

CARDIFF AIRPORT AIRSPACE CHANGE WORKSHOP

THURSDAY 16 JANUARY 10AM – 1.00PM (AVIATION STAKEHOLDERS)

QUESTION AND ANSWERS PRE-WORKSHOP

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: Can we clarify – is it the intention to start with clean sheet of paper or to look to change what is there?

CWL: We are maintaining airspace as it is and we will consider the needs going forward and how airspace looks. We're not necessarily looking at a blank sheet of paper. We need to maintain what we've got now or we may not need to change anything- but we're only doing surface to 7,000 feet, for Cardiff – then it steps into the LAMP side of things. It could be anything.

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: The CAA looks at how airspace can be given back if not needed. It's not looking at how it might modernise airspace. Do we need airspace at all?

NERL: The CAA consultation is looking at current airspace structures and whether to give back space. LAMP has a Design Principle that says use the correct amount of airspace that is necessary. So we will be giving some back – and it may be that the case we need to take some from somewhere else.

[CWL] is right. We will look at airspace structure as part of the work – and where we can give back, we will; where we can't, we won't. Hopefully we will find some areas we can give back.

CWL: We are right at the early stages. This is engagement and not consultation. That comes down the line. At the point we go into that stage, we'll have more information to present to consider.

NATS: CAP1616 does require us to look into existing airspace. Might be areas for improvement and hopefully one of design options we take forward.

CWL: Later down the line, I'd like to see all you back again to be part of a consultation workshop, so you'll have contributed to this, you'll have that background, there will be more information on our portal; everything will be on our portal for everyone, so it's all very transparent. In the intervening period, we'll be putting more information on there to let you make informed decision that could be specific to you. So we're all coming from the same base line of information that we'll provide.

Aeros: With all due respect, safety is obviously the most important thing but it has to be looked at within the ability to give back as much as possible. The end result should be minimum impact on non airspace users.

Exeter Airport: Can I just clarify the division of the responsibility – what I mean is you're here as Cardiff Airport; [redacted] is here from Bristol Airport, but you've both employed NATS. So who, in effect, leads the process? Is it NATS that leads it? Or is it you the sponsor who is responsible for telling NATS what they are going to be getting?

CWL: I'm the sponsor for Cardiff; [NATS] is the sponsor for Bristol. I've got specialists I can draw on; [CWL ATC] and his controllers in terms of on-site specialists. We've also got the air space change specialists at NATS through [NATS] and their team to pull things together – so that's the network of people we've got.

Bristol Airport: It's important to remember that our Statement of Need was written by us and submitted before any specialist was contracted to guide us through this process.

CWL: And that's the same for Cardiff.

Bristol Airport: I'm the sponsor of this airspace change and it's a Bristol Airport airspace change and it's important that we get the process right, and I see NATS as the people who are going to guide us through that process with their experience and knowledge.

Exeter Airport: As often you are in competition with each other...

Bristol Airport: There's been a clear message from the DFT, CAA and FASI-S group, and the same could be said for the north group, that we need to collaborate. The CAA won't let us pass through a gateway individually if the impact of any changes that we want to carry out cannot be compared with the changes that a neighbouring airport or airspace users want to carry out.

CWL: And to put that in context from our perspective. You can expect us and Bristol to be going through gateways at similar times – not necessarily together. There may be some efficiencies we can gain from certain parts of the process and working collaboratively together. And there's a group that is managing this whole process called ACOG – Airspace Change Organisational Group – and they are effectively the programme managers. We have regular meetings that all sponsors go to, together with specialists from CAA and LAMP etc, so we have a common understanding of where we are, and they have a timeline for all FASI-S airlines for what deployment looks like in terms of changes to the airspace.

NERL: It's worth bearing in mind that NATS and myself are a service provider. [CWL ATC] and the team; [REDACTED] and the team at Bristol obviously provide the ATC input - but the airports are running this. They are driving this in terms of capacity and issues. And ACOG are the over-arching programme management board.

Just a key one on timelines and gateways, the CAA has put out guidance for linked ACPs – no one will pass through the gateway until everybody is ready to go. When you see the timelines, they are incredibly similar. It's not a fudge, we're not playing a game, it is CAA guidance.

CWL: This is our process; Bristol are doing the same. They're a bit ahead of us, but we're catching up with the aim of aligning, as we're sharing a lot of the airspace to get the changes through at the same time – or near enough the same time.

Within ACOG in itself we have a sub group, Cardiff and Bristol, and they want to take us through together.

NERL: [REDACTED] This is your chance to say something and make comment. The airport need to listen to it, need to document it, feed it through to the CAA. The CAA has to read it. This is your chance to get it in. Ultimately, and please don't take this the wrong way, they don't have to follow through on what you say as, even NATS, we are just one of very many, many different stakeholders, but they have to answer any points you put forward. So if you've got any comments, any thoughts, write it down. This is your chance.

Cardiff Heliport and Wales Air Ambulance Service: [REDACTED]

[REDACTED] Would that be gathered up as part of this process or individual to us?

CWL: This is a separate proposal and you'd have the responsibility to sponsor that yourself.

NATS: Depending on how far you are with that process by our stage three consultation phase, that's the feedback we want to receive in that consultation in terms of future developments as that could potentially impact our designs for the final submission. That's the most appropriate.

Welsh Government: I've got to raise it – capacity – you mention the CAA – are they resourced to do all of this? [REDACTED]

CWL: [REDACTED]
[REDACTED] The good thing we've got – as opposed to going through this process on our own – is that we're part of the wider programme, so we have the right people we can talk to at the right level. So we've got ACOG doing some of the difficult conversations we would have otherwise done ourselves. They are generating more people to manage this and ACOG are fighting our corner.

Welsh Government: I appreciate that but perhaps you should put a stake in the ground sooner rather than later.

NATS: The CAA has agreed to our timeline so for example the gateway for this stage one is March and they have signed up to that.

Welsh Government: [REDACTED]
[REDACTED] How solid is your timeline, as it's affecting multiple airports and multiple users, it's got to be made clear that you are on a timeline.

CWL: We've had to change the timelines a couple of times already. Once because of the election, we were due to submit at end of January for a February gateway, but we had to delay that because of purdah. We were then allocated May, I went into ACOG for assistance and they had some engagement with the CAA to say this is what we're trying to achieve. They didn't do this entirely on their own as I said the date I wanted. It was reviewed and this will be the same throughout the whole process, it will be a give and take kind of thing. As long as we declare what we are intending to do, it allows the CAA to plan and prioritise their resource as, you may not be aware, but there's been a letter from [REDACTED] in terms of the priorities he wants to see for airspace change proposals. So there things that could affect us – but we can only do as much as we've got control over, and make people aware as to what we are aiming to do.

NERL: On a global point, if we don't do it one in three aircraft will be delayed by 30 minutes by 2030. £2 billion / year off the bottom line of UK PLC. [REDACTED]. CAA and DfT know how it works and why they need to do it. We're pushing them, the airlines are pushing them, so they're in a better place than they were 10 years ago.

DISCUSSION – BREAKOUT GROUPS

GREEN TABLE

SAFETY

Cardiff Heliport and Wales Air Ambulance Service: No-one around this table would argue that safety has to be paramount around this whole process.

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: When we talk about safety, the airspace is designed to protect the aircraft within the airspace. But we also need to remember the effect of the airspace on aircraft when not using the airspace. When I flew along here, with hills on one side and airspace on the other, I felt quite congested, and it is important that any airport structure recognises the effect on other aircrafts and safety is taken in the round – not just based on what is in the air.

Exeter Airport: It's equally important to recognise that it's not prohibited airspace. It's still airspace that is available to you.

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: That is right. But there are capacity issues. I remember talking to [REDACTED] once but by the time I got to them, they were 50 miles behind me because I couldn't get in.

We also need to think about glides and hand gliders who can't just say they are going from point a to point b at a certain level. This is about design principles and the principle should be that other people's safety is not negatively influenced by imposing safety for others.

NERL: Specific GA users will be taken into account. You don't just look at them in isolation.

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: It's not just about GA users in the airspace.

NERL: It's about the impacts on GA.

Facilitator: So the principle as articulated, does anyone have any issues with the way it's set out – any issues with the wording? Anything missing?

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: Only that it must consider both inside and outside.

Cardiff Heliport and Wales Air Ambulance Service: Maybe add to the end of it "for all airspace users"

CWL: Yes you've got individual design principles but all design principles should be considered together. They form an aggregated group. I get where you're going there [points] but it's covered in that point there [points] so all of things are covered together – so they are all linked.

Exeter Airport: This is not a priority list, is it? They are not in order of priority?

CWL: Not currently

Cardiff Heliport and Wales Air Ambulance Service: This is just draft to be fair.

Exeter Airport: It can't be less safe than it is now. That's a given!



CAPACITY

St Athan: It says the proposed airspace but we don't know what the proposed airspace is.

NERL: These are concepts, so once the designs have been done, the options that come up, everyone will have to be checked against this. So does the proposal XYZY – does it maintain or enhance operational resilience? Yes? No? So it's not the proposed airspace in the finality.

CWL: It's not as limited at that. We should be able to get right and the end and trace it back to the Design Principle and Statement of Need.

Cardiff Heliport and Wales Air Ambulance Service: Where we stand at the moment, and as we have no lines specifically drawn on the map, the first one (DP1) – operational resilience – that is something that can be designed in and we won't know the result of that until after the system has been in place for a while. Or am I being too simplistic about it?

NERL: It's a very interesting point about how you can test resilience before you have anything in place – but you can run it through SIMS and things like that. [REDACTED].

Exeter Airport: The proposal is to maintain or enhance the existing and you would always hope to do that and not make it worse.

Welsh Government: Aviation is growing, it shouldn't be at a stand still as if you're standing still, you're going backwards. You should have the capability to grow the capacity in to meet the national demands and that should demonstrate the operational resilience.

NERL: It's that capacity piece that if the traffic grows, but it's a cap, we might not have designed it quite as well as we could have done. But if the airspace grows and we take up all the airspace in South Wales but the traffic never comes, we've done it wrong as well. So it's finding that nice happy balance between the two.

Cardiff Heliport and Wales Air Ambulance Service: The whole process as time goes on has to be a development process, it's got to be able to have the capacity in it to change and grow.

Welsh Government: Because airspace change takes so long. The whole market is changing around you and the airspace change is not flexible or fleet of foot to be able to change with it. By the time you do it, it's gone somewhere else.

Facilitator: Is there any tension between these three draft design principles?

NERL: The good thing is you can have tensions. You can have completely conflicting design principles. Because, at the end of the day, if you can find an argument that says that one is more important than that one – it doesn't matter if they are conflicting. Get that all the time with safety and environment and capacity.

Exeter Airport: The interesting one there is the middle one (DP2). Will systemisation benefit all users? Or would it be a select half of the people? Ultimately could benefit everyone including these guys – I take it systemisation not going to benefit you directly. But if it benefits the controllers and then there's the capacity to....

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: We should be looking at lots of different options, so only taking up the amount of airspace you need at that time while maintaining safety.

CWL: I've been involved in ATC since 1996 so I understand the benefits of that and when you're talking about what does the airspace look like, there may be certain times of the day when it won't affect your GA user or it's unlikely to affect x, y or z and to look at efficiencies where we may be able use that to turn routes on and off.

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd Certainly given your initial presentation, where the main traffic here is in the summer, therefore when traffic is lighter in the winter, maybe introducing...

CWL: I think PBN or GPS or whatever you want to call it will cater for that.

Welsh Government: There's a bit of a challenge there as while Cardiff peaks are in the summer, St Athan is in the winter. It wouldn't be at the same level but a flattening out on annual basis. All considerations.

Facilitator: Are you content that these three Design Principles under banner of capacity are sufficiently broad to pick up the issues that you guys bring to the table?

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: These are all very well – but it's the detail on how they might be achieved.

Cardiff Heliport and Wales Air Ambulance Service: That will come in the consultation process.

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: It's nice to have detail right at the beginning.

NERL: But there's also further engagement throughout.

Facilitator: Any language? Any loaded terminology in there that's not appropriate?

Cardiff Heliport and Wales Air Ambulance Service: Can't see anything at the moment.

FLIGHT EFFICIENCY AND ENVIRONMENTAL

Cardiff Heliport and Wales Air Ambulance Service: Based on what was said before, it's our responsibility as an airport to think about this. I mean, there was that thing over in America – LA – the fuel dump over a residential area. [REDACTED] But, I don't think anyone can argue with that [DP4] in the current climate.

Welsh Government: Why's it being restricted to only CO2? Why not say emissions?

St Athan: I guess that's the big target these days.

Exeter Airport: You've got three DPs under Capacity – why is Flight Efficiency and Environmental not grouped with Noise?

Facilitator: The themes / groupings are abstract so you need to look at the DPs in their totality.

Welsh Government: Airspace is not a devolved matter. Wales is its own principality with its own government and so consultation with the Welsh Government should take place.

NERL: The DPs shouldn't have solutions.

Exeter Airport: So at this point all options are available.

NERL: I think it's fair to say just remove CO2 and just have reduction of emissions.

NOISE

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: These are solutions, aren't they?

NERL: Actually taken from the airspace modernisation strategy, they are the tests that the DfT have put forward to minimise the number of newly overflowed.

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: But they are sort of solutions, aren't they?

NERL: They are pointers on how to get there. And minimising the number of people newly overflowed versus maximising sharing through predictable respite doesn't necessarily work – because you may need to put it over a million new people in order to share it between two million people.

Exeter Airport: As those two don't necessarily go together when you've got emissions and you've got noise, it could be that you reduce the two million but you fly over 100 new people and therefore you've no necessarily minimised the new people.

Facilitator: Those trade-offs and conflicts are immediate apparent in those considerations.

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: Is maximising sharing through predictable respite, similar to maximising sharing through managed dispersal?

NERL: No managed dispersal is spreading it out; predictable respite is saying you don't have it for a certain period of the day. Everybody's respite is different as well, you might want it for an hour, somebody else might want it for a week, somebody might want it for a month, everybody wants respite but no-one can say what it is.

Facilitator: Are you happy with the main DP? And the way it is phrased?

NERL: I think "where possible reduce" is sending you down a garden path. I think this will be big this afternoon and a lot of people will have a lot more to say about it.

St Athan: How many noise complaints do they get at Cardiff?

CWL: Numbers wise – it's not too bad at the moment – not too bad at all.

St Athan: So do you get more complaints about light aircraft than commercial?

CWL: Definitely, I would say the split is 70/30 in favour of light aircraft. And when we've had an issue about commercial aircraft, it's more to do with weather conditions (low cloud that can keep the sound down), larger or unusual, a slightly different flight path – so it's a real mix and match. But the majority of ones tend to be GA.

In terms of commercial, we've had a couple out at [REDACTED], we had two aircrafts climbing at different rates and they were convinced that they hadn't complied with our noise preparation rates – but the aircraft did exactly what they had supposed to have done; it was just a different size; a different performance of aircraft and the turn was made slightly earlier for one of them. But some of it is perception, so we are in a position that if the complaint comes through to us, I'll have a first quick look but then I'll go to [CWL] to ask whether the aircraft complied with what we wanted it to do and the majority of times they are from the commercial side of things.

Facilitator: Are you happy with the list of considerations and options. Are they sufficient for this design principle? Is there anything else that should be there? Anything there that maybe looks out of place?

NERL: I just think the bottom two (designing flight paths over commercial and industrial areas / prioritising routing flight paths over parks and open spaces) are not part of this. The top ones are.

Exeter Airport: Because you could argue that you go to parks and spaces for peace and quiet.

Welsh Government: Because light aircraft loiter, they can often ruin my country walk, but I wouldn't specify parks. Avoid residential areas would be better.

NERL: There are plenty examples from around the world and you can design routes that go over brownfield sites rather than green field sites.

General agreement from everyone: Stakeholders is fine

AIRSPACE ACCESS AND INTEGRATION

Exeter Airport: The first one is interesting. The word endeavour is interesting! I think you'll find you WILL be compatible with MOD!

NERL: I would suggest that DP 6 and 7 should have very similar wording – whatever the wording is – to satisfy the need of the MOD; to satisfy the needs of the GA.

Welsh Government: If we're going to go for that, should we insert the word 'reasonable'?

NERL: I'm not inserting any word. It should be similar wording.

Welsh Government: Should we also put in there emergency services, helicopters?

St Athan: They have their own flight category anyway, it doesn't matter if there's controlled airspace or not, their routing is facilitated.

Cardiff Heliport and Wales Air Ambulance Service: We are talking about doing more commercial stuff as well – so we've got the air ambulance and commercial heliport operating side by side. Which is producing all sorts of interesting thoughts for us as time goes on – how are we going to prioritise it; how are we going to do it? Are we going to control it? And all of this has to be tucked into this. The police may go to St Athan – they may go to us.

St Athan: Hopefully they go to you!

Cardiff Heliport and Wales Air Ambulance Service: The first two can be grouped together with similar phraseology.

NERL: I'd like something about the network in terms of DP11 – just make sure it mentions the network.

British Microlight Aircraft Association / Light Aircraft Association and Airspace4All Ltd: Dp8 – should say "all of UK airspace users".

USE OF ADVANCED NAVIGATION TECHNOLOGY

Facilitator: So the language of maximising benefits in DP9, is that clear and sufficiently broad?

NERL: I think the key is actually “the appropriate standard of PBN”. So again, is more for these guys getting access in and out of the airport. The majority of aircraft will be using GNSS approach and if these guys aren’t equipped, the airfield still has to cater for them. The safety and operational benefits are published ad infinitum and the noise benefits as well. 10 is the key to this as there’s a European Union regulation that states that they have to do it.

Facilitator: So DP 10 is non-negotiable...?

NERL: That could probably be covered. I can’t remember if there was one about regulatory compliance. Rather than having something specifically about PBN, you just need general words, a general commitment.

Facilitator: So happy with the DPs, does it give us enough space to develop if we want to develop?

NERL: I think the comments everyone has made are good.

Facilitator: Any additional design principles? Anything missing? Gaping holes?

NERL: DP8 should probably say the volume **and** classification.

DISCUSSION – BREAKOUT GROUPS

BLUE TABLE

SAFETY

Facilitator: So the first theme is safety, any initial thoughts looking at those design principles.

Bristow: I'm a bit confused about the achievement of this, what we're meant to be doing, it feels like we're involved a little early before NATS got together?

