was increased seismic activity at the volcano, Eyjafjallajökull. Can we refer to it as E15 if you do not mind?

Q4 Chairman: That is very helpful. E15.

Mr Moor: Essentially there was additional seismic activity around that in December 2009 and increasing activity on 20 March 2010. That was a small eruption then which started at that time rated at one on the volcanic explosivity index. However, it should be noted that increased seismic activity does not always result in an eruption. The Iceland Met Office did inform the London VAAC (the Volcanic Ash Advisory Centre) around 20 March. The Met Office began to then ensure its satellite images and other information were being constantly monitored. There was no requirement for any volcanic ash advisories to be issued by the London VAAC until 14 April when the actual ash clouds started to be emitted. It was this situation of change when the major eruption commenced. As far as what measures were in place, the European and North Atlantic ICAO, International Civil Aviation Organisation, had in place a volcanic ash contingency plan which was finalised in September 2009 and involved

all Member States, including our own CAA. The detailed procedures were set out in that plan for states to avoid ash whenever ash was detected. The actual plan itself is exercised approximately every six months by both NATS and the Met Office. Essentially the sequence of events happened. They had started to have seismic activity at the end of last year but there was not any significant eruption until 20 March. That still was not significant to put ash into the atmosphere. It was not until 14 April that significant ash was identified and that was when the Volcanic Ash Advisory Centre started taking over.

Q5 Lord Bradshaw: Could you just clarify one point, which is not on here, for the benefit of the Committee. Who actually owns the engines of aircraft? In question two you have got aircraft and engine manufacturers but who owns the engines? Do they belong to the airline or the leasing company?

Mr Moor: I think it very much depends on the different airlines. A lot of the larger airlines have power by hour contracts with the manufacturers, which means the manufacturers will provide a guarantee that they always have engines available for those aircraft. That means that it then becomes a commercial consideration in terms of the cost of maintaining those engines and whether volcanic ash could damage them. This is one of the fundamental issues we have here around what is a safe level versus what is a commercially viable level. Obviously where airlines own their own engines then the liability for maintenance falls on them.

Q6 Lord Bradshaw: But there is, as it were, a contrast between the owners of the engines on the one part, who are concerned very much with safety and probably erring on one side, and the airlines on the other who want to fly and the two may have disagreements. Is that fair?

Mr Moor: I think safety is paramount to everybody and that is the first principle which everyone will take into account. Taking the assumption that any ash present was the original guidance, that was based on the fact that ash not only was a safety issue but also a damage issue to the engines. One of the things we found very clearly when this volcano erupted was we could not operate in a no ash environment within the European area because the ash was too widespread and there was no option for flying around it. That then started the debates with the manufacturers around what is a safe level of ash and what is a tolerable level of ash in terms of commercial aircraft.

Q7 Lord Bradshaw: Lastly, does that level of ash depend upon the type of particles that a volcano is throwing up? Is there ash with big molecules and small molecules?

Mr Moor: There certainly is. One of the key things in the model is basically putting in three factors. The first one is the mass of ash which is being erupted; the second one is the height of the plume, how high it gets to; and the third one is the fineness of that ash. One of the complications in this case was it was very fine volcanic ash primarily because there was a glacier on top of this volcano which caused an explosive eruption which basically blasted these very fine particles. That has two problems. One is it is not easily visible and the second problem is that it stays up in the atmosphere for much longer and therefore travels much further. If you look at volcanoes like Mount St Helens and Pinatubo, there was a much more violent eruption but the particles were much larger which meant they dropped out of the atmosphere much quicker.

Q8 Chairman: Can I ask a point of clarification? You said that the first standard was no ash. When was that standard introduced?

Mr Moor: It was September 2009 when the actual plan was finalised. I am not sure when the original draft was produced but in September 2009 it was finalised.

Q9 Chairman: Are you actually telling us that there was not any standard before September 2009?

Mr Moor: It is not actually a standard. It is not an international ICAO standard, it is a guidance.

Q10 Chairman: Well, there was not any guidance then before? Did they not think that there were going to be volcanic eruptions?

Mr Moor: I think I would have to come back to the Committee and give you advice on exactly when they first started the process. I do know that was when it was finished.