CWL ATC: So the idea of this is to actually help us flesh out what our ideas are, so overall we can draw on that. So what the new process captures is the opportunity to identify what we can achieve. We need to think about environmental pressures, what commercial pressures you face, the commercial pressures we face, if you speak to us we know what these pressures are. So we've come up with these themes, 6 themes, to think about what will affect your organisation so we can talk about how we can design an airspace which meets as many people's needs using your feedback, and then we'll prioritise those and take them into consideration. When we submit our final design principles to the CAA they will identify our priorities. It means we've always got base level to come back to. So we want that base level to come back to later.

Aeros: What we're trying to do is to set the ground rules so they can draw the lines.

CWL ATC: But we've got some lines, we've got these lines, if they can meet your needs looking ahead to you know to integration planning etc, and then we can start and sit down to those lines and you know trim or change an idea. So for now it's what you want to choose, your priorities and what you think, your considerations, your responses. And these will be things we'll consider with flexibility, you know your concern might be emergency air traffic, and we'll take those on board-

UWAS: And I also think Bristow, whilst I agree some of this is slightly unclear I actually think it's about the airport understanding the pressures of every customer intimately, and I think that might be what we're here for to give the airports that hand-

Bristol Airport: And the you know the members of the public will have a totally different view to you-

EasyJet: And safety wise, what affects us safety wise will not necessarily affect you, and won't affect you, so it's actually defining what safety means as a principle.

Aeros: Well as well as it not being in the rules, where we are now, they have to put in where we are now as proposal 0, but proposals 1,2,3,4 could be-

Bristol: No that comes at a later stage-

Aeros: Absolutely

Bristol: Deciding your final principles have to be measured against your principles, so where you are now will be measured against the design principles, are they safe? Yes. Do they provide operational capacity?

Aeros: The problem is, the current lines on the ground won't work. It's got to be redesigned.

UWAS: Yeah there has to be some thinning out with that, so clean sheet is good – it's what we need to do

Facilitator: So bringing it back to safety, and picking up the point from EasyJet there, are there any specific comments that people would like to take to kick us off? In their experience, a point of conversation they'd like to start?

Bristow: I'm going to suggest that I don't think you can have a design principle which is safety. I would suggest that you get rid of- you need safety added to every other design principle

UWAS: It is related very closely to number 5 isn't it, airspace access and integration-

Bristow: What I mean is you take operational resilience, but you can't have safety as a stand alone-

Bristol Airport: It's about your design so if you design a piece of airspace it's saying should the operation within that piece of airspace be safe?

UWAS: OK I have two thoughts to kick us off on this one, exactly what Aeros said earlier, the minimal safe protection of IFR aircraft both on normal arrivals and departures boards in emergency situations, minimum airspace possible to achieve that, I agree with that, allowing then the maximum flexibility for class G or whatever, that's number 1. Second one is, whatever you design what you're looking to enhance is controller capacity as well, so if the airspace is too complex or there's too many moving parts, too much integration to do, controllers have to work harder, the air traffic controllers at all sights related to Bristol or Cardiff, the more you can simplify it, the more you can put on the map. I'm not disagreeing with you Bristow, I'm just trying to get it moving.

Aeros: I think the point is though that whenever they put a line on the map, any line, they've then got to go all the way from DP0 to DP11 and say does it comply with every single one of those so it's not as if safety is going to be a stand alone, safety has to be what you look at for every single thing you draw.

UWAS: My third one would be as well as controllers, it has to be operator, airspace system operator capacity as well, so the complexity of whatever was designed needs to allow- needs to be simpler. Whatever is designed, simplicity is paramount.

CWL ATC: At the moment there's an inherent level of safety, if I assess and check everything's safe, am I then going to check the overall safety of the system? And that's my concern. My gut says having an individual design principle saying is the system right, is the system fit, feels right.

Facilitator: But that wouldn't necessarily be mutually exclusive to this situation where safety is brought into every design principle.

Bristol: Every design principle will have to have a safety case against it though, so you know it's got to go through a safety process that says that it works.

Aeros: And I think to end this point is to address that you're going to design your lines based on the principles they're setting out-

EasyJet: I think you also need to look at the uniqueness of this airspace, you look anywhere else in Europe... so whilst there's a balance to be had if we look at the design principles in terms of economic, environmental etc then there's got to be that kind of balance between the GA and the IFR

traffic because we've spent hundreds of millions of pounds on brand new state of the art aircraft that without consultation we're not going to be able to use. So there's a balance to be had. Whilst I understand you guys need the level of airspace you need, in terms of safety wise we need to live together in this piece of unique airspace.

Facilitator: I think we do come back to general airspace in some of the latter principles-

UWAS: So that's flight efficiency in a sense

Aeros: Yeah there's an awful lot about GA..

Bristol Airport: So we all agree safety is paramount as a design principle?

Aeros: Absolutely

UWAS: Yes but also underlying all the other ones as well

Bristol Airport: I think we accept everything has to go through a safety case.

Facilitator: In terms of the wording of the design principle, has anyone got any specific thoughts?

Bristow: It's not about a design principle of safety, but whatever you design has to go through a safety case, and that's not necessarily a design principle but feeds into everything-

CWL ATC: We all need to use airspace to support, but we need freedom to operate, airspace suitable for its needs. An opportunity to fulfil that. How are we going to design something to move that? We're all going to come up with answers, but let's just take it back a step, to how we're going to design something to meet everyone's requirements?

Bristol Airport: From my personal experience of these workshops at Bristol, everybody protects what we need, so it needs to provide enough capacity for what we need. So it's about all of us being able to use the airspace efficiently.

Aeros: Well I think my concern is not that D would be downgraded to E but that everything below E would become D

Bristol Airport: We keep returning to classification of airspace again

Aeros: I would like to see the minimum amount of controlled airspace-

Bristol Airport: Your principle would be that you'd like to see the minimum amount of airspace necessary and make it safe and operationally effective.

Aeros: But within the capacity of operational resilience

Bristol Airport: And part of any safety case will say can I use this operationally? Yes. Is it efficient, yes? OK what happens if something goes wrong, can I get out?

UWAS: And of course your emergency thing doesn't just mean IFR it would be a JAT aircraft and emergency as well-

Aeros: But again that wouldn't necessarily affect the design of airspace that would be controller resilience

EasyJet: Well I think it can all be achieved, because if you look at PBN and that sort of stuff, you don't need the huge corridors anymore, as long as you make it RNP and that would rely on commercial airlines actually having the equipment to operate on. Now we're looking 0.1 mile accuracy, so lines on the map you can actually narrow it, so that would then by default keep space for everybody. That can be achieved with this increase in technology. The most frustrating things I've seen in consultations, [REDACTED] is that the ground tracks they insisted on using were mirrors of the existing track which is a complete waste of opportunity.

CAPACITY

Facilitator: In terms of the three principles under capacity, does anybody have any thoughts?

Aeros: The only one which jumps out at me, [REDACTED], if there's no elbow that controllers can route traffic to different points, by cutting the corner a bit or extending the corner a bit, you actually lose the ability for those controllers to see that traffic.

EasyJet: And for us that would start at Brittany and the English channel where it should start.

Aeros: I was thinking most specifically at DP2/3.

Bristol Airport: Well some of these will conflict, there are trade offs that you have to make when you do your appraisal.

Bristow: And DP2 from a search and rescue point of view, it's no reduction to the flexibility to transit controlled airspace, at short notice in straight lines.

UWAS: Ours would be the same, that unnecessary delay.

Facilitator: I think obviously what we need to flag is where something is written in a draft principle you feel concerns you about a particular issue

UWAS: Well flavour, flavour is correct, and under that, the CA's published programme includes maximum flexibility.

Aeros: I think for me, that number 2, DP1, DP2 and DP3 that is actually a hierarchy, so what DP1 should say is operational resilience, operational capacity provided that it does not reduce operational resilience, and economic network providence, provided it does not reduce operational capacity-

Facilitator: Does the group recognise that hierarchy?

NATS: I think one thing we didn't do was prioritise, so that's really useful.

Bristow: I've got one generic point, because this has been written by traffic units essentially, about airspace and air traffic control, all of those are very much about the air traffic network, none of them actually include 'and the operators'. For example, operational resilience I think should have 'operational resilience for the air traffic network and the operations' because that brings in things you were mentioning with efficiencies with the aircraft and so on. It's not just about air traffic control needs but operator needs as well, these need to be considered.

FLIGHT EFFICIENCY AND ENVIRONMENTAL

Facilitator: Obviously just the one draft principle grouped under flight efficiency, does anybody have any specific comments to kick us off on the theme?

EasyJet: Yeah that's huge for us. Continuous descent, uninterrupted climb, all that sort of thing, reducing time on the ground, so you're looking at operational resilience, we don't want delays on the ground with engines running. So ultimately that airspace has to facilitate that for us. That airspace has to be focused for that.

UWAS: We thought the commercial aspect of that, whilst I agree with you, it's more for the commercial operators, if the airspace again is not efficient, then everybody else also ends up waiting whilst flights go in and out. It still uses fuel, it's an environmental factor. My thought would be include everybody but most especially those bigger commercial operators.

Facilitator: Different steps need to be taken to facilitate this design principle for different operators.

EasyJet: And the thing you see, when you involve Bristol as well, is the complexity of the airspace, so that is when you get down into the consultation nuts and bolts, that is something that's a huge pressure across the world. So we're incredibly sensitive to that, by having the equipment to operate in that environment, so we're discouraging the use of those knackered old airplanes, the early generation stuff, you need the stuff which is equipped and gives maximum benefit for those who have chosen to invest.

Bristow: You then have to think about maximising your airspace for those users.

Facilitator: And in terms of the design principle and the wording, do you think it's sufficient?

EasyJet: As a principle, absolutely.

Bristow: It's not a stand-alone principle, it's intrinsically linked to capacity. You have to get capacity right to get environmental benefit.

EasyJet: It's almost like a domino effect, it'll start having problems in Europe and so on.

NOISE

Facilitator: So the fourth theme we're going to pick up on is noise, and you'll see one core design principle text that has been submitted for discussion.

Aeros: I think in Cardiff, we need to remember that noise doesn't just include the commercial traffic. Well noise always get complaints, we get them from piston engine planes.

UWAS: The more rigid the airspace design space as well the more it concentrates the noise in certain areas. For example at the moment if we transit out west bound along the coast we get complaints as we sit under the current structure, so concentrating that noise over one spot, we get complaints. If there's three we can spread the arc out, it's linked to complexity.

Aeros: And for me, it's about even and odd days- it would complicate things but it would definitely improve our relationship with the locals.

Bristow: Generically then, this is all about dispersal, but for me the principle that needs to be added is that this is not simply an airline problem, it's all air matter that needs to be considered in the design.

EasyJet: Well it can be reasonably straightforward. If we get continuous descent arrivals, and continuous climbs, and then use PNB, actually, the noise footprint of the modern aircraft is minimal.

Aeros: People just get annoyed that every seven minutes you get it sent over again.

Bristol Airport: But flight routes over industrial areas... and there's something about minimising the number of people newly overflown, which again is kind of one of them, it contradicts the other principles like concentration, dispersal

EasyJet: I take issue with the final point though, prioritise routing paths over parks, that's where you go for recreation not to have people flying over you. But you have South Wales and Exmoor and places like that, there's plenty of places.

Facilitator: So there's a question mark over the final option. And Bristol made the point that there's trade offs.

Aeros: I think it's probably important that a value judgement is made on each one, the capacity one for me is clearly in priority order.

UWAS: There's no differentiation on there as well for day and night orders. I don't know what the commercial levels are day versus night, but...

EasyJet: You'll generally find there's peaks in day and night, you know night time arrivals around midnight you could be very busy, so you know there's little to differentiate.

Bristol Airport: But obviously it makes a difference to your neighbours, night time flying is obviously worse.

UWAS: Why I mention that is would there be a specific design with subtly different parameters, to give the IFR traffic a bit where there's less general traffic, or would you have more prioritisation at

night to get the efficiency up to avoid the disturbance of the public? And in the daytime make it slightly more in favour of GAT, but just as a think about.

AIRSPACE ACCESS AND INTEGRATION

Facilitator: Does anyone have any specific comments on the draft principles under this theme?

UWAS: Well, DP6 'endeavour to be compatible', well, 'shall be compatible' because you can't endeavour to be, if it's not compliant then you know. It should not be "endeavour".

Aeros: And you might change DP7, shall from will, to give it a bit more bite.

Bristow: There's also nothing in there about police operations, that kind of stuff. MOD emergency traffic also to be considered for one. Somewhere to talk about the flexibility to move through controlled airspace, the shrinking of controlled airspace to give more freedom outside.

UWAS: Local users should be featured on DP8 as well, a focus should be there-

Facilitator: There was some earlier discussion about controlled airspace as well, and the minimum requirement.

Aeros: - mean taking into account the needs of UK airspace users as already mentioned in DP6 and DP7.

Facilitator: And any thoughts on the final adjacent airfields?

Bristol Airport: Well obviously Bristol want to work together, we are all wanting the airspace to be compatible.

Facilitator: There's been quite a lot of discussion in the context there, about the mutually beneficial situation.

Bristol Airport: Well it's going to be a requirement of the CAA that we work together on more things and that our airspace is compatible.

Aeros: And it's Cardiff St Athan as well.

EasyJet: I think 8 and 9 are in terms of principle, absolutely right because that's what we've been talking about, I think we can't really emphasise enough, that will give you the flexibility in order to cope with the increase of demand and the needs of other airspace users.

Bristol Airport: I think it's going to become mandated PBN?

EasyJet: Well that's the way it's going, you look at [REDACTED].

Aeros: [REDACTED].

Aeros: The one that needs to be mentioned there is Cardiff Heliport, as other airspace users in the immediate facility.

USE OF ADVANCED NAVIGATION TECHNOLOGY

Facilitator: OK that brings us nicely onto the next theme, PBN.

Aeros: I just want to reiterate about Cardiff Heliport, as other airspace users in the immediate facility.

Facilitator: So you're suggesting that the airspace, the aerodromes they are named in the design principle? Is that the suggestion?

Aeros: Yes.

Bristow: And the other principle of the other adjacent airfields is where they lie within Cardiff so devolve as much airspace flexibility or responsibility, however you want to word it, to them as possible.

Aeros: For me it's whether they lie within or below Cardiff's airspace. Because at the moment Cardiff Heliport is below the 3000 foot meter, and if they want an ATZ that'll be up to 2,100 feet and 900 foot down.

Facilitator: OK. Happy with the wording everyone?

UWAS: Can I ask would that preclude commercial operators who are not equipped with this stuff? Can they not then go in?

EasyJet: No I think ultimately the principles behind the design of the airspace should surround the highest level of automation, ultimately it doesn't preclude the use of, well let's say you can't make a climb gradient or something like that, you'll have to extend, which will increase your fuel burn because you won't be able to join the airway at that point, in order to be able to do that you have to join at that point

Aeros: That brings to mind what happened at [REDACTED], with 747s. And all that happened there was that you say beforehand, I'm able to accept the altitude constraints, it doesn't necessarily preclude someone.

Bristol: What you're trying to achieve, what EasyJet wants, is a continuous climb.

Aeros: Absolutely I agree.

EasyJet: And the thing is you know we go back to the environmental, we go back to the noise and everything like that, you've got to be able to, especially here in terms of commercial air transport, you've got to be able to take advantage of all those advances in technology, engine technology, navigation technology, without excluding everybody else.

Aeros: I'm not going to raise any objections to 9 or 10 for the simple reason that if we want to teach people we've got to teach them PBN anyway, it's a really a requirement now.

EasyJet: But the thing is, performance based navigation, it allows you to give your minimum noise routine, it allows you to give you continuous descent arrivals, it allows you to pick your round the parks and open spaces. But from a PBN point of view, some of the stuff you can actually do, it's absolute for us.

Aeros: One simple improvement from PBN as an example is that at Heathrow the glide scopes are three degrees, but the PBN glide scopes are three and a half, so you can actually make a half a degree extra slope which will be a noise reduction approach, and it's more efficient in terms of fuel, more efficient in terms of noise. So PBN has to be the fundamental in all of this.

DISCUSSION – BREAKOUT GROUPS

RED TABLE

SAFETY

Facilitator: Shall we start with what I would imagine is the easy one. Does anyone have any comments on the draft design principle which covers safety?

Horizon: It's a no brainer isn't it?

Facilitator: I would suggest it is. We like to start you off easy.

Caerdav: Of course, safety is paramount, but if you're going to make the argument that safety is paramount, then you've got to make the argument that the safest thing to do is to shut everything down and not fly then.

Facilitator: And do you feel that there is any way in which the wording needs to be amended to reflect what you've just said?

Caerdav: No. I actually think it's quite well worded, it needs to be highlighted that we've also got to think about attracting business here as well, so you don't want to scare them off. Bear in mind that the most profitable airlines also tend to be the safest. Shortcuts and people trying to cut down, they might make a lot of money in the short term, but in the long term they end up going out of business.

Facilitator: Would you say, for example, that safety and the management of risk is more important?

Caerdav: Absolutely. I think there has to be an acceptance that there is always risk and we're talking about particularly this area where you've got Bristol, Cardiff and St Athan, St Athan from our point of view, perhaps the risk has not been well managed in the past, in the relationship to the interaction between those bits of airspace.

Facilitator: [REDACTED]

Caerdav: We've got a 737 which couldn't get into St Athan one time because it was foggy because there is no ILS, we'll get on to that later. Well there is an ILS but we can't use it. The following day when it cleared up, it flew a visual approach from here into St Athan and it showed up on the QAR as a rejected take off.

Facilitator: It's quite impressive isn't it. It's almost not worth not putting a cycle into the aircraft for that distance.

Caerdav: It almost is. I've done it in one minute and 35 seconds.

South Wales Gliding Club: How do you go about enhancing the current levels of safety?

Caerdav: Well, risk assessment is the way to do it and to actually understanding the interaction between the two airfields and the fact that we do have different airspace users. We have flying

schools, we have flying clubs, we have airlines, we have maintenance facilities, we have scrappers, and we have business.

South Wales Gliding Club: We have a lot of GA which want to operate in non-controlled airspace. So would you be wanting to look at increasing the controlled airspace?

Caerdav: No I personally wouldn't, my view would be to actually have very strong prescribed routes for the commercial flights and to remove the legislation from the areas outside of that.

South Wales Gliding Club: We used to call them airways didn't we?