Q11 Lord Paul: At present both the aircraft and engine manufacturers basically have primary responsibility for defining the safety envelope of their products, with a tolerable limit for ash concentration levels having been agreed at 4,000 micrograms per cubic metre. What role is the European Aviation Safety Agency playing in this, and are they monitoring safety tests? How was the safe flying level of 4,000 micrograms per cubic metre arrived at? Would this level apply to different types of ash produced by different volcanoes?

Mr Moor: If I can answer that in terms of referring the Committee back to the Explanatory Memorandum which the Department submitted on 19 July. This sets out the European position in terms of the story of where we have got to. If I take you through the history of how we got here. Firstly, as you noted, the aircraft and engine manufacturers are responsible for determining what level of ash their products can safely tolerate. Movement can only happen once the manufacturers are signed up to that. In the early days of the eruption the CAA took the lead in co-ordinating the efforts with the aircraft and engine manufacturers as well as the airlines and EASA and other regulators in the rest of Europe. That was based on the fact that the original guidance was essentially saying visible ash is anything above 200 micrograms per cubic metre. That essentially created the no-fly zone which covered most of

northern Europe. On 19 April the EU transport ministers got together and they agreed that there should be a new enhanced procedures zone which would take up from 200 micrograms up to 2,000 micrograms. This is commonly referred to as the red zone and that allowed aircraft to start operating in that zone with the manufacturers' agreement and usually involving some additional safety checks and damage checks. That was all agreed between the airline and the manufacturers and the CAA. On 17 May work was done to establish a time limited zone which would then double that from 2,000 micrograms to 4,000 micrograms per cubic metre and again that would be based on a safety risk assessment done by the airlines with manufacturers' agreement. These tolerable limits were agreed by the aircraft engine manufacturers and the CAA did not move until agreement had been reached with those manufacturers. That was based on evidence collected not only this time but also evidence from previous eruptions. The no-fly zone with concentrations above 4,000 micrograms is under constant review. One of the challenges for the manufacturers is to have a look at the evidence. We personally would like them to do some testing around this to identify what is a safe level of ash concentration. I think one of the problems with this is that it will take time to do this. As you probably know from a lot of other safety standards, like bird strike standards, et cetera, these require very intensive, very expensive tests and we are working with the manufacturers on taking this work forward. In terms of EASA, EASA is the agency now taking the lead on aspects of the airworthiness providers and, in the absence of any standard for aircraft, EASA has been charged by the European Commission to work with the manufacturers to understand tolerance levels and then in the longer term to define limit values at the EU level which are then applied across the whole of Europe. The Agency has therefore developed a roadmap to do this and the main elements are, as I explained, in the absence of limits, to disseminate the latest instructions which are based on a three-zone approach which we currently have. The second one is to understand from manufacturers what the engine

tolerance levels really are. The third area is to start applying those to come up with some binding targets. That will take time and we do not expect that to be particularly quick. In terms of the UK, we are playing a full part in this with the CAA and the Met Office and the manufacturers. Tomorrow the Secretary of State for Transport is meeting with the CAA and the manufacturers and a number of airlines in order to assess the progress of understanding the engine tolerance levels of ash. I think this is very important because although this E15 volcano could go off again, we could have a very similar problem, if a neighbouring volcano, Katla, goes off, that potentially could put much higher concentrations of ash into the atmosphere. This is why we need to have further work done by the manufacturers to really understand what is a safe level of tolerance for them. All of this work then feeds into the European international discussions and we will be having in September of this year the ICAO Assembly and we will be putting forward a new European paper to try to bring this together into an international standard going forward.

Lord Paul: My apologies for not declaring an interest earlier. One of the companies I chair I think supplies some components to the aircraft manufacturers and the engine manufacturers.

Q12 Chairman: Thank you, Lord Paul. I am sure that is perfectly all right. Thank you very much for that detailed reply to Lord Paul's question. I get a very strong feeling of we are having meetings, we are going to discuss, we are going to have more meetings, there is timing here, and then we are going to go and do this. Is there a sense of urgency about this? You made the very point that the neighbouring volcano could go at any time and then we would be in trouble. Do you really feel there is a sense of urgency or do you think that there is a necessity for officials like you to say, "Come on, let us get a grip, and let us push for it sooner"?

Mr Moor: This is one of the reasons why the Secretary of State is asking the manufacturers to come tomorrow to encourage the manufacturers to have a real sense of urgency around this

work. I think one of the problems is that potentially the tests involved could be very expensive and potentially take quite a long time and so there is a timing issue in terms of how quickly they can do those tests. The whole reason for the Secretary of State calling them in is to give that sense of urgency. There has been, without doubt, a sense of urgency when the crisis was actually in play but I think since the crisis, it certainly has not ended but since the volcano has gone passive I think people are ---

Q13 Chairman: Relaxing.

Mr Moor: I do not think it is relaxing, there is a lot of work going on but I think that sense of urgency of doing the tests may have waned a bit.

Q14 Lord Clinton-Davis: How quickly do you think that the manufacturers can reasonably respond to this position?

Mr Moor: I think this is one of the questions we will be asking the manufacturers tomorrow with the Secretary of State. I think potentially there are different levels here. As I said earlier, I think there is maybe a difference maybe between what is a safe level of volcanic ash versus what is a commercially viable level of volcanic ash. It may be possible for manufacturers to come up with a better estimation of what is a safe level in a quicker timescale than coming up with something in terms of looking at the commercial issues about the potential long-term damage to their engines.

Q15 Lord Fearn: You have answered this partly so far. It was largely the absence of previously agreed safety guidelines by the aviation industry that meant a near blanket no-fly ban had to be issued. What efforts are being made by the European Aviation Safety Agency to establish a defined certification standard for volcanic ash?

Mr Moor: I think I have answered part of those questions. I think the key thing is safety was always a paramount concern here and without any evidence it was very difficult for any of the regulators in the European Union to take action without having a very clear view. We know volcanic ash is a safety risk to aircraft. There have been a number of recorded incidents of aircraft having very serious failures as a result of volcanic ash. The issue here is around what is a safe level of concentration. That is the work EASA are working on with the FAA in America and are developing this programme of action to address just those issues. A lot has been said around avoidance of visible ash, which is the American approach, but it is very difficult to define what visible ash is especially in the environment where you have very fine particles. My understanding is that fine particles of ash are visible at certain angles but not all angles, so how do you define that. Also there is a slight complication of when you are flying at nighttime in cloud, what is visible ash when you are looking at that. One of the issues we are working with ICAO on is a better definition of exactly what visible ash is and what the concentration levels should be going forward into a new international standard. That is what we will be doing with EASA in the autumn at the ICAO Assembly.

Q16 Lord Fearn: Is there a timeframe for this?

Mr Moor: There is because the assembly of ICAO is at the end of September, beginning of October. I will be leading the UK delegation on that and there will be a European paper written by EASA which will be trying to develop an international agreement. I think this week is the first meeting of ICAO's Global Ash Advisory Committee which is also looking at this issue.

Q17 Lord Fearn: Who will agree that in the end?

Mr Moor: At the end if it becomes a standard it will be agreed by ICAO and implemented by Member States.

Q18 Chairman: I am going to ask the next question, but before I do so I have to declare an interest as I was a member of the safety board of British Airways for nearly 12 years when a member of the main board of the company. What role did the Met Office information play in the six-day airspace shutdown that occurred in the aftermath of the volcano eruption? How did the information issued by the London VAAC change throughout the crisis? Was the Met Office ash cloud modelling adequate to assess the dangers posed to aircraft? Having asked that last bit, I have been told that the UK VAAC model was not refined and still is not refined and it proved to be inadequate because it was inaccurate. It only estimates the highest level and does not talk about the average. I think this additional point has been conveyed to you by our clerk and so it has not come out of the blue.