Caerdav: Yeah we did. But a lot of that seems to be disappearing with PBN doesn't it? Now it's because people want to take shorter routes. But I think within the Cardiff TMA, if you've got very strong prescribed routes for commercial flights and for IFR traffic, that then frees up capacity for the rest of it. But, how to control that?

Horizon: Going back, sorry, what you was saying about freeing up a bit of airspace. Are you talking your airspace in particular, your [REDACTED] area? Down towards [REDACTED]? A couple of years ago they extended the controlled airspace didn't they. [REDACTED].

South Wales Gliding Club: Which had quite an effect on us actually.

Horizon: It did on the flight training as well, because obviously we were still reduced to 3,000 feet, and then we had that 4,500 feet window, which again, wasn't really that good for VFR flying when you want to get above the cloud tops, and it's all controlled airspace.

Facilitator: But I think part of the general principles of this is not to hang on to something unless you...

South Wales Gliding Club: Improve the safety for one user, not necessarily improving the safety for other users.

Horizon: Going back to what [REDACTED] was saying, with the introduction of PBN, I don't really know why that airspace was extended anyway. I'm assuming it's something to do with let down to the Brecon VOR that there was aircraft coming down to about maybe flight level 5 0, 6 0, whatever it is, to give them that thousand-foot separation. With the use of PBN and the Brecon BOR going now, surely that will mitigate that risk there, and bring that airspace back closer towards Cardiff.

With PBN, they can have a straight-in approach for the initial fix or they can come in from the north or the south at an angle as opposed to coming in on a 90-degree angle or a 45-degree angle.

Facilitator: [REDACTED]

Caerdav: That's for the next level but it is an example of how safety can be compromised or how we need to risk assess what the changes are going to be.

Facilitator: Which balances what you just said about the reference to risk and major risk into the safety. Any other issues regarding that principle that we've not covered? I think this is probably the most straightforward one.

Caerdav: I think that's the easy one to go through.

CAPACITY

Facilitator: The second theme is capacity and three of the draft design principles sit within capacity. That is operational resilience, the proposed airspace will aim to maintain operational resilience for ATC. Capacity, that it will be of the greatest capacity benefits from systemisation in line with the CAA's published airspace organisational programme, and also economic, we have performance. The faster we set up the airspace, should it optimise network economic performance so track mileage, fuel burn, route charges. Those three things are lumped together there in terms of capacity. So do you just want to dwell on that for a moment?

South Wales Gliding Club: I'm not sure exactly what they mean by operational resilience.

Caerdav: It means the ability to flex, the ability to keep going in respect of whatever challenges are thrown at you. Like we had maybe ten years ago when [REDACTED] collapsed, we had a lot of openings in the air and there was no back up, no resilience in the airspace structure for them to recover. So we just had to put the aeroplanes on the ground as quickly as we could, and we had guys in [REDACTED] who couldn't come into UK airspace. So it's being able to cope with-

South Wales Gliding Club: -Unexpected situations.

Caerdav: Both expected and unexpected. When you're flying a lot, you expect to be tired, what do you do to mitigate it? Resilience is an internal structure, it's defined as sort of flexibility to be able to get the job done, not at any cost, but be able to cope with the changes that are thrown at you.

Facilitator: So what's sort of relationship should there be between the capacity for example then?

Caerdav: As I say, the example I just gave then when [REDACTED] went down, I think it was ten or twelve years ago, there was nothing, there was no back up, there was nothing you could do. Everybody was on the ground, and in this situation where we're looking at stripping back airspace and they're looking at getting rid of traditional navigation means, we're now looking at being more reliant on the aircraft themselves having the adequate equipment on board, which is a big cost for airlines in particular.

Facilitator: Transferring the costs really I suppose aren't you?

Caerdav: You are, we looked at it with our aircraft and it's between [REDACTED] per hull. Hulls aren't worth that without the engines to be honest with you. [REDACTED] are now one of the driving forces behind a lot of these things, which have been put back because they've got a big fleet of older aircraft. You've got to give us time to either get newer aeroplanes in, which is what they're doing, or get their aeroplanes up to standard.

Facilitator: Do a lot of [REDACTED] still stand idle in the winter, or have they changed that one?

Caerdav: They still, they're 75% rosters and 50% rosters. Basically you're looking at a change to a lot of things that have been in place for a long time. The reliance on traditional methods of navigation and the opposite of resilience would be the resistance to change that you're going to find from all sorts of sides. And that's got to be very carefully managed. How you do that, I don't know?

Facilitator: So what you're saying there, again not putting words into your mouth, is that there are concerns over the implementation, both because of the cultural change and the financial negative impact on these businesses.

Caerdav: Yes, and actually, the toughest thing we found in trying to turn our businesses around is the cultural change. The problem you've got, is that you've got people who have got a wealth of experience and we know guys like that who are going 'I've had enough of this, I'm getting out of the business now', 'another change', you know. Certainly it's happened in aviation medicine.

Facilitator: In the rail industry a lot.

Caerdav: Yeah, that's it, you know, 'that's one change too many for me'. And a lot medical examiners have given up because they just don't want to deal with the regulations. And you've got a lot of very good people operating who are going to go, 'do you know what?'

Horizon: 'Is it worth it?'

Caerdav: [REDACTED]

Facilitator: What are people's understanding of the meaning of systemisation? Operational capacity benefits from systemisation in line with the airspace modernisation programme.

Horizon: You're talking about automatics, so you know, equipment that you have at your beck and call which will do most of the work for you, so you're relying on the systems as opposed to the men that drive the systems.

Facilitator: Yeah, greater automation.

Caerdav: But then that brings in more responsibility on the people who are operating it, in terms of monitoring the systems awareness.

Horizon: That's basically what they are, they're just monitoring systems aren't they? So they're relying more on the system as opposed to their sensible input.

Caerdav: My issue with that would be if they're not hands on then [REDACTED], and if you haven't got anybody who's got a grasp of what the picture looks like, for example, with performance, you're looking at aircraft performance nowadays, we have a laptop that does it for us. [REDACTED]

[REDACTED] Whereas if you actually understand the way the graph works, you can see automatically where the problem.

Horizon: I'll give you an example of that right, you were talking about [REDACTED]. You look at the [REDACTED] opposed to a normal Load sheet, you put the numbers in, you get given a Load sheet, because we're cargo pilots, so we don't get passengers we get boxes. We get a Load sheet with the weight, transfer on it, put the information into the [REDACTED], and it tells you what your lead speeds are and whether you can get off on that take off distance available. But then it will also flag up your landing distance and it will say you're overweight for [REDACTED] for example. It'll say you're overweight to land at [REDACTED] on runway [REDACTED] or whatever it is in [REDACTED]. But when you do a manual Load sheet, you look at it and you go 'okay, what can I do about that? I'll increase my fuel burn'. Can't do that on OPT unless you think about it, but they'll look at it and they'll go 'computer says no'. Can't go, got to take some of the freight off. They don't look at the bigger picture but that's going to cost the company money now by leaving a tonne of freight behind, because that's the

lowest ULD we've got, I might have only needed to burn an extra three or four hundred kilos of fuel and I would have got in. So the systemisation overtakes the thought processes of the human.

Facilitator: Okay, so is that what your definition would be?

Caerdav: There are bound to be certain things that they do which could be automatically done, that you can actually move away, but I think there has to be an understanding that when you bring in automisation and systemisation, it's not a dumbing down, and there's a tendency in other industries for that to happen.

Facilitator: It's different tool, you have to maintain it with expertise.

Caerdav: Exactly yeah. We're going back to human factors here.

Facilitator: So systemisation is a tool, it does not reduce the human expertise or knowledge that's required. That's the understanding? Are there any parts of the wording, the actual physical wording where you can take issue with? That you would want to change?

Caerdav: The wording is fine. To go back to what these guys were talking about, about the effect on what you do, what you'd like to see is a wider area for you to operate in and we talked about a narrow area, a narrower area for the commercial traffic to operate in. But if you're now talking about optimised network performance, you're talking about direct.

South Wales Gliding Club: So it might be narrower, but it might be the wrong place for me.

Caerdav: Yeah, I think there's a bit of managing expectation here because cost is paramount in a lot of operators' thoughts. I think the biggest problem you're going to have in terms of network performances, if they want to strip it down so they can just take off mid-point turn, go direct to a final and land, it's not going to work.

Facilitator: So, would it be fair to suggest that whilst these are very worthy principles and quite general as you said, the devil is in the detail it's actually in the consultation phase where you have to take a pragmatic approach. So just by agreeing with these principles, doesn't lock you into an absolute narrow interpretation.

South Wales Gliding Club: I think that's fair at this stage of the process.

Caerdav: I think, yeah.

FLIGHT EFFICIENCY AND ENVIRONMENTAL

Facilitator: Okay, so reducing CO2 emissions for flight, I would suggest almost picks up the thing that you have just touched upon, take off, turn left and off you go, doesn't it. Track mileage.

Caerdav: It's more than that, it's cost index, it's time between overhauls, it's the life limited parts on each airframe and whether it's date, or actual cycles or whether it's time. It's an absolute minefield and not necessarily, this is one of the things I'm trying to teach people, going faster and being in the air for a shorter period of time is not necessarily the most economic way to do it. You know, there's a balancing act to be had here, and I don't think airspace really is the place to start. I think the place to start is in education of people understanding.

South Wales Gliding Club: So operational procedure rather than the airspace.

Caerdav: Operational procedure for people who are operating aircraft you know, it's that we still have guys who turn the wick up.

South Wales Gliding Club: ...When you climb or when you descend, you've got to give them the airspace to be able to do that. You don't go off the runway and go vertically up.

Caerdav: Yeah, and it all goes out of the window anyway because our flight plans work out the most efficient and theoretically way to do it, and then you get to the south coast of London and they tell you to move to flight level 220 up by Hemel and the whole thing has gone out of the window.

South Wales Gliding Club: You do your best.

Caerdav: I mean of course there has to be an aspect of it here, but there is a huge debate to be had about efficiency and environmental impact. There's a part to play, you know, but it's from this point of view I think this is a much bigger picture.

Facilitator: Is there a word to go in there that you might want to suggest that says it should facilitate the economic and efficient reduction of CO2 emissions?

Horizon: Yeah, I was going to say, the impact it might have on other airspace users.

Facilitator: That might be a good point.

Horizon: You've normally got to adhere to a climb gradient on a departure anyway haven't you so I don't think changing the rate of climb is going to make any difference.

Caerdav: The problem is it's a big question about an awful lot more than than just where we fly, I think that's more to do with how we fly, and how aircraft are maintained in between flights and how you reduce your environmental impact.

CWL: So put it into context of a 727 ... you've got an older engine versus a newer engine, performance, CO2, all those kind of things.

Caerdav: I'm just saying that I think the role for airspace is actually quite limited here because there needs to be a wider debate between operators and users as to how you reduce your environmental impact. It's not just a case of we'll give you the most efficient airspace, that might not be...

Facilitator: I think because that's quite a lengthy response, that is something we need to feedback at the end. We've got some ideas on the wording that we touched on, but again the feedback must be recorded. This isn't something where we say that's it.

Caerdav: What I'm saying is that it's a big can of worms.

NATS Bristol: We're also talking about flight, we seem to be concentrating about flight in and out of Cardiff, in and out of St Athan, so flights through Cardiff airspace also have CO2 emissions as well. If we were completely playing devil's advocate, we say it's class A airspace, so there's no GA, so that reduces the carbon dioxide, that would be one way of doing it but that's not going to happen because we don't want that. I think there's a wider scope than just Cardiff's inbound and outbound and St Athan inbound and outbound. I think a lot of them, a great majority of the flights through Cardiff's airspace are into Bristol. They don't actually belong and sit within Cardiff's airspace.

NOISE

NATS: One thing that I've just mentioned to this group here, that we maybe should have said at the beginning was you might notice that there aren't any priorities currently against the draft design principles, and that is something that we have to submit. So for the noise design principles, for example, we haven't decided on the grading, but it might be some of them come out a lot more popular than others, so we'll put them down as priority A, others might be B or C. So, that's sort of part of what we'll be using the feedback to determine.

Horizon: The trouble you're going to have with Cardiff and Bristol as a whole really, I think, with the noise and trying to put noise preferred routes in, is the geographical area around Cardiff. Where are you going to go? There's only south really. And you're into water.

South Wales Gliding Club: Well in the Usk Valley, it's fairly sparsely populated. In an easterly, and it's probably aircraft going into Bristol. They may be at 6,000 – 7,000 feet, they make a hell of a racket because a lot of them do some sort of configuration change, and it's incredibly noisy. But a lot of them don't. I was speaking to one of our members who is an EasyJet pilot, and he said it's because they've either been asked to keep their speed up or do something like that, then they're having to drop it all back at that point, which is sort of north west of England bridges. And it is incredibly noisy in that part of the world.

Horizon: And you've got to try and lose height so you've got speed break out. They've wrapped the speed up and they're trying to lose the height, it just shows how tied up everything is doesn't it?

Caerдав: I just think that in terms of new aerospace, if you're going to change the airspace, if you're going to change that, then obviously if you look at the geographical area here, most of it at the moment, the people who live in these areas are used to this particular noise if you like.

Horizon: Yeah, the IFR departures aren't the real problem for noise. I think it's the GAVFR stuff which are restricted to below 1,500 feet flying over Cardiff when they're doing a north departure.

Facilitator: Okay, well I'm just trying to tie stuff up because we need to get back to the question again. This is a lot of stuff around the consultation phase, but there are some options in here and I'll try and put these things in layman's terms. It's managed dispersal, do you annoy a few people all of the time, or everyone some of the time, depending on how you disperse the routes?

Caerдав: Obviously, I think this airport has been operating for so long now, even with the new arrival you can do engine runs, the wind mostly prevails from the west, and sound travels right the way across, and the surrounding people are very used to that. I don't think that you're not going to have many new people complaining I don't think.

South Wales Gliding Club: You'd be surprised with the amount of noise complaints gliding clubs get. So you can't win on those. Basically whatever we do is going to be wrong.

Caerдав: Yeah, it's just the least wrong isn't it, we're looking for the least wrong.

Facilitator: Yes, I mean this is a very general phrase, but does everyone think that the wording, not the consideration section, but the wording needs to be changed?

Caerдав: No I don't think it needs to be changed, but again as South Wales Gliding Club said, it's a very complicated subject when you start burrowing down.

Horizon: Yeah I agree.

Facilitator: And is there a trade-off between one community might like it, others might not. Noise mitigation in some areas will impact on other areas.

Caerdav: Yeah, if you do change it there may be new people who are overflowed. I think the big problem you're going to have here though is going to be the interaction between Cardiff and Bristol, because the area around Bristol is far more congested than the area around Cardiff, so you're a lot more sensitive over then in your part of the world.

NATS Bristol: Absolutely, Cardiff's airspace on a map is what you see. When in fact, if you draw a line through Newport straight north, that airspace to the east is given over to Bristol now. So although it is on a map you will see it as Cardiff airspace, it is actually used as Bristol.

Caerdav: Would you go back to one of the points that was raised earlier on, you know, who is in charge here. Who is going to make the decision? There is going to be a conflict. There is going to be a conflict between Cardiff airspace and Bristol airspace.

NATS Bristol: Cardiff have been seen to give airspace away back to us when needs be.

Caerdav: What I'm saying is if the same thing happened, we want Cardiff and Bristol to both do it at the same time, and particularly when you're talking about noise, which is one of the most sensitive areas, who takes priority and what is the affect going to be on the other airport?

Facilitator: You've got very pertinent points, and that is something again for the wider consultation. But in terms of the wording here, are we happy again?

Caerdav: It is general, but that's all we can do at this stage, is general, but you know I think we have to acknowledge that there are big obstacles in the future.

AIRSPACE ACCESS AND INTEGRATION

Facilitator: Any thoughts on the wording here?

Horizon: Well I think it's paramount for the guys at St Athan especially, if you're talking about the MOD at St Athan, that it is compatible and it works for all parties. Because it's not just the VFR traffic over Cardiff and the VFR traffic over St Athan, but you've got also for the likes of Caerдав with their business, you've got commercial air traffic coming to St Athan, and it needs to be more accessible for them.

Caerдав: Yeah, we also are in the process of developing a very large training centre at St Athan, a [REDACTED] investment for a new training school. So school type training, there will be cabin training, engineering training. But also we're looking at military training, so RAF, helicopters, SAR training, we're working with some really good stakeholders on that project. Emergency helicopters and helicopter type training.

Facilitator: You've got big plans and don't want that to be stymied obviously.

Caerдав: But this is the point. We've identified the location, we've put the plans in, we've got the MOUs, we've got our stakeholders together, we've identified the people who are going to build the simulators for us, and who are going to build the training facilities for us and then you know, if we find we can't operate...

Facilitator: So from your perspective, interaction with St Athan is absolutely paramount?

Caerдав: Absolutely paramount, yes.

Facilitator: In terms of the wording, if we go down each of these very briefly, I am guessing as a layman, a lot of these are fairly straightforward, but please stop me if any of these are not.

Horizon: I think the word 'endeavour' needs to be stronger.

South Wales Gliding Club: More sure.

Horizon: On the DP6, it says airspace changes will endeavour to be compatible with the requirements. I think it needs to be.

South Wales Gliding Club: Say ensure.

Cardiff Airport: If we said something along those lines and we can't commit to later on through the interaction and input of others, we might not be able to meet that, but we're aiming towards achieving that.

Horizon: But for third parties, it looks like oh well we'll try to but it doesn't matter if we don't. Do you know what I mean, if you read it in layman's terms.

Caerдав: But you put it in DP7, it says the impact on GA will be minimum.

South Wales Gliding Club: Yeah I was going to raise that, because I think that's been a throwaway line if you look at it from another point of view. 'We hope we'll minimise it'.

Facilitator: Okay, and I think touching upon what we talked about earlier, the minimum necessary to deliver an official airspace design, take it to the Council, then to UK airspace users.

Caerdav: From an operational point of view, I think that makes it simpler as well. If you give people a strict area in which to operate, then that's fine, we know what we're going to do, and then from all of the points we were talking about earlier, you know, as an operator, I can go 'okay, that's fine, that's what I have to do'. And that means that we've got all of that legislation in one area, and then the other stuff that we like to do in others.

CWL: Just coming back to the three points, I think you said, the two points that you were making there about, this throwaway, why is it in? It's in because we want to consider it.

South Wales Gliding Club: Yeah, I appreciate that, it's just the phraseology sounds as though it's a bit...

CWL: From our side of things, these are the drafts which are going to be updated and amended and whatever in terms of wording used, and we've got to be careful with the wording used as well to make sure that we are able to deliver on that later on down the process. So if we put something that is particularly definitive in there, and for whatever reason we can't deliver on it, we're not able to comply with what we said we'd do in the first place. So if you think it's a throwaway comment, let's not tend to it because we wouldn't have put it in if we didn't want to consider it. Does that make sense?

Facilitator: So it's about the level of determination and commitment?

South Wales Gliding Club: Endeavour is a little bit woolly.

Facilitator: You'd like stronger phrases, so that's something again to put into the feedback at the end.

South Wales Gliding Club: Going back to words at the moment, I think it would be better if you actually said, taking into account the needs of 'all' UK airspace users. Just to underline it really.

Facilitator: Are there any showstoppers in there that anyone takes massive exception to otherwise?

NATS Bristol: So 11 sort of assumes that there is going to be airspace shared with Bristol.

Facilitator: Yeah, shared is in inverted commas, but yes I understand what you mean.

NATS Bristol: Is that touching on what the sort of things that exists now?

Facilitator: Could you just explain that line with regard to it being in inverted commas, access to airspace is shared with Bristol Airport?

CWL: It just says that, if you look at geographically where we are, part of the Bristol, the old term was a semi-controlled zone, when it was changed, you've got the block of airspace that surrounds us. So we share the airspace in terms of we fire aircraft out that way, crossing Bristol. Bristol fire aircraft out this way to the west coming through our airspace, and we share the airspace.

NATS Bristol: It is Cardiff's airspace, but it is given, delegated to Bristol. Is that specifically what that means?

CWL: It's less technical than that. It's more about in terms of geographical of where we are, and where the airspace is that we're all working in and we're sharing that airspace between us and so that is the line that's going down as opposed to having a line in the sand, or the airspace, dividing us.

Facilitator: Any other further thoughts on points four?

Caerdav: No, I think a lot of what we've said before has led into this actually.

South Wales Gliding Club: Can I ask a very, probably a very, very stupid question. What exactly is performance based navigation? In simple, simple terms.

CWL: GPS.

South Wales Gliding Club: Okay, okay, fine.

USE OF ADVANCED NAVIGATION TECHNOLOGY

Caerdav: The old infrastructure is failing and it has outdated technology. There's no way about it, it's either new equipment or it's investing in old equipment that isn't worth the investment. This is the decision made, this is what we were going to be doing over there and it's exactly what we are looking to do at, and the problem is the equipment that you replace it with.

Horizon: I don't think that there is anything wrong with that word there though.

Caerdav: There's nothing wrong with the wording, I think it's fine.

Horizon: It's how they're going to implement it later on.

Caerdav: There needs to be dialogue with the users, with the airspace users. Especially as, certain times of the year in this part of the world there are third party operators coming to this area. Six Nations, sporting events, there are companies from all over the world that are coming to these parts of the world that maybe are not as au fait with PBN.

Horizon: There's got to be a back-up.

Facilitator: So my understanding is that this is all very well and good, but you've got to fit the new kit to the aircraft and whether you have the cost argument or not, that's separate, there's a programme in time to be able to achieve that, if you're not careful you either end up, am I correct in thinking that you end up with a situation where the aircraft can no longer use the airport or the airport has to extend its aspirations...

Caerdav: That's right, exactly. When we had our airline, when I was running our airline, there were certain contracts that we couldn't do, and we were getting them every day, into airports where if you didn't have the ability to do LNF approaches, you could not operate there.

Facilitator: So is there something there perhaps in the wider feedback in the end that you might want to touch on that actually says it's about ensuring that the implementation time table for this does not lock out existing opportunities? That's kind of what I'm saying, because particularly Six Nations weekends, there's a lot of third party operators that come here that may not have smart links.

BACK TO PLENARY SESSION

SAFETY

Red: We were happy with the wording re safety but there has to be caveat attached to it: Safety comes at a cost and, we're all in business together, and there has to be an element of risk as to what we do, that has to be acknowledged in the safety principle, because otherwise no airline would ever operate. Need to understand air space users too and any changes to airspace takes that into account. There WILL be risks, especially with the geographical location with so many airports close together and those risks need to be mitigated.

Green: We were quite happy with item one but the GA rep on the table was just a bit concerned that the airspace should take into account the VFR flight for GA aircraft and not squeeze them into high terrain. And coming from St Athan, we are very close to Cardiff, but we already have very good mitigations in place for segregating our operations.

Blue: We generally agreed with the wording. Just a few sub bits to that. Maximising control of capacity by keeping it nice and simple. The more you maximise air traffic controller capacity, the more you concentrate on the safe operation. Maximising operating capacity – so those flying air systems, again simplicity and flexibility can enhance that by giving greater capacity to them to operate all the bits they do. The minimum safe protection of IFR traffic is important in the design, but also max flexibility and the availability of VFR traffic as well. So flexibility and simplicity are the things that sits over all those. We also noted that safety should spread its wings over all other design principles – so while it was broken out as a separate DP, it would underpin all the rest.

Aeros: Maybe the negative wording is better here so “nothing in these proposals shall reduce safety...”

CAPACITY

Red: We had a bit of discussion on what these words mean. We know we've had problems with air traffic in the past, so you've got to make sure what's put in place stands up to scrutiny and actually will work; that airspace users understand how it works, which is important as you need to know how to react to unforeseen events.

Then we talked a lot about systemisation and what that means. And actually advances in automation and technology don't actually mean there's a better understanding of how it works. So there needs to be a change of emphasis to make sure people understand how systemisation and automation are working.

Finally – in terms of networked performance – it's a very big picture for operators, for maintenance companies, for everybody. It's a very big subject and we need to work with the airspace users to understand what they want themselves.

Green: Happy with the general wording.

Blue: Two comments. First, in terms of the capacity question, first of all that it's not just ATC needs – it needs to be the operator needs as well.

But for me, the key point was that DP 1, 2 and 3 are all nicely arranged in priority order, so it would be a really good idea to add at the end of DP2 "Providing nothing in this paragraph affects DP1" and at the end of DP3 "providing nothing in this paragraph adversely affects DP 2 or 1."

FLIGHT EFFICIENCY AND ENVIRONMENTAL

Red: Happy generally with the wording but a massive question and a big area of conversation as go through consultation. Need to understand there are things we have to do and working in conjunction with the operators and the airspace users.

Green: We thought that the CO2 emissions could be removed and it just say emissions. Flight efficiency / Environmental and Noise were two separate headings, but we think Noise is environmental.

Blue: Broadly happy with the wording. Really significant issue for large commercial operators and the point made was to make use of modern aircraft systems which, at the moment, can't be used to best effect. So things like continuous descent arrival and uninterrupted climbs, minimising time on the ground, which all comes into making the arrivals and departures more efficient, that then leads on to the efficiency of operations from other users around the airfield, so the opportunity to shrink airspace means that the VFR transit times are reduced, holding is reduced or gets more efficient, emissions are reduced as a result and, as a general point, this should be prioritised around the highest CO2 producers.

NOISE

Red: Generally happy with the wording – with the caveat that it's a bigger question – but agree it ties into environmental.

Green: We really thought it should come under environmental.

NERL: The only comment I'd make is to be careful about designing and prioritising and don't include solutions in the DPs as the CAA will just kick it out.

NATS: They shouldn't be too specific in terms of a geographical solution or operational practice, so you're right.

Blue: No objections to the wording but we did go through some of the solutions such as dispersal versus concentration; CCOs, CDOs.

The two principles we talked about were that GA aeroplanes make more noise than the jets at Cardiff. And it was important that that list of considerations were not in priority order because minimising the number of people newly over flown, if that can....to a dispersion and variation, may be contradictory requirements

NATS: It would be useful if you look at the questionnaire later if any particularly stand out that should be prioritised, that would be really useful as we may not end up submitting all of these or adding to some, so it would be helpful to know if there are any that you feel are especially important or not.

AIRSPACE ACCESS AND INTEGRATION

Red: We did question the wording here. DP6 says that changes will endeavour to be compatible with the requirements of the MOD and DP7 says that the impacts on GA and other civilian airspace users will be minimised. So we're endeavouring to be compatible with the MOD but we will be minimising the effect on GA and we need either a stronger or more suitable consistent wording.

Aeros: We wanted shall in both

Caerdav: Shall's a big word, actually.

DP7 – it almost felt like a throw away comment.

Green: Same comment really. We'd put the word, with respect to the GA, will endeavour to be minimised.

DP8 – on technical, it's not the volume of controlled airspace but the consideration perhaps for reclassification of part of the airspace

DP11 – the impact on adjacent airfields and aerodromes, we felt that it also should include the adjacent area sectors as well, the on route sectors with respect to connectivity out of the airfields / aerodromes.

Blue: Agree with that. Maybe one addition in there – DP8, we thought that “take into account the needs of UK airspace users” is quite generic, we'd like something more specific – more local users.

And also to add to DP6 and DP7 – they sound like there's an assumption that change brought about by this process will be detrimental for the MOD or GA users, but actually this is an opportunity to improve the situation for those two groups. To me it's a reverse negative – it needs to be “it will be as good as or improve on the current” rather than suggesting we may go backwards.

Dp11 – We need to talk about all the other airfields that are in or underneath the airspace by name so include, for instance, Cardiff heliport.

Also, we thought we needed a DP6.5, which would address the needs of blue light users.

NATS: Really useful feedback on the wording. We need to consider if we do change the wording, how we qualitatively assess the design option against them but it's all really useful comments, thank you.

CWL: DP11 – you said about adjacent airspace, we are only making changes for up to 7,000 feet. Anything over that is integration with LAMP.

Someone: It's just adding the word “connected”.

USE OF ADVANCED NAVIGATION TECHNOLOGY

Red: DP9 and DP10 –we put those together around the PBN, as it has to, as that’s the way the world is going and the structure is changing. Thinking specifically about Cardiff airport and St Athan, we have a lot of operators coming in with old airplanes that don’t have this kit on board. Also there’s certain times of the year where Cardiff airport is very busy, normally during times of the Six Nations and other sporting events, which brings in third party operators from further afield – and they’ve got old planes too.

As a design principles, we should be looking forward not back. We should be taking advantage of the latest technology. And if we are using PBN, it underpins every other principle that you’re trying to achieve, - so we’re looking at continuous climb, continuous descent, the maximum use of the better technologies that are available, that directly benefits those who are willing to invest in those technologies and discourage those people using knackered old planes. If you’re trying to make a DP around that – you need to look forward and not back.

Aeros: We design airspace around those who are compliant and just give single use entrance clearance for someone who doesn’t have required equipment.

NERL: There are ways and means of doing this. The airways that we’re developing will be RNF1 minimum despite the fact they asked us they’ve got to be RNF5. We may need to find ways around for the aircraft you’re talking about – such as GA non-compliant aircraft, so there will be ways and means of doing it. We understand, and the airport understands, that there are economic things that are going on elsewhere that need to be taken into account.

Someone: I think possibly the last line in DP9 is slightly mis-leading. It sounds as if we’ve got an intention to rip out the legacy stuff – so we just need to be clear through the words that we’re using that we’re not giving that impression.

Easyjet: But I also think that the use of PBN, it offers huge opportunities for design principles for minimum noise routings and minimum environmental impact on the local area. This is huge for us, we’ve [REDACTED] investing in this – not only in the equipment, but in the implementation and the training etc. And it’s the way it’s going across Europe, and if you don’t set that as a DP, you may as well not bother.

NERL: Just on DP10, we had rather than just PBN IR, it should be a general regulatory design principle that needs to comply with all regulatory requirements.

CARDIFF AIRPORT AIRSPACE CHANGE WORKSHOP

THURSDAY 16 JANUARY 2.00PM – 5.00PM (COMMUNITY STAKEHOLDERS)

SAFETY

St Fagans Community Council: All I could say is that you would hope that it was going to be maintained. We don't know about enhancing – as we're quite 'green', so we don't know what you're looking at if you are enhancing current levels of safety. Capacity most probably forces enhancement of safety.

Most of us who live in the area are very concerned about Cardiff airport. I mean I stood in the other room for half an hour and I never saw an aeroplane. [REDACTED]

[REDACTED] And when you talk about enhancing and joining and catching up with Bristol, I'm not quite sure what you're catching up with as you're not even near. So when we start talking about these areas I would have thought capacity would have actually come first.

CWL: Sorry I need to just qualify that when you say about catching up. That's the process we're going through.

Llandow Community Council: I think it was misinterpreted around catch up. I mean I think you're referring to volume aren't you not procedure. Anything we say has got to be related to volume. Because volume affects all of these does it not? Volume is the central thread.

CWL: No I was just qualifying in terms of what you're saying about catch up. My presentation was about the process we're going through and where we are compared to Bristol in terms of the stage they're at and we're catching up with them.

Facilitator: These aren't in any order of priorities, but you'll be able to rank them on your questionnaire.

Llandow Community Council: Where does your helicopter come into this?

South Wales Police: It comes under Cardiff airspace and it would work under these principles. But the first principle "shall maintain or enhance current levels of safety" – yeah, 100%.

Llandow Community Council: And the air ambulance?

South Wales Police: Yeah they all come into it. It's just the principle that this is not going to allow safety targets to fall, which we all 100% agree with.

CWL ATC: Can I just suggest that we just consider where our focus is here. Our focus today is about modernisation of controlled airspace. We're not here for the purposes of discussing airport growth agenda unless actually we get into what is a focus capacity discussion about how we manage airspace. So I think if we can keep ourselves targeted to the way aircraft move around as opposed to development opportunity for the airport.

Facilitator: At this stage it's just the underlying principles. So as a starting principle safety and the way it's worded are you reasonably content with that?

St Fagans Community Council: Take it as read.

South Wales Police: Is there a security issue to wrap alongside the safety. I can't think why there would be. But are there security considerations for the aviation industry?

CWL ATC: Maybe overflying over restricted areas – something like that? Such as Hinckley Point?

South Wales Police: Yeah, it could be the routes coming in for a specific aircraft.

CWL: That would fit into our regulatory requirements anyway.

NATS: A full safety assessment will be done on all options. If anything comes out as not meeting a policy or a regulation then ultimately that's deemed unsafe at that point and wouldn't be progressed.

CAPACITY

St Fagans Community Council: I think the question that comes out of that is the same as with safety – is there a problem with it at the moment?

CWL: So there are safety standards we're expected to meet and, where possible, be better than.

St Fagans Community Council: So are you meeting them at the moment?

CWL: Are we running a safe operation? Yes.

St Fagans Community Council: [REDACTED]
[REDACTED] What I'm saying in terms of resilience – it's saying there the proposed air space will aim to maintain or enhance. So we're assuming you're maintaining. But are we assuming you're enhancing? Because this is all to do with air traffic control.

CWL ATC: So is the ATC operation safe? Yes it is. The idea of the design principle is that this talks about we are going to be no less safe or no less resilient than we are today. So if we design new air space we're going to make sure we at least meet those standards as a minimum.

St Fagans Community Council: That works in cahoots with Bristol as well?

CWL ATC: That's definitely part of it – because the two operations are so close together, they can't be considered on an individual basis. When we look at safety – we look at whole system, so that includes the pilots, the equipment the pilot has around him, the equipment of the air traffic controllers and the airspace they are flying in. And so that airspace has to be safe for Cardiff, [REDACTED], for everybody who's involved in that collection.

St Fagans Community Council: Air traffic controllers are just centred in one spot or do you have centres here as well?

CWL ATC: We have controllers at Cardiff airport who deliver for the purposes of this discussion 7,000 feet. And then the airspace above that is run by LAMP. The Cardiff controllers work slightly outside of that 7,000 feet cut off. But for the purposes of today that's what we're considering.

St Fagans Community Council: So give us an example of 7,000 – is that flying at 7,000 or coming into land...

CWL ATC: From surface to 7,000. So from zero feet all the way up to 7,000 feet that's going to be a Cardiff-based air traffic controller looking after that plane.

St Fagans Community Council: So when we drop down to 7,000 and come into land from any destination, eg Palma, Cardiff takes over? So if we take a 12 month period – how many times has that been missed?

CWL ATC: The transfer? None.

St Fagans Community Council: So coming back to this capacity, which I know you don't want us to talk about but which is a concern for anyone wanting to fly from here, but if you're trying to increase capacity, you have more responsibility on ATC. And when you look at the numbers of the increase of air traffic movement, there's more dropping to 7,000 feet than there was last year. So as things increase, the responsibility increases too.

CWL ATC: Yes. So what we're saying is that – even though it's going to increase, we're going to make sure our design maintains or enhances the way we do it – so it's either as good as today or better.

St Fagans Community Council: Agree, good idea

NATS: And in terms of resilience needed, it might be the future traffic increases and there are more are dropping to 7,000 feet....how do the new and improved procedures at Cardiff deal with an unexpected scenario such as low visibility? So are they resilient to that change? Are they resilient to a large number of aircraft currently having to get diverted to Cardiff? Do the new procedures stand up to that?

[REDACTED]

[REDACTED]

[REDACTED]

South Wales Police: So I guess that covers the contingency of air traffic control going down here or in Bristol.

CWL ATC: So in the event there's an issue at Cardiff and these aircraft have to disappear to [REDACTED] [REDACTED] It's the resilience of the whole network.

Facilitator: Any immediate observations on the other two design principles there around operational capacity and economic metric performance?

Llandow Community Council: They appear to cover the requirements of the man in the street.

St Fagans Community Council: It's a common sense remark. The management of Cardiff airport can see that things are increasing so they will yield the greatest capacity benefits from the system.

It's a moving feast as DP2 is flexibility – that's the whole thing. It's like running a business isn't it? You're getting an increase in turnover. Somebody's got to move, somebody's got to do something and it has to be a business plan that doesn't change completely, but it changes in percentage terms.

FLIGHT EFFICIENCY AND ENVIRONMENTAL

St Fagans Community Council: Well this is the big one isn't it? I think it was discussed in Parliament yesterday. It's discussed everyday somewhere, [REDACTED]. But it's important. I'm in a community council, only locally, but it gets discussed every month. We try to do it just in simple terms. But you're trying to do it per flight and I should think that's extremely difficult to be honest with you.