Mr Moor: I will try to answer all those questions in just looking again at what the Met Office did. The Met Office is one of the nine designated Volcanic Ash Advisory Centres. There are nine across the world. The Met Office covers the North Atlantic area, which is essentially the Icelandic volcanoes. The other one neighbouring us is Météo, which is in France, in Toulouse, that covers the rest of European mainland area. The London VAAC information was used by the CAA to define what the no-fly zone is, based on the ICAO guidance of avoiding all ash. Subsequently, the CAA used the ash concentration charts produced by the Met Office to describe the no-fly zone where ash was predicted to be at higher concentration levels, so it has constantly been adapted during this crisis. Throughout the eruption the Met Office model has been adjusted and has also been tested in two ways. One, it has been tested by using ground based LIDAR which looks up and looks for concentration levels, so you compare the model with the actual reality of ash concentrations looking up from the ground. That then allows them to refine the model to make sure they are putting in the right inputs into that model. As I said earlier, the key thing in the model is getting the inputs right. The inputs are in terms of the mass being emitted by the volcano, the height of the volcano and the

particle size. All three of those things are very difficult to judge. The Met Office has put a lot of new equipment up into Iceland but it is still very difficult, short of going into the volcano, to collect that level of data. That is why they have to constantly refine the model. What we also do is we have operated a number of flights which have also been testing the model to identify not just the boundaries of the model but also the relative concentrations within that model. There have been two airborne assets which have been used to do that testing over the course of the eruption. The Met Office has constantly been refining its model but it is a FAME dispersion model. In terms of the accuracy, the accuracy is considered to be very, very good in terms of the dispersion model. It has been used before for the Grimsvötn Volcano, it has also been used for Buncefield. Buncefield was a real test for this model in terms of dispersion and a much easier thing to assess. Our view is it is a world-leading model and it is used around the world in terms of other systems but the key issue here is putting the right input data into it. That is where the additional work has been concentrated on to get the best possible input data. In terms of the average versus peak, this is an issue that the Met Office and the CAA are looking at at the moment, but it is very complex because the problem with looking at averages is you may get hotspots within that and the CAA has to be certain that if you fly into a hotspot it is not going to cause significant damage to the aircraft or its engines. It is maybe not quite as simple as saying we will move to an average, which of course would make the no-fly zone much smaller. I think a lot of work has to be done to assess what are the risks in different layers within the model of having hotspots and different concentration levels. That work is undergoing at the moment.

Q19 Chairman: Can I just ask, following on the point I made about the safety board of British Airways, have you been in contact with the safety sections in the airlines because after all they are just as much involved as anybody, in fact probably more so? The final decision to fly, I suppose, comes from there. Are you taking all their expertise and experience into

account in the discussions you are having or is it just a discussion between the experts and scientists without those who have to handle the situation on the ground?

Mr Moor: We have definitely involved the airlines extensively. During the whole period of the crisis the airlines were working very closely with us but also, as I said earlier, the meeting tomorrow with the Secretary of State does involve the airlines' safety experts as well. This is very much partnership work between the regulators and the airlines and the manufacturers.

Q20 Lord Clinton-Davis: As the President of the British Airline Pilots Association I do not think any consultation has taken place with my union or any other union effected by the airlines. Why not?

Mr Moor: I think the key issue here is coming back to my point about safety is paramount and the CAA's role is to ensure safety. The CAA would not do anything to undermine the safety of pilots or passengers in those aircraft and, therefore, has taken a very prudent approach to this. I am sure the CAA would welcome a conversation with BALPA around if they have any specific concerns but I would reassure you that all of this is based on making sure that we do things safely. Therefore if the unions, BALPA or any of the pilots, have any concerns about safety infringements then I would suggest they speak to the CAA.

Q21 Lord Clinton-Davis: Are you prepared to advance that argument with the CAA?

Mr Moor: I am very happy to say to the CAA that if BALPA has any concerns they should be speaking to the CAA, and they do regularly on lots of different issues.