NATS: So you could fly a current route more directly, so you're saving track miles, reducing fuel and CO2. Or it could be the operations that are used. So [CWL] touched on continuous descents and climbs, where you're levelling off less and therefore burning fuel. So it does equate to a per flight basis. And one of the reasons we put that in there is down the line we have to provide analysis on this. So what we'll be looking at is current operations from Cardiff and how many flights, what that track length is and how our improvements better that. So that's why we put that on there, so it puts it into context. But there are several ways of achieving this. And as I said earlier, we don't want it to be too specific. So we can't sign up to stating that all departures will be continuous descents because there might be a terrain reason why we can't do that, for example. But I mean any queries on the wording is really useful for us.

Facilitator: And of course there's a bit of an interaction here because you might say well actually less distance flown, less CO2 burnt, you know, take off, head straight for Palma. But actually you might not want to do that because of the areas you might then impact terms of noise.

CWL: I think what you need to bear in mind with this is that the airlines want to be environmentally friendly as well. So if throughout the process there's a more direct route, more efficient fuel efficient route as well as keeping emissions down that's a selling point. So that links in to what you were saying about growth. And in looking at this, the purpose of this is to support the future growth of Cardiff Airport in line with our master plan. So all this is not done in isolation. It's considering how we can be in the best position to support the growth of the airport.

Llandow Community Council: What happens when they change power? Do the emissions drop or increase?

CWL: That would link into the likes of continuous descent operations. Because if you've got an aircraft that's up at 32,000 feet, the most fuel efficient and arguably CO2 efficient way of doing that is get the aircraft to get him on the right profile so he doesn't have to stop and level out and stop and level out. Because in those kind of circumstances, that pilot can be making adjustments for power settings. If that's the case that's going to affect their fuel efficiency and CO2 emissions. So if there's a better way that we can look at the redesign of the airspace and procedures that allow it, that should fall directly into this and other benefits as well.

Llandow Community Council: But surely we'd have to have an understanding of what they have to do before we could enter into discussions.

CWL: Not at this stage. At this stage we're setting the foundations of how we will then build them up.

Facilitator: This is just a general principle which is about - is it a good idea to generate less CO2?

St Fagans Community Council: Obviously it's a good idea. But if I take a helicopter and I take a flight to Anglesey then I take a flight to Palma obviously the distances are relevant there. But talking about the type of vehicle, the type of plane or whatever, what's creating the most emissions?

NATS: So that is something that the analytics [REDACTED] will be providing an answer to. And one of the things they use is a fuel burn model which is based on aircraft types. So a [REDACTED], an airbus or helicopter all have different fuel burn metrics behind them. They are put into the

modelling when we get down to the design phase. So when you do a consultation phase seeing the environmental metrics behind the different design options, that is driven by the different aircraft types which are used at Cardiff. So that will absolutely form part of this. We don't just take a generic fuel burn figure.

CWL: So the kind of answers you're looking for now, we're not in a position to give as it's the more building block stage but you probably will get that at the consultation phase.

St Fagans Community Council: That's what I'm trying to get at. There's no point me just nodding my head to everything [REDACTED]

Facilitator: But I think it shows the hunger for that sort of information, which your communities, the people you represent, are likely to have.

St Fagans Community Council: That's right. Because I'll take a report back for next month's meeting and it'll be a brief report because I'm getting my brain around it.

CWL: I think what I would encourage you to make people aware of it, let them know that we're right at the very early stages and that you're representing them and we want their input through you. And there's a stage a little bit later on where you'll get far more information, which they'll be able to make comments and observations on.

Facilitator: So we're happy that that's important.

St Fagans Community Council: I think it's very important if you're looking on your list and your tick box.

NOISE

Llandow Community Council: We have a problem with noise but not from the air – from the ground. From the cycle track.

St Fagans Community Council: What does number two mean? Newly overflown? [REDACTED]
[REDACTED]

NATS: That basically means if you live in an area at the moment where you don't have flight paths above you, is it fair to introduce new procedures which then do fly over you or do you think a priority should be to avoid flying over people who aren't currently affected? So this could also apply to future housing developments.

Llandow Community Council: That's the thought that's just gone through my mind. There's no end of housing developments going on on this flight path. You've got [REDACTED], all the way around the line. You've got all these new housing developments going on there. But the flight path hasn't changed. It's the planning permissions that have changed.

NATS: So that's information that we'll seek. We use postcode data which has populations associated with it. So we'll have a look at where the current flight paths go and where our proposed routes go. So it's quite easy to compare if the same people, if different people, more people or less people are getting overflown and it's just one of the many noise mitigation principles that we put forward here to understand what's important to people. So it might be that you think that sharing the routes out is fairer – so more people get overflown but to a lesser extent. Or you may think if you currently live somewhere where there aren't flights over you it's absolutely not fair.

St Fagans Community Council: I think this conversation could really fall apart because Cardiff are building [REDACTED] new houses under the LDP. And, coming back to my point on capacity, those [REDACTED] home owners should be using Cardiff airport and not disappearing down the road. I mean I fly from all over the country because it's to do with cost. You don't want to hear that. But when you develop areas, London has developed, [REDACTED] wants another runway, [REDACTED] they're flying over houses all the time. [REDACTED] Because really if you're flying over all the new estates in Cardiff it's a success story in my book.

Facilitator: And this is something for you to feedback on. Others may have a different view, of course. But can I ask - if you use a postcode where possible do you have to take into account anything that isn't local development plans? So if the 2,000 houses that will be there by the time this change is implemented, do you have to take those into account even though those people might not be consultees to the houses you haven't built yet?

NATS: We have to report on them. We don't include it in the actual population. Because we don't know how many people might be there - it might be a household of one or seven. But we do have to obtain that information off local councils so that we're aware. And we can plot these on maps and show the proposed designs would affect them. But we don't include them in the populations.

St Fagans Community Council: The new Cardiff LDP is now being redesigned. It goes from 2016 to 2026 but after five years, and that'll be the beginning of next year, it's now going to be revised again. Now if that picks up more brown field sites you've got a problem. It's got to be taken into consideration.

Facilitator: That's been noted and something that I'm sure you'll feedback on further. But there are trade-offs in this and you've very succinctly pointed out some of the trade-offs to be had. Whether or not you fly over everyone all the time...

St Fagans Community Council: Well I don't think that would happen as I don't think you'd have that number of flights. But it would be great if you had!

South Wales Police: Just to clarify, maximising sharing through predictable respite? What does it mean?

NATS: That could be different times of day. It could be, for example, if there's a route that goes to the east we could route it to the north of the airport one day or to the south the other day. I mean there are operational complexities. What if a pilot picks up the wrong route, but respite routes are being introduced more and more. It's something that Heathrow are looking at. They do their runway switching as well, having alternate routes on days is a good example or you could do it by the hour. So you have predictable and known periods where you absolutely won't be flow over because the town 20 miles from south is getting it. But again that lends itself to is that fair, is that an equitable way of sort of spreading the flights?

Facilitator: And what we're saying here is do you agree that those are options that can be put forward. You're not endorsing any particular one at the moment. Is that something that is appropriate to go into the design principles that then become part of the consultation?

St Fagans Community Council: So what's the situation here? It closes at 12 does it? Is the last flight in at 12?

CWL ATC: The airport's open 24 hours a day, 365 days a year. There is no stop on flying. You can fly at any time.

St Fagans Community Council: So there's night flying and no night flying policy. But other airports do?

NATS: Yes [REDACTED] does – I think it's four hours at the moment, I think they're looking to extend that out to five or six. It comes down to many factors – politics, the number of flights. But if you think that night flying is a consideration to take forward....it's another form of respite on a way.

St Fagans Community Council: It doesn't worry me. I live under a flight path. It doesn't worry me.

South Wales Police: Happy with them.

AIRSPACE ACCESS AND INTEGRATION

St Fagans Community Council: I think on the first one I'd be worried stiff if it wasn't compatible, to say the least.

South Wales Police: No issues from me on the four of those.

Facilitator: Is DP6 a reasonable comment?

St Fagans Community Council: [REDACTED]

Llandow Community Council: It's very relevant though isn't it in view of the changing face of St Athan. With the parachute boys coming in and all the various parts of the armed forces now. It's not just Air Force is it? So it's very relevant.

St Fagans Community Council: You assume discussions are going on. You have to make quite a few assumptions here.

Facilitator: And I think DP7 touches on the Police and the emergency services doesn't it? That's what that means, general aviation, other civilian airspace users plus the emergency services, to make sure that you're not doing anything that would prejudice their operation in the area.

Are there any other comments?

St Fagans Community Council: There's a lot of common sense in there.

Facilitator: [NATS], in terms of DP8, where it says the minimum necessary space to deliver an efficient airspace design. That's I think about not taking so much that others can't get a look in. Is that a layman's way of understanding...?

NATS: Above the UK there's a designated controlled airspace which there's associated rules behind it. Anything outside of that controlled airspace general aviation users are free to roam round wherever they want. And, ultimately, we don't want to take any more airspace than what we need at Cardiff or any other airport. One piece of work which is currently on the go is actually looking at where airports can give controlled airspace back because that ultimately affects where gliders parachuters, hobbyists can fly. And one particular driver at the moment, the Secretary of State, [REDACTED], has a particular interest in general aviation [REDACTED] and he has stipulated that any airspace change proposals which are basically looking to convert uncontrolled airspace into controlled will be reviewed harshly and scrutinised because he wants the UK to be the best place for general aviation in the world. And ultimately if you've got the whole of the UK blocked out to controlled airspace that doesn't allow that. But, at the same time, if Cardiff decide to introduce a new holding procedure or a delay absorption mechanism that does take up more room, the considerations we'll be looking at are can it be positioned over water. Ultimately we need to justify that we're making the best use of airspace. It's a consideration, a design principle that you'll see in pretty much all the airspace changing programmes at the moment including [REDACTED]

Facilitator: So happy with the text...

St Fagans Community Council: Well as I said earlier, you know, if everybody goes for the common sense approach that's the common sense approach.

USE OF ADVANCED NAVIGATION TECHNOLOGY

South Wales Police: No issue.

Facilitator? Any queries on the content of those design principles in terms of the terminology or performance based navigation.

CWL: When you hear performance based navigation you think about GPS. So GPS use of technology.

St Fagans Community Council: That's okay by me.

ADDITIONAL COMMENTS AFTER ALL THEMES DISCUSSED

Facilitator: So that takes us through the themes and the draft design principles. Is there anything missing, any other sorts of issues or considerations that perhaps you don't see catered for within this list?

South Wales Police: In terms of the environmental, obviously CO2 is main one and noise, but are there any other issues being pushed by environmental groups?

NATS: The common question that comes up is why CO2? Why not nitrous oxides? They're pretty much proportional to each other. In terms of other considerations, none specific come to mind. Fuel and your emissions are the big ones.

CWL: There is one which is visual intrusion. So what does it mean to people? What are they seeing? It doesn't seem to get the same kind of level of exposure as the others because the latter, the environmental emissions, not necessarily just CO2 but emissions are the key ones and noise. Because seeing as we're looking after the airspace from surface to 7,000 feet, it's the noise that people will ask about. And if we put it in context of what we get at the airport, I don't get environmental complaints on aircrafts. You tend not to get complaints about exhaust gases. The kind of comments and complaints we get are noise.

South Wales Police: I'm just thinking about future proofing this work. And on a national basis where you've got groups actively targeting airports and aviation, you may cover some future questions if you consider visual as well as noise. If you're flying overhead it's a visual and it's noise. So it's a consideration.

CWL: If we think about masterplan, it's got strong links to enhancing our environmental compliance footprint. There are offsets that we may be looking for. For example, we are just about to start a project to install solar panels on the airfield.

South Wales Police: You covered CO2, you've covered noise, but in terms of flying over somebody, you also need to consider the visual impact. You don't want somebody coming on later to say you didn't look at this.

CWL ATC: They do go hand in hand, because if you can see it, chances are you can hear it too and vice versa.

NATS: And it's an area known for its tranquillity. I mean you're surrounded by areas of natural beauty here. It's a valid point.

CWL: So from the environmental perspective one of the things we're required to do is to look at Areas of Outstanding Natural Beauty, Sites of Specific Scientist Interest. So when I went down to the assessment meeting at CAA we sat there with different specialists from different departments within the CAA (eg airspace specialist, procedures, economic, environmental, policy etc) When this is being scrutinised by the CAA, the CAP1616 process gives you the guidance of the things you need to think about and consider. And we will do that plus anything else we think that would be relevant and valid within the scope of what we're trying to do. So that we can demonstrate back to the CAA that we've looked at your guidance but actually over and above that we've done this as well.

NATS: These sort of points are what will be pushing to receive feedback on under consultation. So specifically there's something under one of the proposed bypass. [REDACTED]

[REDACTED] So anything like that is really useful to hear during the consultation.

Llandow Community Council: We've got that. [REDACTED]

[REDACTED] I mean as you're on a fact finding mission it would be worth having words with BBC Wales or all these little production companies.

NATS: We'll try and make it as far reaching as possible. We haven't talked about consultation strategy but it's commonplace to have radio adverts, social media, newspaper ads to try and reach as many people, stakeholders and companies as possible.

CARDIFF AIRPORT AIRSPACE CHANGE WORKSHOP (COMMUNITY STAKEHOLDERS)

FRIDAY 17 JANUARY 10AM – 1.00PM

DISCUSSION – BREAKOUT GROUPS

GREEN TABLE

SAFETY

Vale of Glamorgan Council: Thinking about safety, is it purely in terms of aviation safety or is it safety in terms of other issues eg ground access? Or is it just aviation as that does narrow it down slightly.

Facilitator: I think that the discussion of safety has been around airspace usage, air traffic movement, but associated operations as well. It's meant as a catch-all theme; it has one design principle that covers any element of the airspace change process.

Vale Tourism Association: I think my question on safety would be what percent of the aircraft routes are over land within the area controlled by Cardiff? The principal approach is over the sea but again the westbound approach is coming in over the western Vale of Glamorgan into Cardiff and how the impact of any changes could change that.

NATS: We honestly don't know. So when we move on to Stage 2 we'll literally be starting with a blank sheet of paper. We'll know where the current routes are...I'm not as familiar with the routes at Cardiff.

There aren't actually any safety benefits if you're flying over land or water as aircraft are on predefined routes either way.

Vale Tourism Association: But there would be for the wider population underneath?

NATS: Absolutely, that's the main benefit. So [REDACTED], for example, their holding procedure is over the Channel, which is quite far away, but nobody is impacted underneath.

Clayton Hotels/Hoteliers Association: Would they be looking for a similar scenario? Would they be looking to increase the capacity of flights coming in and would they be looking to hold over the sea...?

Vale Tourism Association: One would have thought so, that makes sense.

CWL ATC: The runways are fairly fixed, there's not much we can do there. In terms of where the aircraft are actually going to be, we don't know because we haven't got the lines on the maps yet. So if we want to think about where aircraft are positioned we might want to think about the design principle that talks around arranging flights to be over unpopulated areas or over water or something like that. That comes into it, noise, environment, visual intrusion, all of that kind of thing.

Vale Tourism Association: So it's an unknown at moment?

CWL ATC: Yes. I do think they've got some rules about being too geographically fixed when they talk about design principles.

NATS: Yes, so for example, you wouldn't want your design principle which stipulates flying over or avoiding a certain area because it's too design-focussed at that point. But absolutely if it conformed with the noise principles of reducing the impact below, and flying over water absolutely fits that.

Clayton Hotels/Hoteliers Association: You obviously just brought up about the holding space and trying to have holding space over water so obviously Cardiff Airport will try and do that as well, have their holding space over water?

CWL ATC: If that fits a given design principle and it fits the operation then it would be considered. Again, we are probably getting a little bit into the design. In terms of the principle I think we might want to have a conversation about that again when we start looking at environmental factors.

Facilitator: So in terms of the safety draft design principle as it's written, does anyone feel like there's a need to alter that?

Clayton Hotels/Hoteliers Association and Vale Tourism Association: Shall maintain or enhance sounds good.

Vale of Glamorgan Council: It's a no brainer – fairly straight forward. I should imagine it pretty much feeds into every other design principle.

Facilitator: What we're trying to do with these principles is almost start from a blank sheet of paper, so if we were to re-design a brand new airspace for Cardiff to operate from in two, three years' time, what would be the guiding principles that we would hold dear to interrogate those against? That's what we're really trying to do today. So it is pretty high level stuff and fairly early in the process. The affected area is calculated by an assessment of how long it could potentially take an aircraft to get up to 7,000 feet which is when it leaves Cardiff's control. So when we wrote to our stakeholders for today, that was the geographical map that we used to invite people. We actually found that more people have come from closer and less people have come from further away, but that's probably natural.

Vale Tourism Association: I think that basically covers from eastern Cardiff to Newport down to Port Talbot, doesn't it?

Facilitator: It's around 23 miles as the crow flies. And obviously you can see from where Bristol Airport is that there's a fair degree of overlap with their affected area.

Clayton Hotels/Hoteliers Association: As it's overlapping then, and their doing this as well, so their principles would have to be fairly identical?

NATS: You know you're absolutely right, we had representatives from Bristol here yesterday and, happy to be transparent about it, our draft design principles are both aligned closely with FASI-South and also Bristol because there's no point us having objectives which clash with each other. And in terms of that overlap area that you said, ACOG, the governing body, said that when we come to our public consultation, we're going to have to do that in parallel with each other and it might be that there are events which are focussed specifically on that overlap area, because there are people who could be impacted by both changes.

Clayton Hotels/Hoteliers Association: It would be quite foolish if you were saying safety is paramount to us but not to them if you're both sharing the same space...And then the information you get from this then you feed back to them as well so everybody's...

NATS: Yes, so the document we submit to the CAA will be on that portal so it will be publicly available, and it will summarise all the feedback that we've had from the sessions today and yesterday. Bristol as one of the main stakeholders, we'll have access to that. Their equivalent document was submitted in December and is available so that's free to anyone to look at. They went through the exact same process as this last September so we're in conjunction with each other.

CWL ATC: Which Cardiff Airport also attended to make sure there was a consistent approach.

Vale Tourism Association: Are there any proposed changes at Cardiff such as runway extensions or anything like that which would affect the impacted area?

CWL: Our masterplan identified what we're intending to do for the growth of the airport up to 2040. Runway extension is not possible to the east. Runway extension was put as a potential but there are no current plans to extend to the west side. However, to answer your question, we sit within this Class D airspace, this protected airspace, arguably because we're looking at different declared distances and in terms of the length of the aircraft we use, it would put our procedures and our areas that are protected out further. The airspace we've got now, the chances are that they probably wouldn't change a great deal, but it would have to be factored and considered to see if there was any requirement.