Q22 Lord Plumb: The whole business obviously caught everybody by surprise and we can look back now and be very wise, of course, as to what should happen and what does matter is getting the thing right in future. We note that the response mechanism for dealing with

Mr Moor: My understanding is the Monitoring and Information Centre was involved from the outset and was contacted by the Icelandic authorities on Thursday 15 April. The Common Emergency Communication and Information System was open to facilitate communications on Friday 16 April and a dedicated web page was opened on the MIC portal. Then MIC held a meeting of the European Member States on the afternoon of Saturday 17 April at which the UK was represented. I think the key thing though was the objective was to take stock of the situation in Iceland and to exchange information on the civil contingencies strategies being adopted. It was very clear that the MIC was there to monitor developments over the course of the incident, it was not there to respond to the incident. I think that may be where the difference came in, that the response has been led by Europe EASA and the Member States so the MIC was not involved in that response. There was certainly a lot of co-ordination going on and there were a number of cross European meetings. I think 17 Member States were at that meeting on the Saturday, including the United Kingdom. I think our feeling is that they were involved but because they knew it was being handled by other parties they chose not to get as extensively involved as maybe in other crises.

Q23 Lord Plumb: On that basis, would they be used more in future do you think?

Mr Moor: One of the European Commission decisions is to set up a new crisis management centre in Eurocontrol which will take some sort of responsibility for some of the European aviation issues. Eurocontrol set up a very light touch crisis co-ordination centre over in Brussels which will take some leadership in terms of aviation issues. I think the other thing the European Commission are looking at is the co-ordination of different modal transport forums in things like the repatriation exercise and they have commissioned some work to look at that and see how it can be better co-ordinated across Europe.

Q24 Chairman: Mr Moor, it has just been drawn to my attention that in paragraph 52 of the Commission report it says: “As previously mentioned, the main tool is the Monitoring and Information Centre, the MIC. Nevertheless, it appears it was not considered necessary by Member States to call upon assistance through the MIC. When assessing the existing emergency mobility plans the Commission will explore with the Member States the reasons for this and the potential shortcomings in terms of co-ordination”. That is what made us put down the question we did so perhaps you would like to follow that one through with the Commission because really it is in your ballpark.

Mr Moor: I am very happy to do that. Just to clarify there, this is referring to the point I made about modal transport sectors. I think the lack of co-ordination was between different Member States using buses, coaches, trains and all these other things to get people back rather than the lack of co-ordination in handling the volcanic ash crisis in terms of air space and airworthiness issues. This is where the European Commission have commissioned a piece of work to say if this happens again how do we avoid the problem that everyone wants their citizens to go on the Eurostar. That was one of the issues the Department for Transport had in that we could have brought people to the border with Spain but all of the TGVs were full of French people trying to get home as well. I think that was where some of the co-ordination issues came in. That is probably my understanding of paragraph 52.

Chairman: Thank you for that clarification.

Q25 Lord Walpole: I was going to ask that question actually. Not to worry. You have got to be honest, this particular cloud of ash was extremely bad luck, was it not? It was because of the weather that it went in the wrong direction and that was what fooled everyone, was it not? Yes?

Mr Moor: Just to answer that, the Met Office described it as an unusual volcano with unusual meteorological conditions. One of the issues we do have here is because it was a very fine

ash the anti-cyclone across the North Atlantic held it there for up to six days because normally ash dispersal is within two days. The other issue was that anti-cyclone also created northwesterly winds which are unusual for that time of the year. That was why it came towards the UK and northern Europe.

Q26 Lord Walpole: In other words it was bad luck.

Mr Moor: It was bad luck.

Q27 Lord Walpole: And it happened over a weekend as well, which was also bad luck.

Mr Moor: Certainly for me it was.

Q28 Lord Walpole: Can you just tell me one thing I am not quite clear about. You have said you do not know when you are flying through it. Are there instruments on aircraft now that can detect it when you fly through it or not?

Mr Moor: There are no instruments on aircraft at the moment which can detect it. This is the Easyjet - I cannot quite remember the name of it - it is being tested at the moment and it will then be tested by Airbus on an actual plane. Until it can be fitted it will need to be certified by EASA for airworthiness issues. This is two lasers which will look forward, up and down, looking for high concentrations of volcanic ash. The idea behind this is that if you did move to an average density model then this could look for the hotspots and so potentially it could be very useful in terms of going forward. The CAA are very interested in seeing the results of the research work, but it is not currently licensed to be used on an aircraft at the moment.

Q29 Lord Walpole: Hopefully it will be soon.

Mr Moor: Yes. It is called AVOID, which is the Airborne Volcanic Object Identifier Detector system.

Q30 Lord Walpole: The question I was going to ask you was how could Member States have been more co-ordinated in their handling of the crisis with regards to the repatriation of stranded passengers? It was chaos, was it not, and you say, quite rightly, that it was the French moving around on to the borders with Spain or whatever, but it did seem to be a total shambles, did it not?

Mr Moor: I would not say it was a total shambles but I think it was a very complex activity. There were a number of factors in here. The first factor was no-one actually knew how long this crisis was going to last and one of the issues there was that the airlines did not particularly want to put in place alternative arrangements for getting people home if they thought airspace would reopen the next day because the most efficient and effective way of getting people home, as we found out, was to bring them back in by aircraft. What essentially happened was we estimate there were about 450 to 500 million people stranded abroad. About 200,000 of those people were looked after by package holiday companies who did lay on a large number of coaches and even laid on a brand new Celebrity Cruise ship to bring people back from Spain. Under the Package Travel Directive it is their responsibility to bring them back. One of the things we found when we started looking for coaches to run the Madrid hub was most of those coaches had already been taken by the package holiday companies to bring back their own people. However, what we did at the Department for Transport was we went through a number of different things. For example, Eurostar, on an average very busy day is about 35,000 people, over the course of this crisis they were taking 45,000 people a day and they laid on eight additional services. Eurotunnel doubled its capacity and carried 85 per cent more coaches than normal. Over 17-18 April Eurotunnel alone carried 100,000 passengers. NSA also eased the restrictions on ferries and Calais handled 56,000 passengers on 21 April whereas normally it only handles about 25,000. There was an awful lot of activity going on to try to bring people home. I think our view was that most of the people in Europe did find

their way home relatively quickly. The issue then became the people who were a long distance away and that was where the Government then set up this Madrid air hub which, to be honest, was not hugely successful because there was not the demand there. Coaches were sent down and I think in total about 1,000 passengers were shifted by coach from Madrid, but simply people were not getting to Madrid so demand was not there to do that. There were other things, like HMS Albion picked up 200 people in Santander and other activities. As the European Commission identified, this was a problem in that there was not real co-ordination across all countries. Everyone was putting on their own coaches, their own approaches to doing this and maybe this is an opportunity to get better co-ordination in the European Union.

Q31 Lord Walpole: The next time it will be better?

Mr Moor: That is what we would hope next time but I think we would still have ---

Chairman: I hope we do not have a next time.

Lord Walpole: Of course there will be a next time.

Q32 Chairman: Can I just ask for clarification because I think I misheard you. You said there were 450 million stranded, was it 450,000?

Mr Moor: 450,000 people stranded.

Lord Clinton-Davis: First of all, I ought to declare an interest, several interests. I am the President of BALPA and I was a former parliamentary under-secretary for companies, aviation and shipping and in the European Commission I looked after transport and environment. There are other volcanoes which we have to take into account, particularly ones which are close to the volcano in issue.

Q33 Lord Clinton-Davis: We are talking about the neighbouring volcano Katla. What work is being done to formulate a response to this and other volcanoes in the event of an

eruption? Can the response mechanisms formulated to deal with this particular situation be easily adapted to respond to other emergencies, such as attacks from terrorists?

Mr Moor: In answer to that, the Government as a whole works through the Civil Contingencies Secretariat of the Cabinet Office and we are looking at contingency planning. The Department itself is doing a lot of work with the Foreign Office around issues on repatriation if something similar happens in the future, but also looking at other issues in terms of what happens if one of the other bigger volcanoes goes off. This was a point I made earlier about asking the manufacturers to engage in looking at what is a safe level because if Katla does go off the probability of there being much higher concentrations of ash is quite significant. That is the work we are having to do. A lot of this work has already paid dividends. From the start of this crisis we have increased by a factor of 20 the level of concentrations which it is safe to operate within and further work is being done on that, as I previously described. In terms of the wider question, the Department has its own defence and civil contingency planning. As soon as this eruption happened we instigated the emergency control procedures, the incident was opened. I was the lead policy official throughout the following ten days and we worked across the modes looking at both the issues in terms of the airspace and the airports and aviation issues but also, as I described earlier, the issues around other modes of transport. Even before we started in the repatriation effort a large amount of work was being done around increasing the capacity on the East Coast and the West Coast Main Lines to fill in for where you had domestic airspace, air routes, allowing for people to travel on the train. We do always learn the lessons of these sorts of incidents. We have got an action plan in terms of lessons we learnt but also we are working very hard on contingency plans in conjunction with the Civil Contingency Secretariat.