REPORT BACK JOINTLY

Green table spokesperson: Basically we understand that the safety issue is paramount pretty much with everything that happens after this anyway, and our view was that obviously it's almost a no-brainer that safety has to be maintained or indeed enhanced, so you wouldn't question that statement as a key priority or a key plan tool as part of this process. Obviously, without geographic information, it's a little bit difficult to make much more of a statement other than that.

Red table spokesperson: We acknowledged that there's a possible trade-off of safety against capacity but we didn't think that was correct – we wanted to see every single step to enhance safety not to compromise anything. So continuous improvement plans through use of greater technology. All these things change so quickly and we need to keep on top of that and make better use of that. If we're still using 50s technology, it's a bit out of date, isn't it?

CAPACITY

Vale Tourism Association: Do we know what the operational systemisation actually means in everyday terms? I assume it's using GPS or equivalent but, without that being stated, how could you say it will yield the greatest capacity if you don't know what that's going to be or what the outline of it is.

ACOG: So systemisation is the formalisation of routes that aeroplanes will need to follow on a day-to-day basis. At the moment, that's not necessarily the case, and on a lot of occasions ATCs will be asking pilots to navigate around the sky using the oldest instrument that they have in the cockpit - the compass. So they're literally telling them to turn left a bit or turn right a bit depending on the situation in front of them. A systemised airspace will mean that the aircraft will navigate itself; there'll be much reduced requirements for ATCs to instruct pilots to deviate away from a predetermined course. With systemisation, the modern form of navigation has proved the fidelity of that course so rather than aircraft meandering over a wide range of routes, they'll be refined, refined, refined to an actual end point route structure that could be within plus or minus 50 feet. So aircraft can navigate very, very accurately.

Vale Tourism Association: So airways are about five miles wide?

ACOG: Ten miles wide is a normal airway width and aircraft are permitted to fly anywhere within that. You can reduce it down to a finite line and then aircraft will continue to follow that on a day-to-day basis. So the good thing about that is you know exactly where the aircraft are going to be; the pilots know exactly where they're going to be, they can adjust their flight paths accordingly so that the flight becomes very efficient, and the aircraft will use the minimum amount of fuel to get from its cruising level down to the ground. The bad thing about that is the people who live right underneath that defined line always get the traffic; whereas at the moment it would be a spread of options were ATCs are cutting corners or they're offering slight shortcuts for aircraft to assist in the navigation of that particular aircraft.

CWL PRM and Disability Forum: As we know people like [REDACTED] want to deliver using drones and things like that. And getting to some of these places there's obviously going to have to be some mechanisms for ATC to keep them safe. So are we looking at using AI?

CWL ATC: In some of the ATC systems that we use today there's an element of AI and that looks at previous aircraft forms and, in the system we actually use, we've got that refinement; that the system can tell the difference between how a 737 might operate, versus how a [REDACTED] 737 might operate. We are introducing those technologies.

CWL PRM and Disability Forum: As you see, with the Vale of Glamorgan being so close to airport, when people are getting these packages delivered, that's going to cause a significant issue?

ACOG: As part of the future airspace strategy, all those questions that you've just highlighted, we're absolutely look at, or the industry is looking at, because at the moment we're trying to separate drones from the flight paths, and we try and keep them apart as much as possible. But in the future, we know that drones are going to become more and more prevalent, so there must be ways that we can integrate these two systems and NATS is one company that's exploring that, there's companies like [REDACTED], who are looking at it as well. How do you get information from that drone to the pilot and from the drone to ATC to prove that that is a safe way of operating.

CWL PRM and Disability Forum: Because that's going to impact on the traffic.

CWL ATC: Absolutely. There was a trial integration of drones and manned aircraft at [REDACTED] about six months ago, and actually it was really good. Quite how we integrate that into the future operations is a bigger question.

ACOG: [REDACTED]
[REDACTED]
[REDACTED]

CWL PRM and Disability Forum: The wider economic question I've got there is we know how much it costs to train up someone to be ATC, so actually could you automate the whole thing?

CWL ATC: Could we get there eventually? Probably. Are we there now? I think we're a fair way away, and it is still quite a human-dependent system.

Vale Tourism Association: I think we come back to the point you made that it would be a very narrow air lane and it would be the same amount of traffic or more traffic, then we would be concerned I suppose to consider those approach routes passing over land as distinct from the sea in the context of Cardiff. But most of those additional movements only go below 7,000 feet?

ACOG: You don't need to consider that there is any one particular route that you can employ. You could have maybe ten different routes and those routes you might want to utilise at different times of the day. So one of the things that we may want to explore is something that is called respite, so at certain times of the day you allow routes to fly over one particular area, and then you switch that route off and try this one now, and you offer the population a certain amount of respite compared with what they have had under the normal everyday operations.

Facilitator: Those respite strategy and other strategies certainly come back a bit later down, certainly in the fourth theme, so just before we report back on this second theme does anyone have any specific thoughts about the wording in these three DPs? Are we broadly comfortable with them? Is there anything we feel maybe needs to be looked at or tweaked?

Vale Tourism Association: I think in terms of DP2, it's greater efficiency, and obviously efficiency for aircraft flights is beneficial to the aircraft and hopefully beneficial to the population at large who are being overflowed.

Vale of Glamorgan Council: I think DP1 is very straightforward. We wouldn't want to do anything which would not enhance or maintain the resilience of the network. I think in terms of DP2 – clearly, I would be of the view that we would want to see the capacity increased at Cardiff. Does that go across the whole group in terms of that view? But certainly I would think that, as a group, it would be a good thing certainly from the point of view of access, more from the point of the economy, that that increases. We would support that, essentially.

Clayton Hotels/Hoteliers Association: My question is around the word 'greatest', it doesn't sit very comfortably with me because the greatest capacity benefits, I feel like...

Vale of Glamorgan Council: It over-arches everything else...?

Clayton Hotels/Hoteliers Association: Yeah, By using the word 'greatest' that's my only... I'm not sure what word you would use...

Vale of Glamorgan Council: Sustainable?

Clayton Hotels/Hoteliers Association: Possibly, yeah. Just the word 'greatest' makes me feel like you would give up something to make it the greatest.

Vale of Glamorgan Council: Sustainable would bring out the issue of noise and environment.

Facilitator: What about introducing a word like 'the best possible'?

Vale Tourism Association: The maximum possible?

Clayton Hotels/Hoteliers Association: Yes, even something like that rather than greatest. I just feel that the word greatest doesn't sit right.

Vale of Glamorgan Council: It just seem that – when you talk about safety first - it does seem that it overrides everything else. It seems that capacity is more important than anything – when it is sustainable capacity.

Facilitator: We'll capture that and we'll feed that in. Obviously in the questionnaires that we would like everyone to complete at the end, you have the opportunity to write anything you want about each specific principle. So that's DP1 and 2. Any thoughts on 3?

Vale Tourism Association: It's a bit of a mouthful, isn't it?

Vale of Glamorgan Council: I think what that is essentially saying, although correct me if I'm wrong, is that the national strategy for the airspace above 7,000 feet doesn't do anything to affect the capacity of Cardiff. To ensure that any work that's done around that proposal also links in and ensures that there is capacity growth. Is that what it's saying?

So I just asked the question. I assume what that statement is saying there is that anything that changes as part of the FASI-S work would not affect, or should at least preserve or enhance, the capacity of Cardiff.

CWL ATC: So what we're saying is whatever LAMP do over 7,000 feet, we need to make sure we fit. So if LAMP are saying we're going to have all the aeroplanes through this box over here on the east side of the country, and we design ours and present all the aircraft on a box on the west side of the country...

Vale of Glamorgan Council: It's not going to work

CWL ATC: So it's making sure we get those tied together.

Facilitator: There are reasons why these DPs are written in the way that they are because it's felt that they are going to be more useful like that when they have to apply them to the airspace design which in itself is a fairly technical process. It just makes it difficult for an audience like us to pull them apart...

Vale Tourism Association: I don't think we need to talk about track mileage, fuel burn and route charges. It's slightly above our general level of competence.

CWL PRM and Disability Forum: Talking about that, that does actually feed into the economic benefits of Cardiff Airport, because if you can offer lower fuel routes into Cardiff you're going to attract some of the bigger...

Facilitator: Absolutely, that was [CWL]'s point at the beginning. It's a good thing if Cardiff can achieve that within their design later on down the line...

CWL PRM and Disability Forum: To be honest, to make this airport sustainable, and to be really honest, you need big players...

REPORT BACK

Green table spokesperson: Firstly, on DP1 we felt maintain the position, quite obviously to maintain and enhance operational resilience of ATC, nobody wants to see that downgraded, indeed we'd like to see it maintained or obviously improved, if that's possible within the FASI-S scheme.

On DP2, operational capacity, one of our colleagues was not particularly keen on the 'greatest capacity benefits', we thought 'the maximum possible benefits' was a more user-friendly phrase to use because otherwise it assumes you're going to push as much as you possibly can through. Which whilst it may

be desirable, it's not necessarily desirable from the point of people living within area. So we see a capacity increase as okay but using the wording 'maximum possible' rather than 'greatest'.

When it comes to DP3 network performance, we had some discussion on this. The key words on this are 'facilitate optimise network economic performance' if I can say that fairly easily. Essentially we're looking to make sure that this fits with the above 7,000 feet strategy, in other words that Cardiff would want to fit in with that because we wouldn't want to impact on the higher level traffic going through there. So yes, we're agreed on that and I think I'm right in saying no untoward comments on it.

Red table spokesperson: The word 'technology' came up again. We should be using, or making the best use of, technology to increase the capacity and throughput. Perhaps better corridors would be in order but that has to take account of the environmental impact, fuel burn and so on, minimise noise and effect upon the people who are being overflown. If we say we were to achieve maximum capacity on the ground you are only going to increase it in the air. Maybe there are various ways to do it eg move more planes around on the airfield itself. But, yes, we think it's a good idea providing it takes account of some of the things that are lower down the list; noise, environmental pollution etc.

CWL: That's a good point you raise there about capacity in the air versus capacity on the ground and that's where this Statement of Need we've put in place will link and align with our masterplan.

Red table spokesperson (cont'd): Resilience need to take into account whatever is happening in the next 10-15 years, so think about [REDACTED]

FLIGHT EFFICIENCY AND ENVIRONMENTAL

Vale Tourism Association: It's a no brainer again, let's be honest.

Vale of Glamorgan Council: We can go around the table, but I imagine, at the heart of any redesign of the airspace, we should be looking at what we can do to reduce emissions and reduce the impact on the environment. That will come on to noise, I'm sure, as there's an impact on the environment from noise, but I'm sure from the actual emissions point of view, it's a no brainer, isn't it? We're in this situation now where, for example, the Vale of Glamorgan Council has declared a Climate Emergency and many organisations are doing the same and anything that could be done, because air travel obviously does emit quite high levels of CO₂, anything that can be done to reduce that is a good thing.

And that feeds into other things as well, eg possible runway extensions in the masterplan. One of the reasons that was looked at by the airport was that, in the future, planes may need longer runways to take off because of changes to how they are powered. We're not talking short term, we're talking further down the road, but changes to the type of power that they use. For example, they're looking at hybrid planes at the moment where you have a fossil fuel engine for take off and then possibly some kind of hybrid electric takes over to run when you're flying. This may increase the weight of the plane, which means you may need a longer runway to take off. So there's all sorts of things around that. But ultimately, why would you argue against that?

Vale Tourism Association: The thing that crosses my mind is that we all hear about [REDACTED] wanting this third runway so shouldn't Cardiff be doing that? If it's to be a successful airport for the future. Albeit the number of actual movements is relatively lower...

Vale of Glamorgan Council: I think, to be fair, that's probably what Cardiff is doing by highlighting the runway. There's not a need in Cardiff, and there isn't space to put another runway. And we have a runway in St Athan as well. But one thing they are looking at, in the future at some point should you need to extend the runway lengthwise, there is capacity to do it.

CWL: Our masterplan up to 2040 has a target on it of reaching three million passengers. And that is do-able with one runway with the plans we have in terms of changes to the infrastructure. So if we were looking at a second runway, we'd have to come up with some clever ways of doing that. [REDACTED] ...but the runway we've got at the moment for a commercial airport of our size is comfortable. We've recently taken on Qatar, so we can deal with larger aircraft. Do we need to extend the runway? No. Have we got the capability to handle the aircraft that we need to support our growth? Yes.

CWL PRM and Disability Forum: But surely we could use St Athan's runway as a runway too?

CWL: Completely different requirements. So the commercial operation is supported here. St Athan is focused on maintenance, repair, overhaul and other activities. So if you look at the range of activities that can be conducted in the aviation sector, we're covering most of the commercial operations here. We've got the people that have charter aircraft and support charter aircraft, we've got British Airways maintenance here, who do maintenance, repair and overhaul. And then if you look at the other side of things, and complementing the Cardiff Airport portfolio, is St Athan which is obviously Welsh Government run, we're operating the airport on their behalf, and they're looking at maintenance, repair, overhaul, tearing down of aircraft; they're looking at trainee activities; they're looking at supporting the Coast Guard and the Police. So there is no plan at the moment to have commercial operation or freight at St Athan.

Clayton Hotels/Hoteliers Association: So just bringing it back to the environment. The planet's dying and a lot of that is to do with the emissions from various different modes of transport. So is it good enough that you just facilitate the reduction of it? They're talking about making flight strikes and all this sort of stuff around the world, and people stopping flying because their carbon footprint is too big. Now I really on aeroplanes so please don't. But I'm saying, for the future, I personally don't think this one sentence is enough for... I know my company has a whole six-page policy about the environment.

CWL: So we've got in our environmental flight path which I think is probably something I could talk to you about afterwards. But this is saying that we acknowledge it and we want to do something about it. I appreciate it might be a short statement, but as we go down the process through this, it's making sure that we have included that as a consideration, a factor, and then the details of that will come later down the process.

Clayton Hotels/Hoteliers Association: I'm just saying that from that sentence there to me it's as if you're going to welcome other people's ideas and welcome what other people are doing, and you're going to stop them from doing that, but you're not going to maybe proactively...

Facilitator: So instead of 'facilitate' what would you feel might be more appropriate?

Vale Tourism Association: I was wondering – what about encourage?

Clayton Hotels/Hoteliers Association: Encourage, yeah.

CWL: So if that's the recommendation of this group, that will be recorded, but also, individually, put it in the questionnaire as well as that's exactly the kind of thing we want out of this.

Facilitator: Okay, so that's a proposal for a tweak of that, but broadly speaking, I think the sentiment and the position on it is, we're comfortable with, we just might tweak the language of that.

NATS: Worth bearing in mind is that we haven't put the draft principles in priority order, so that's something we will be working on, so dependent on the feedback from these sessions, we'll use that to prioritise them.

Clayton Hotels/Hoteliers Association: I just think that's the way the world is going...

Facilitator: So a higher priority for CO2 emissions....

REPORT BACK

Red table spokesperson: We obviously agree with the principle to reduce the amount of CO₂ per flight and examine the various ways it might be done. Whether it's less engine running on the ground, which has already been done in some cases, continual descent so burning fuel all the time, reduce the level of 3DI and that's a bit of a long-term project to achieve that. We're going to go for reducing the level of CO₂.

Green table spokesperson: We agree on this, we think it's a no-brainer. But one of our members felt that we should not only facilitate but also encourage the reduction of CO₂. If you simply say 'facilitate' well you know, we'll help it go along, but as you know, we can't afford it or don't want to do it. If you encourage it, you're giving more of an impetus to the operators, whoever it may be, the airlines et al, to actually reduce that CO₂, is what we all want to achieve.

NOISE

Chair: You will see in the pack that there are some sub-headings in the DPs, and those are very much to spur on conversation. You'll see those headings are the kind of subjects that will be picked up in great depth when we move to the consultation phase, because there are some quite natural contradictions in there about fly one route all of the time, or you actually disperse the routes that you fly. So that's really to spur on the conversation, the question we're really talking about is the principle of whether we should limit, and where possible, reduce the noise impact to the stakeholders on the ground.

NATS: What's really useful for us is obviously there's obviously several different noise mitigation techniques, you can introduce respite, you can have dispersal, you can purposely fly over people who aren't flown over today. It's really interesting for us to understand what's your priority. What sort of techniques you would like to see at Cardiff and there are some in there that are purposely contradictory with each other.

Vale Tourism Association: As we were saying earlier, the new routes are going to be much more confined, much narrower, and rather than ten mile wide airways it's going to be very narrow track, it might be one kilometre wide, whatever it is. So you can shift within that lane going forwards. You know, right, middle, left, whatever it happens to be.

Facilitator: It's now more possible because of the instrumentation, because of the technology, to achieve that, so essentially it gives us choices, it gives us options. And what perhaps we can have a bit of discussion around is of these different options, from your perspective, from you organisation's perspective, which do you feel represent the fairest, the optimum, the best way of organising the airspace that we will have in the future.

Clayton Hotels/Hoteliers Association: I think it's probably fairest to disperse the routes rather than just going over the same one continuously. Maybe you have a set of – whatever you have – 10 or whatever. Do you currently do that at the moment?

ACOG: The current technology allows for a degree of dispersal because there's less accuracy in the way aeroplanes fly especially in the departure phase. The arrival phase, they're all aligned on a runway so they have to be almost in the same place every time as they make an approach to the runway. So the aircraft is lined up from about ten miles from the airfield all the way down to the ground. In the departure phase, aircraft take off and will pick up different routes from the end of the runway as they climb away and the accuracy that the aircraft has as it climbs away at the moment will be, or could be, less defined than in future operations. So in the future you could have very, very defined flight path that's very, very accurately flown. The question to you guys is, do you want the routes to follow similar flight paths to today, so that people who are overflowed now will continue to be overflowed; or do you want the aircraft to fly in new areas that are currently not overflowed; or do you want the aircraft to fly over non-populated areas, maybe over the sea or over Areas of Outstanding Natural Beauty. So if you've got a lovely forest park somewhere, do you want the aircraft to fly over there, because nobody lives there, however, people may go there with their dogs, to walk, or for a bit of peace and quiet, do you want to see aeroplanes flying over there? So these are the sort of questions that this is proposing. So what should I prioritise, or what should be a priority? Do you want to fly over people who are already flown over today, or do want to say, we'll spread it out a bit, spread the pain?

Vale Tourism Association: What distance does it take to achieve the operational height? Because most of the flights are east to west on take off. Is it about 10 miles?

CWL ATC: So as we stand today to get the initial turning point on departure, if we go to the west it's four miles, or 3,000 feet, which tends to happen at two and a half to three miles. So you've got a natural split, a bit of diversity in those routes already. Some aircraft that perform better can make the turn left or right a little bit sooner, some get to four miles. If we're going off to the east, to the south

we turn almost immediately, it's over water, if we're turning north we turn four and a half miles, which takes the turn just behind Barry, so we stay on the estuary just behind Barry before breaking land over Cardiff City.

Facilitator: So there were two examples discussed just then, there was minimising the number of people newly overflowed, people who are not perhaps currently overflowed but would be if you re-design the routes. Or minimising the total population overflowed.

Vale Tourism Association: With respect I don't see how you can re-design the routes when your runway is a fixed runway in a certain direction. You're going to have to take off, you can't go at 90 degrees to the runway. So you've got to go over Llantwit Major, Barry, that sort of area.

CWL PRM and Disability Forum: Hardly ever.

Vale of Glamorgan Council: The general view is that we get very little complaint from [REDACTED] or some of the other villages a little bit closer by.

Vale Tourism Association: [REDACTED] is the one that traditionally comes back.

Vale of Glamorgan Council: But even then, we're not hearing that through the Council. Maybe Cardiff Airport does. But generally planes are quieter than they were. But you make a valid point there – the runway is fixed. But I suppose in terms of principles, the principle is sensible and you can't really argue the principle of trying to reduce noise as much as possible, it goes with question 3 above. I think one thing, looking at some of these, you mentioned, some seem contradictory in some respects. So, for example, minimising total population overflowed really important; designing flight paths over commercial and industrial areas - at the moment not particularly relevant because there aren't any major commercial or business areas close by, although there's an application for a business park over there, so that could become more relevant. I think perhaps in some areas those would be more contradictory, here they're probably, in respect of Cardiff, they're probably less contradictory because there is a route through all of those suggestions which is applicable.

Facilitator: And it may be very close to what exists now.

Vale of Glamorgan Council: And it may be very close to what exists now.

Facilitator: But obviously we need to look forward into the future here...

Vale of Glamorgan Council: But the principle of what you are trying to do with that question is right.

Clayton Hotels/Hoteliers Association: At the moment, what time is the first flight out? Is it likely to be earlier or later either side?

Vale of Glamorgan Council: It's a 24-hour-run way, isn't it?

CWL ATC: It's a 24-hour operation so really it's down to the airlines as to when they can convince people to get out of bed.

Clayton Hotels/Hoteliers Association: But what time is your first flight at the moment and last flight back – bar delays?

CWL ATC: It would probably be a KLM departure about six in the morning, in general, and probably the earliest arrival is the Qatar which comes in at about half five in the morning. In the summer they are arriving at two, three o'clock in the morning, coming back from Greece.

Clayton Hotels/Hoteliers Association: Do you get complaints?

[REDACTED]

Clayton Hotels/Hoteliers Association: Because that would be what I would complain about.

CWL ATC: We only receive a handful of complaints. So the level of noise complaints we receive are at the volume where we reply to them and investigate them individually, which...

Clayton Hotels/Hoteliers Association: I live beside [REDACTED] airport and I can hear the planes first thing in the morning and they're quite loud.

[REDACTED]

Vale of Glamorgan Council: [REDACTED] has an issue as it's in a valley so the noise can travel to properties long, long away so acoustically, it's not fantastic. Whereas Cardiff is in quite a good situation as it's on a flat plain coming off the sea so the noise dissipates quite quickly.

Clayton Hotels/Hoteliers Association: I just know from my own experience with them – I hear first plane at 6am, so if it was waking me up...

CWL ATC: We get a handful, we get an occasional one. Actually we get more complaints about light aircraft.

REPORT BACK

Green table spokesperson: Again obviously it's a very good principle. We were talking a bit about Cardiff and Cardiff is in a fairly favourable position, it doesn't get a particularly high volume of noise complaints in respect of its existing operations so improving upon that would be a positive situation and something to be clearly aimed for.

One point we made about the consideration options below which in some cases I think if you were in a different airport, for example, might be difficult to reconcile with each other, possibly easier in Cardiff than some other areas. And the reason we say that is that there isn't really an industrial area at the moment close by to the airport so minimising overflying communities already happens, the way the runway faces means that you're not generally overflying very densely populated areas. Essentially it's good practice and if that practice can be maintained and possibly enhanced that's something we would agree with.

Red table spokesperson: Our answer is yes – but!

In principle, obviously, it's something we ought to strive for but the practicalities are much more difficult. Cardiff, in the easterly direction you're pretty quickly over the sea, I don't think there's room for improvement there. Westerly, there's a lot of green land on that's unfortunately being built on, so we can't future proof that. Houses are going to be there. There you go. I think we came up with sharing the grief, move it around a bit, not have everybody affected the whole time, but by a little bit. The brain does get used to the noise and switches it out. It's a normal noise, therefore I don't have to do anything about it, I'll ignore it.

AIRSPACE ACCESS AND INTEGRATION

Chair: This is quite a technical area, I am just wondering whether our experts might actually just make any comment before we kick off with this in terms of explanation because there's quite a lot of technical speak in this.

NATS: This is really taking into consideration the other airspace users that are around the Cardiff airspace. The two that we've specifically picked out there are the military, who have training areas, fire ranges; the military, so whether our changes seek to minimise the impact on the military, and then the GA is general aviation, so this is hobbyists, parachutes, gliders and the impact that we have on them. So basically they operate in uncontrolled airspace so if Cardiff seek to increase their controlled airspace around here then this may have a negative impact on them. Basically it's a consideration for our neighbours around here ultimately.

CWL: Only thing to bear in mind is just to keep an open mind because again it's very high level at this stage, the detail will come further down the line. And what [NATS] was saying about more airspace that doesn't necessarily mean just more airspace, it could mean that we're giving airspace back somewhere else, based upon technology, so just try to think of it on a higher level at the moment, because the detail comes later.

NATS: It's also something that has come from the Secretary of State, [REDACTED]. He's particularly interested in making the UK a favourable place for GA general aviation and he has stipulated that any request to increase controlled airspace will be scrutinised, and Cardiff, alongside any other airport, will have to justify that fully. And DP11 is about taking into consideration neighbouring airports and airfields so Bristol and Exeter being two obvious ones.

Vale Tourism Association: Are there any military movements from St Athan?

CWL: So at St Athan at the moment we've got the University Air Squadron operating, they've got three or four tutors who are doing air experience flying. I don't think they're doing much in the way of training. The other thing to bear in mind is the government activities there in terms of Police helicopter and the Coast Guard as well.

CWL ATC: Is this still a training opportunity for hawks?

CWL: Yes

Vale of Glamorgan Council: There's still Special Services Support Group who can occasionally fly out of there.

Facilitator: So we have the four draft DPs laid out here, does anybody have any specific comments or thoughts on 6, 7, 8 and 11?

Vale Tourism Association: It's difficult to answer the first one without knowing what the requirements are...but now we know what the requirements are, we can answer yes.

Vale of Glamorgan Council: I think what you could say is that because Cardiff runs St Athan's as a civil runway now, that means that it's much easier to ensure that it is compatible with the requirements of the MOD because previously it was an MOD runway and they have their own criteria around what the runway can do and actually there were problems with the interaction between the two. From the point of view of going forward, that's a very sensible suggestion but it is easier to achieve because it's a civilian runway now run by Cardiff.

Facilitator: Any thoughts as to what [NATS] was saying about GA and hobbyists...?

Vale Tourism Association: We need to support DP7 as clearly it's not only commercial aircraft, civilian and hobbyists are very important to the total mix.

Vale of Glamorgan Council: They are important; the airport has a private terminal for private planes. So – so while commercial aviation is important, GA is important to Cardiff and more important here than it is at Bristol.

Vale Tourism Association: I mean, you've got Cardiff aviation, who are doing the...

Vale of Glamorgan Council: Well they are based at St Athan, and they do general repair and maintenance. But I think general aviation comes outside of that. General aviation is essentially civilian private users of aviation. So I'm right in saying that would not include things like... would that include Police helicopters?

Vale Tourism Association: Government. They used the word government.

Vale of Glamorgan Council: But they are all based at St Athan.

Facilitator: [NATS]? The police helicopter? That falls into GA?

CWL: Police is captured as civil aviation. They are not general aviation.

Vale of Glamorgan Council: So what that question is saying is that you're looking to minimise general aviation impacts, is that right? Almost control it as much as possible to ensure it doesn't impact Cardiff.

NATS: It's more our impact on them.

CWL ATC: It's about being able to do whatever we think needs doing, in the controlled airspace, subject to design principles, without adversely impacting their business or operations.

Vale of Glamorgan: Right, okay. So that's a sensible comment then, isn't it?

Facilitator: And DP8 refers to using just as much as you need but not more than you need.

Clayton Hotels/Hoteliers Association: Again, sensible.

Facilitator: Are we comfortable with that?

Vale of Glamorgan Council: Yeah.

Vale Tourism Association: What I think you've got to be careful about is that it fits the development. That Cardiff isn't restricted too much in that in the future...assuming the sky is blue and the stars are shining and there's growth of the airport, if they decide to close ██████████ or something you know, it suddenly enlarges and we've got restricted airspace, it might take another ten or 15, 20 years to resolve. It's needs to be adequate. Are we happy with the words 'minimum necessary'?

CWL PRM and Disability Forum: Perhaps it needs to have a word like 'agile'. We don't know what's coming down the line.

Facilitator: So it has to be that the controlled airspace that is designed into the system needs to be...it's back to this future-proofing...

Vale Tourism Association: I was going to use the words 'necessary volume' rather than minimum necessary, but you decide.

Vale of Glamorgan Council: I think it comes back to the economic use of resources again doesn't it? So making sure that the flight paths are not spread too widely, not to cast the net too widely having regard to other airports around. So you've got Exeter, you've got Bristol, so if you were to say to

Cardiff the whole of the Bristol Channel for example, that would have an impact on the operation of those other airports. So when it says 'minimum necessary' I think that's 'minimum necessary (having regard to growth potential)' and what have you, but I think it's a sensible principle that you don't...

Clayton Hotels/Hoteliers Association:...don't take it and then don't use it.

Vale Tourism Association: I don't disagree but all I'm saying is that these airspace proposals take so long to go through the system. And if there were, perchance, any dramatic increase in operation, Cardiff would be constrained by that very DP8.

Facilitator: And it doesn't want to be constrained.

Vale Tourism Association: Well, I think it's got to be constrained because you've got 15 other airports to consider.

Vale of Glamorgan Council: But *overly* constrained...to the point to where it wouldn't be able to expand.

Vale Tourism Association: Should we say 'having regard to growth potential' whatever you want to call it?

Vale of Glamorgan Council: You could put that in brackets after it

Vale Tourism Association: That's a good idea.

Facilitator: And DP11....?

Vale of Glamorgan Council: Well DP8 flows into DP11, doesn't it?

Vale of Tourism Association: I think they say that through gritted teeth as far as Cardiff is concerned!

Vale of Glamorgan Council: I think ultimately it's about maximising the use of airspace so that makes sense.

Clayton Hotels/Hoteliers Association: I think DP 11 *has* to be in there because if we're all working against each other. I think it's important that they all signing from the same song sheet. I think it's very, very important.

Vale Tourism Association: No-body has mentioned [REDACTED] today. It's only down the road. [REDACTED]
[REDACTED]

Vale of Glamorgan Council. [REDACTED] International?! [REDACTED] isn't one of the airports as it doesn't meet the criteria.

Facilitator: It's not one of the 16 in FASI-S is it...?

CWL: The 16 are airports – commercial airports. So in terms of the people we wanted to speak to, engage with, what we did was we took the 7,000 feet, we based it upon the descent rate of 300ft / mile, and that gives a radius of 23 miles, and we added a bit.

CWL ATC: So [REDACTED] will be considered but that will be part of the LAMP project.

REPORT BACK

Green table spokesperson: Well firstly on DP6 we agreed with the recommendation. We feel that it's much easier now to run with now that St Athan is a civilian airfield as distinct from being MOD until last year. So it will be much easier for this with the two being integrated airports and there shouldn't hopefully be any problems now that they're both controlled on the same management and control.

The second one, we agree on DP7. We had some questions over the term 'civilian airspace users', we've sorted that out, the general aviation and civil users who relate particularly to Police HM Coastguard and so on operating out of St Athan, as distinct from private flying and that type of thing. So we are agreed on that.

On DP8, 'minimise controlled airspace', the question was raised by a member of the 'minimum necessary airspace', it was felt that this could be a controlling factor against the development of Cardiff Airport if, by some miracle, there were a large substantial increase in growth of the airport over the coming 10 to 15 years, in which time of course the airspace proposals would have been implemented but wouldn't have had the opportunity of being upgraded because of the length of time it takes. So we were going to add within that in brackets, 'having regard to growth potential', in other words, it's 'the minimum necessary (having regard to growth potential) to deliver an efficient airspace design'.

And lastly on DP11, we couldn't possibly disagree with that, particularly as we're sharing with our friends over at Bristol.

Red table spokesperson: I think we're pretty much in agreement with much of that. DP6 certainly no issues with the MOD, [REDACTED]

General aviation, again we're happy that that doesn't interfere too much with their activities, there's give and take we appreciate.

We did have a bit of a discussion on changing the word 'minimum' to 'optimum' in DP8 but I think overall 'minimum necessary airspace' and we have already talked about 10, 15 year lifespan of this agreement so I think that we would have to say that is a given, it will be the 'minimum foreseeable' for want of a better word

And we agree with our friend. Bristol, I think, have much more activity than Cardiff but they are working very well together, not interfering with each other's operations. Exeter seems like a long way away but when you think about it, it is only just across the water so there will be some overlap.

USE OF ADVANCED NAVIGATION TECHNOLOGY

Chair: Could I ask one of our experts just to explain a bit more about PBN and also to explain the Implementing Rule please, as some of this is not optional, is it?

ACOG: I can talk a little bit about Performance Based Navigation. PBN is essentially satellite navigation for aircraft. The current way that airliners navigate is based on a 1950s system of ground-based navigation beacons, essentially radio transmitters that aeroplanes will follow from one point to the next throughout the whole of the UK and in fact the rest of the world really. But Performance Based Navigation will allow aeroplanes to navigate without the requirement of those ground-based navigation beacons, using satellites to optimise their location and really refine the accuracy of their navigation.

And the other question was around the Implementing Rule. So the Implementing Rule is a regulatory requirement from the Civil Aviation Authority to over time change the navigational requirements from ground-based to satellite-based navigation. That is a requirement that will be introduced before 2024 / 2025 and as such the whole of the industry will be transforming the way it operates from a traditional 1950s / 60s technology base to a future-proof satellite-based operation.

Clayton Hotels/Hoteliers Association: Do they give you the timespan that you have to have it implemented by? Or do they just say do it in a timely manner?

ACOG: Not it's done through the CAA or European Regulation and that's set internationally that by 2024 / 25, airfields need to migrate from this old technology to the new technology.

CWL ATC: It's legislation. You don't have much choice.

CWL: What they do do, is they give notification in advance. So there's some elements coming in at the end of 2022 / 23 then there's another timeline for 2025 and there's another one at 2030. So it's not Big Bang and it's warning people to give everyone time to get things sorted such that they can be compliant by the relevant dates.

Vale of Glamorgan Council: I suppose my only question would be that clearly we're moving over to satellite navigation, which would be an optimal system, but is there a fall-back system should something go wrong with satellite navigation? Probably that's the biggest thing – what's the alternative should that crash or fail?

CWL PRM and Disability Forum: And also what happens in a situation – let's just say we go to war with Russia – they have a lot of capability to jam satellites.

Facilitator: We've got a good question here with what happens if PBN doesn't work?

ACOG: Excellent question. There are a number of systems that are operational right now, the [REDACTED]. The PBN system that's employed by civil aviation, relies on the [REDACTED]. So if that fails essentially, there's no flying. Pilots stop flying. If they're in the air, they rely on ATC to say go left a bit, turn right a bit...

Vale of Glamorgan Council: So there is a failsafe?

ACOG: It's not a case that if all the satellite systems are offline that the aircraft will fall out of the sky, it's not like that. The aeroplanes will continue to operate, continue to fly safely, but their navigation accuracy will be less. If there were no aircraft controlling bods and they were isolated they would probably drift off course by, I don't know, a mile let's say of it's intended track as they got to its destination. But we're not talking about a catastrophic failure here, if something goes

wrong, there are multiple safety nets to prevent any disaster. Technically, we're talking about the GPS that it is an [REDACTED] system that Civil Aviation rely on to navigate.

Vale of Glamorgan Council: Would you use the [REDACTED] one....?

ACOG: I'm pretty sure they would, so a company like [REDACTED], who are all manufactured within [REDACTED] they would absolutely want to use the [REDACTED] satellite system as well as the [REDACTED] system. The European system is a lot more accurate than the American one. I don't know what the [REDACTED] one is like, [REDACTED]

Vale Tourism Association: But that means they're going to have to have equipment fitted that would pick up on the other signals which are on different frequencies?

ACOG: Yes, but at the moment your mobile phone has GPS, and that's more accurate to navigate using your mobile phones than pilots following these ground-based beacons, so you know where you are more accurately than the poor pilot does in the front the aeroplanes.

Vale Tourism Association: You mentioned the Brecon beacon, is that the only one relevant to Cardiff?

ACOG: Correct. Close enough to Cardiff, particularly for the departure procedure, when the aeroplane takes off, the pilots have already tuned in to that and they're using it to steer directly to it, or as they fly away from it, the signal is behind them which will give them a direction. That's why it's important.

Some of it will be maintained, so something called DME, an element of it will remain but for lateral navigation, that will be removed, and that's just because it's so old. It's 40, 50 years, the poor building is literally falling apart.

Facilitator: So knowing what we all know about PBN now, is everyone happy with DP9?

Vale of Glamorgan Council: I think we are happy with DP9 subject to there being a fail safe and that's it really.

Vale Tourism Association: It's a very good point about satellites failing or more likely being shot out of the sky by an unfriendly power.