Q34 Lord Clinton-Davis: Have you any information or evidence which you would like to advance relating to countries which are not pulling their weight? This is an urgent situation

Mr Moor: I do not think there is any evidence of any country not pulling its weight. I think one of the lessons we learnt from here is that within the European Union a large number of the smaller countries are not capable of having the technical expertise to work out these issues on their own. My Danish equivalent was very reliant on the CAA in terms of technical support and advice and that is one of the lessons we have learnt around EASA in that when you have these international crises you need to get the experts from whichever country they are available. It became quite clear to us that the real expertise here lay in the United Kingdom with the CAA and also to some lesser extent in France and Germany, but a lot of the other European countries did not have that level of expertise to really put evidence into EASA and others. This is one of the issues for us that as EASA starts to develop and grow it is quite important that we do not lose some of our expertise in the CAA in order to respond to these instances.

Q35 Lord Clinton-Davis: One of the questions I posed was the other emergencies which would arise, such as terrorism acts, and you have not dealt with that.

Mr Moor: In terms of terrorism, the Department uses exactly the same procedures for terrorism and natural hazards. In terms of our incident room, it has been opened a number of times over the last few years for terrorist incidents but also for snow, for the volcano and for a number of other severe flooding, severe weather issues. What we do is we operate exactly the same system for terrorism or for natural hazards and we try and learn the lessons learnt across each of those times when we open the incident room.

Chairman: That is very comforting, I have to say, that you are looking after our interests.

Q36 Lord Plumb: I think you have already said that there is a need to strengthen the case for moving towards a more integrated system in terms of the design of management of regulations of airspace. What is happening? Again, I think if you refer to the meeting that is taking place tomorrow some of those things may come up but I think it is important we accept that we are moving in that direction in preparation for the possibility of another eruption.

Mr Moor: I think it is very important that we do co-ordinate across the whole of Europe. EASA is now taking the lead in this and it is very important that we have a common system. The worst thing possible is if the European Union Member States did not act in unison on these issues and started coming up with their own approaches to volcanic ash. In some respects that is one advantage of having European Union and EASA and the European Commission because it has kept everyone together in a more common and consistent approach. As I said earlier, there does need to be a level of speed and determination put into this and this is one of the reasons why we are having this meeting tomorrow to try and encourage the manufacturers to work with EASA on trying to define what is a safe level.

Q37 Lord Plumb: Is the recession causing a big problem?

Mr Moor: I do not really see any evidence of the recession necessarily causing a big problem. It causes a problem to all sorts of people, including my own Department, but I think the key issue here is to be able to work out what work needs to be done. As my Lord Chairman said, firing chickens at aircraft engines is an established procedure, what they have not worked out is how they will do something similar on volcanic ash. It comes back to the problem of when you are looking at how you identify the concentration levels, as soon as you put a plane up there to start gathering volcanic ash it sticks together and it is very difficult to determine what concentration level was it before it arrived in the aircraft. I think they have exactly the same problem of doing tests on real engines of exactly how do you simulate going through a cloud of volcanic ash. It is going to be quite difficult.

Chairman: Now we come to consumer rights and, Lord Clinton-Davis, you have a question.

Q38 Lord Clinton-Davis: Regulation 261/2004, which governs the payment of compensation to passengers affected by the disruption, has been criticised for placing an unfair financial burden on airlines. What role is the Government taking to ensure the correct application of this particular regulation and how consistently has the regulation been applied to airlines?

Mr Moor: I think we recognise that the prolonged disruption to air services imposed a very significant cost on the industry and that is firmly established. The European Commission has indicated it will look again at the requirements of denied boarding and cancellation regulations and the Package Travel Directive. However, what I would say is without that financial and practical assistance given by the travel industry the humanitarian impact of this crisis would have been very severe and the impact on consular services and other issues would have been very significant. As I said before, the tour companies repatriated 200,000 people, looked after them and there were an awful lot of people who came back and said, “We had a wonderful holiday because they looked after us, we had an extra few days and we then came back”. I think if you had all those people sitting in a foreign country without money, without any consular assistance, it would have been very, very difficult going forward. Those language barriers, the ability of the industry to go and get cheap rates from hotels, et cetera, that would have been impossible to do for individuals. In terms of what we are doing, we will obviously participate in the review by the European Commission. Regulation 261 is enforced by each EU Member State and our national enforcement body is the CAA and they are working with the Air Transport Users Council to ensure that airlines have responded correctly to their liabilities. There are a number of complaints going through at the moment which the ATUC is helping people with. Essentially with the airlines and package holiday companies there were quite significant variations in the level of support provided. Some airlines bought

hotel rooms and just put people up in hotel rooms, other airlines told people to claim, so look after themselves and claim later. I think there have been inconsistencies and that is one of the issues which will have to be looked at in the European Commission rule. I think the key thing is we expect the airlines and the tour companies to meet their legal requirements. Our Secretary of State has already written to the industry to explain that he does not think it is a good use of taxpayers' money to compensate them for those additional costs because those are the risks they take in meeting their legislative requirements. That is a very difficult thing, we recognise those additional costs but we also applaud the industry for what they did do in looking after up to half a million people who were stranded abroad.

Q39 Lord Clinton-Davis: Is there any opinion that has been voiced by consumer groups expressing concern about the way the consumers have been treated?

Mr Moor: I think there are a number of individual cases where people have expressed concern about how they have been treated. This is what the Air Transport Users Council is dealing with. They deal with all the individual complaints and take those through. There are many hundreds, if not thousands, of individual complaints but I think probably on the other side there are also quite a lot of people who are quite content with how they have been treated by the airlines. A number of the airlines and tour companies have actually settled their liabilities very promptly and, therefore, people have been quite happy.

Q40 Lord Clinton-Davis: Are there airlines which are reasonably withholding their consent to any agreement in the future?

Mr Moor: I do not think I can answer that but the CAA as the regulatory body would take enforcement action if they found that to be the case. This is still an ongoing process and that work needs to be done.

Chairman: Now the final question from Lord Fearn.

Q41 Lord Fearn: In light of all the criticisms, some of which we have heard today, the Commission has indicated - and can I know when - it will review the requirements under Regulation 261. Has our Government reached a view on it for tomorrow's meeting?

Mr Moor: The European Commission have said they will review 261 and my understanding is it is towards the end of this year they will start that review. The UK does support 261 for the very reasons I have said about looking after passengers and protecting passengers' interests. One of the things our Secretary of State has said though is he has questioned the application of 261 in terms of denied boarding compensation. This follows the European Court of Justice ruling last November. This is the *Sturgeon* case, I do not know if you have heard about it. This is where they introduced a requirement to pay compensation for delays of more than three hours. This is a case where our Secretary of State feels that may well be disproportionate to the loss people are suffering. My understanding is you could claim up to 600 euros of damages or compensation being delayed three hours. That could be a very significant proportion of your holiday costs and it is not proportionate to the loss you actually suffered. The Government feels that this is an interpretation of the regulation which was not the same before that case. This is what our Government has said ought to be looked at as part of this review. I do not think we are dismissing any compensation but the question is should it be three hours or should it be 12 hours or should it be 15 hours? Is it fair to say after three hours' inconvenience you could be claiming up to 600 euros compensation?

Q42 Chairman: To use that wonderful Government expression "proportionality".

Mr Moor: It is proportionality.

Q43 Chairman: Any other questions from anybody? I have to say it has been a brilliant session, thank you very much indeed. Although we did not hear from Mr Ashbourne, Mr Morgan or Mr Best, I know they all contributed to the work that you had to deliver because

the same thing happens at this end, I get great support from all these people. Thank you very much indeed. If there is anything when you go away you think perhaps we ought to know, we would be very grateful if you could get in touch with Mr Turner, the Committee Clerk, or indeed me. It has been very worthwhile from our point of view and I hope you have found it interesting and stimulating also.

Mr Moor: Thank you very much.