Vale of Glamorgan Council. It's very easy to disrupt if you're solely reliant on it.

Vale Tourism Association: It's like transistorised radio equipment, you can blast that with a blast of power and knock everything out, where the old valve technology, old though it may be, they will keep going. So there is actually a back-up of a system that is old-fashioned in our terms, but it works, where the new system may not.

Vale of Glamorgan Council: But they are forced by legislation.

Facilitator: The legacy navigational aids obviously Cardiff has this one in Brecon which is going to go offline in two years anyway, so that's obviously forcing the hand of Cardiff in particular in relation to this design. The phrase 'appropriate standard of PBN' that cover the whole American, European question, it just keeps that flexibility in, doesn't it.

REPORT BACK

Green table spokesperson: I think the general comment was obviously it's a legislative requirement so who are we to dispute it? But one question that came up was around fail safes and should something fail, should the satellite system fail or be, for whatever reason, attacked what have you, because it is up in the sky whereas obviously beacons are on the ground, they're much easier to

protect. We had a discussion around that, and there are alternatives, obviously pilots can fly being steered by an ATC anyway, so generally no real issues with that.

CWL: If you've got equipment on the ground, it might be protected but fences can be broken, nobody can break in and attack a satellite up there. I think we're talking about cyber attack, it's less likely. A physical attack, yes, of a satellite is unlikely and there are only a few states capable of doing that. So it's less likely.

Red table spokesperson: We've been talking about technology all the way through, so it's a bit of a no-brainer. We'll go for it. The only thing we would change is 'designed to yield *optimum* safety and efficiency benefits', because there's so many trade-offs within that. Economic and the noise etc should be taken into account in all of this. Should take into account the requirements of other people.

DISCUSSION – BREAKOUT GROUPS

RED TABLE

SAFETY

Facilitator: So the first design principle by theme is safety, and the design principle is that this airspace change must maintain or enhance current levels and safety. What are people's views or opinions on that?

Cowbridge Town Council: What dictates the safety criteria say between take-off and landing in surrounding areas. How would this discussion affect that?

Facilitator: Are you asking what is the definition of safety in this respect?

Cowbridge Town Council: Yeah, I suppose that's the point.

Cardiff & Vale College: So in this question, are we looking to implement a higher level of safety? It's quite an open statement really.

Facilitator: It is, and that's why we are here to discuss it. Whereas you might choose that actually you've got to build on what the levels are already.

(To CWL)

So, could you give us the formal definition of safety in this respect please?

CWL: I can give you one, but the formal definition, that will be written down in the CAA regulatory document. So what's the question?

Cowbridge Town Council: Just wondering really what is the definition of safety? We all probably want to enhance the existing level of safety; how does this discussion affect that really? What can we say that can make it better or become a 'no no'?

CWL: So we're looking to maintain the current levels of safety and where possible enhance through any changes or designs that we look at.

Cowbridge Town Council: That affects flight paths? This will be to do with flight paths?

CWL: Not exclusively, no, it could be anything.

CWL ATC: Rather than looking maybe at questions of how we could improve safety, what we're actually looking for is that we're looking for a ratification to try and either keep safety as good as it is today, or to make it better in the future, is the right vision for us to be aiming to. There is an interesting argument that says actually you might want to trade off a little bit of safety. You might want to introduce a little bit of risk to your operation to move more aeroplanes. The safest place actually is for no aeroplanes to fly at all.

Cardiff & Vale College: This is safety in the context of increasing capacity isn't it? That's what we're talking about?

CWL ATC: So it's safety in context of maintaining a sensible operation.

CWL: And the 'how we do that' comes down later.

Cardiff & Vale College: So how do we know where we are at the moment? What's the base line? So presumably there is a minimum, we are somewhere here. So if we want to understand to improve or introduce more risk...

Facilitator: For the purpose of this conversation, everything is relative isn't it? So actually, wherever you are on that medium, you either want it to stay the same or get better. You would never want to introduce something that makes it worse.

Cardiff & Vale College: If there's opportunity for risk and that opportunity presents a beneficial situation then maybe...

CWL: So if we look at the operation at the moment, are we running a safe operation? Yes. Yes we are.

ACOG: I was going to say, to bring it back to the question of what is safe and what is not safe, the Civil Aviation Authority that regulate all air traffic control in the UK or all air traffic movement in the UK, they define what a safe operation is, so minimum distance between aeroplanes if they're flying in the same piece of sky. How close can we allow them or can we permit them to fly? That's a safety standard. Same with the vertical distance between them, that's a safety standard. If you allow aircraft to reduce that then you're operating in a less safe way and that would be called a safety incident, that's all recorded, the Civil Aviation Authority have all that data. So at the moment, Cardiff Airport is operating a safe operation because they will always maintain these safety standards.

Cardiff & Vale College: So there's no excursions, there's no target for minimum excursions?

ACOG: Absolutely not. Certainly NATS as a company, has licence obligations that the Civil Aviation Authority and the government put on air traffic control providers to say that you must ensure safety, and if you don't ensure safety, you'll be fined or worse, you'll have your licence taken away from you. So these are the standards that we're talking about. So in one sense, shall we maintain or enhance current levels of safety? Then we'd like the stakeholders to take that message on board and go 'these minimum standards are absolutely sacrosanct'. We don't want to introduce new flight paths that could erode these safety standards. We want to protect them and we want to potentially make them safer.

Cardiff & Vale College: Maybe another take on that would be performance raised navigation will introduce more safety for more accurate navigation. There could be a natural increase in safety.

CWL: And that would come in as you're going through because you'll probably see that safety will touch on every single one of these in some way, shape or form.

Cardiff & Vale College: It's quite a hard question for us to contribute to.

Penarth Town Council: Because we don't know do we?

ACOG: It's a tricky one because if you've been in the industry and you've worked in the industry, you'd understand what that means. So safety means we're not going to get aeroplanes closer than they're permitted to be at any one time.

CWL: So to draw a simile from your side of things, how do you know your training is fit for purpose? You'll have processes and procedures that you go through, and assurance.

Cardiff & Vale College: But no system is perfect, so there is always an element of excursion, or in our world, there'll be audit findings or something else.

CWL: Absolutely, and that's why we're audited every year by the CAA.

Cardiff & Vale College: So if you're saying you have a perfect system, which would be quite unusual, then great, no need to improve. But if you're within the realms of safety, but you still have a number of conflicts, excursions, whatever the terminology is, then there is scope for improvement.

CWL: So if we might meet the minimum requirements for safety across the whole board, but there might be learnings that come out of it for best practice or other ways of doing things which will increase on that and give us a larger margin in terms of how safe we are and how we operate. So I appreciate from your side it's difficult to define. What we're looking to do is to get your view point as the community stakeholders from this side of things. We've had another group yesterday from the community, but we've also had a specialist group from the aviation sector as well. So the aggregation of all the responses we get from you will help us to formulate and finalise that.

Cardiff & Vale College: Would a fair statement be that with any improvement in technology, we expect an increased level of safety?

Penarth Town Council: Yes I think so. We wouldn't want it to go down.

Cardiff & Vale College: The answer is yes isn't it? (Multiple speakers)

Facilitator: Because the other thing you see, is you've asked some very valid questions and you can say 'yes, but with caveats in this maybe' because you've still got some questions, but the point is the wider consultation is the point at which everyone within the 23-mile radius of this airport can actually come back and state those preferences and when we go through these, I think there might be a few more yes's or maybe's. But bearing in mind the two things: that firstly you can caveat in with the feedback questionnaire at the end which has to be reported back on, and that's something I'd urge you to do because you make a very valid point, but also that these are general guidelines, of where we have a wider consultation, the issue of safety will be explored further. What we need is something like, maybe a design principle that no one has even thought of, that we can put into the mix, and that's where the feedback is so important.

Cowbridge Town Council: So could we say that we acknowledge the possible trade-off between the safety and extra capacity and say reduce the separation distance, that that would get more planes in. We can see we acknowledge it but we're not going to do that, don't want to do that.

Penarth Town Council: The key to this is that potentially lives are at stake. Safety in the sector is paramount isn't it, because in terms of the community aspect of that, is if flight paths fly over communities that are populated... Look at Lockerbie for example.

Facilitator: How about striving to enhance levels of safety? Because that is about continuous improvement isn't it?

Cardiff & Vale College: Even to manage extra capacity, you need increased ability to do that. So that may be technology, it may be controllers...

CAPACITY

Cowbridge Town Council: It's a bit difficult without any sort of maps to look at to see what we're looking at.

Facilitator: The point is, this isn't about lines on the ground you see, this is about the general principle. So don't think about how this affect Cowbridge. Think about how this affects the UK even, not just Cardiff Airport, even though this is a Cardiff Airport issue. From our point of view, the air traffic control network obviously spreads across the entire UK, we saw that video. The idea being that improving the resilience has a number of meanings to people, but as was said, one in three aircraft in this part of the world can be subject to a thirty-minute delay or thereabout if the system isn't rejigged and improved. So one of the design principles is about operational resilience, and making sure that any changes put in place will be at least as good as they are now but will aim to improve the resilience of the system so you don't end up with lots of stacking or delays on the ground.

Cowbridge Town Council: That comes to my next question, do we use stacking as a way of controlling the inflow?

Facilitator: When you look at it at the moment, particularly at [REDACTED], I remember seeing that 3D video and they're going round in circles, I would suggest, burning lots of fuel is...

Cowbridge Town Council: Not a good idea. Not a good idea at all.

Facilitator: And again I guess from your personal, local perspective, the idea of putting the aircraft set on the ground is not a particularly good idea?

Cowbridge Town Council: Would it be, once there's a problem to get incoming aircraft to slow down for example?

Cardiff & Vale College: When we're talking about capacity, what capacity are you talking about? Now, five years, ten years?

Facilitator: That's a good question, so we'll ask that. (To NATS) Is this a plan to improve capacity resilience for the next five years, ten years, a lifetime?

NATS: So, figures out to about 20 years have been mentioned actually. I know that [REDACTED], for example, it's talking about capacity up to 2050. I think typically, the sort of projections that you'll see in the consultation documents, for example, take you out to about a ten year forecast, that's typical of what the sort of CAA require from us, so in terms of passenger numbers but also flights. I think for this sort of airspace change, it wouldn't be any more than ten, fifteen years out.

Facilitator: Okay, so are you able to just enlighten us a little bit more on the second one as well, because that builds on the questions we've just talked about. Airspace designing yielding the greatest capacity benefits from systemisation.

Cardiff & Vale College: So in theory, the airport capacity is limited by runway and that's not going to change. If you assume that, then you've got to create greater capacity in the air. Is that your systemisation?

NATS: So one example of systemisation is that the departure routes will be split a lot earlier, allowing Cardiff's aspirations alongside Bristol to have one minute splits. You think about systemised airspace typically, it's having aircraft on predefined routes with less and less control or intervention. So at the moment, the routes are quite outdated and there's a lot of, we call it vectoring. So, controllers will vector aircraft off onto shorter routes whereas actually, if we design them better early on, there will be no need for that. There will be the shortest track distance, which will yield environmental benefits, but it will also mean that aircraft can stay on that route, reducing the workload for both pilots on the flight deck, but also controllers. So the sort of aspiration down the line is that a fully systemised airspace would be, airspace from take-off to landing, there will be no delay, they will be on a predefined track, ideally no holding. So Cardiff will have to work closely with LAMP, with NATS.

Cowbridge Town Council: So should we be looking at emergencies where for example, [REDACTED] is closed, and then planes are diverted here or [REDACTED]

NATS: Yeah, absolutely, so Cardiff has to remain resilient to events like that. Another example that both Cardiff and Bristol encounter is low visibility. So aircraft suddenly have reduced visibility and might have to be holding or might have to be delayed, so we need to make sure that the airspace design that we put forward for the future enables those scenarios, because it will continue to happen. Weather issues will continue to be encountered...

Cowbridge Town Council: Are the line landing systems then not approved beyond a certain level?

NATS: In terms of the low visibility procedures?

Cowbridge Town Council: Yeah.

NATS: I think it's mainly down to certain aircraft that can't do it. So the rules that were mentioned early on, the instrument flight rules and the visual flight rules. The visual flight rules will ultimately see the void, so they're not on predefined tracks and they're just looking around to see who else is on their horizon.

Cardiff & Vale College: So do you understand the maximum capacity capable in this area, fully implementing PBN? Is it a question of you've got this capacity, which is a nirvana for the local area, and currently we're here and we're trying to understand where in the middle is acceptable?

CWL: It depends on the design doesn't it? We don't know what that looks like yet. What we're looking to do is... Do you think it's a good idea that we use PBN and make use of modern technologies? If that's a strong yes then that supports what we're doing. We can draw back to this and say 'people thought this was a good idea', so we'll do this. What can that give us? So when it comes to consultation, if we've gone through all this process, based upon stakeholders saying the design principles, 'yes, they're a sound principle' that allows us then to move on, and then when we come up with the designs, we can actually read back and say 'actually yeah, they said that in here'. And they said it in the statement of need. So, we're not in a position to give you volume and capacity

at the moment, what we're saying is we want to be able to use that to go forward, and to be able to present that to you at the consultation phase.

NATS: One thing that we will present to you without going too far down the rabbit hole at consultation is part of stage two, we do something called fast time modelling. So say for example, we put forward a design of one departure route and one arrival route, clearly very inefficient, very inflexible, we then put this through a fast time model which puts through a year of flight data and tells us the capacity of that. We will do this for all our proposed signs, and it's something that, it's part of the information that we'll present at the consultation, so that's one way of obtaining that information.

Cardiff & Vale College: I suppose if we're looking at impact to environment and the local society, then maximum capacity may not be the best thing. From an operational perspective, yes of course. I think my point is, one of these statements, I think it lays them open to the greatest capacity benefits for systemisation, so that's from the operator's perspective, but not from the community perspective.

CWL: Right hang on a second, you can't look at those in isolation. We've got fourteen design principles and we need to consider, we can't, 'yeah we'll do that, or that', without considering that one. So based upon what you've got in front of you there, is your view that that is largely what you think we should be going for? Is this something perhaps we need to add into that? But also if you need to dip into the other ones where it says about the impact and environmental impact then...

Cardiff & Vale College: I think they're fairly closely linked to be honest.
(General agreement)

CWL: That's why it's all quite good to look at a whole.

Facilitator: So if you think there's insufficient measurement of clarity, that has to be considered.

Cowbridge Town Council: If you're looking at changing the corridors, then presumably that will take into account environmental impact and noise and so on.

FLIGHT EFFICIENCY AND ENVIRONMENTAL

Penarth Town Council: Well, it's a fairly straightforward statement on that one isn't it? I would like to see all of these on a list from a community perspective.

Cowbridge Town Council: Is there a way we can look at reducing the amount of time that engines are running on the ground?

Facilitator: They do it already, but Cardiff Airport can talk about that, they have single engine operation.

Cowbridge Town Council: Oh okay.

Facilitator: When taxiing I believe. There are other benefits of airspace design and airspace change that's brought in to play and are in use elsewhere. For example, there is something called continuous descent approach. Basically, rather than dropping from level to level, it's a big long glide from altitude to when you touch the runway, which obviously burns less fuel and there are similar methods that are used for very long haul. So there are ways in which you can sensibly redesign airspace to take into account those sort of preparations.

CWL ATC: In terms of improvement for that? We're always going to look to, it's fundamental in everything we do every day, it's just the way the industry is changing. The last one, continuous descent approaches and the arrivals to Cardiff, something like 92% of movements had a continuous descent from 6,000 feet to surface.

Facilitator: So, are we in agreement with three then?

Cowbridge Town Council: Yes

Penarth Town Council: Yes

Cardiff & Vale College: Yes, I think so.

Penarth Town Council: It's just good to see that they're actually there as a starting point.

NOISE

Cowbridge Town Council: Shall we say that the answer is yes, we should be trying to reduce the noise impact to people on the ground, generally.

Penarth Town Council: Yeah.

Cowbridge Town Council: But it's a question of how you arrive at it. I know I have had complaints from people because every so often, they change the flight paths. So suddenly, it gets very noisy when it wasn't noisy before.

Cardiff & Vale College: Are you arguing against dispersing? Because that would mean that occasionally you would get aircraft over your area.

Cowbridge Town Council: I was just checking whether that was an anomaly, because they were quite low and did this turn, it's impacted onto the outskirts of the town.

Penarth Town Council: We've got very heavily populated town of almost 30,000, and we haven't got the industrial areas, whereas the places in the Vale do. Our open spaces are surrounded by residents, even the marina is a populated area, so I don't think people in Penarth would want to see too much of a deviation from what we've got.

Facilitator: So that's something really for the wider consultation, so I guess what you're saying because of your different view is that some of these options would need to be put into the formal consultation rather than honing down onto one at the moment.

Cardiff & Vale College: There's no easy way around it is there? Because you're always going to fly over somebody. So, the question for dispersal, is that does everybody get a little bit, or do certain people get a lot? Do you protect more populated areas, and can you have dispersal avoiding more populated areas? Cardiff, Penarth or larger towns...

Cowbridge Town Council: Living in a fairly rural area, I was looking at the map from a satellite point of view, there are a lot of green areas, or gaps in the housing, so to minimise the impact on housing, as you say, everybody is going to be flown over at some point.

Cardiff & Vale College: It's quite a hard one to comment on I think. I mean from my perspective, I like the sound of sharing it amongst the majority of people, but appreciation to avoid some hotspots, like larger towns where you've got a higher concentration of people.

Facilitator: Where I think you've got to, was you don't want to make that binary choice between narrowing it right down and dispersal?

Cardiff & Vale College: Correct, yeah. But as a principle, that's a good idea.

Cowbridge Town Council: I mean from Cardiff's point of view, if you're going east, you're very quickly going over the sea and to the water, not much option to make room for improvement I would have thought. Basically, share the grief is the message, isn't it?

Cardiff & Vale College: Yeah, I mean reduce noise impacts to stakeholders on the ground.

AIRSPACE ACCESS AND INTEGRATION

Facilitator: It is quite techy this, isn't it?

Cowbridge Town Council: So basically, for the six, MOD requirements are pretty minimal barring certain areas, I mean St Athan isn't really something that should come into it.

I also wanted to ask the question how does Cardiff's minimum airspace impact on Bristol's?

CWL: Right, so Bristol can have an impact on us, we can have an impact on them. That's a factor of geography and nothing else. In terms of how we move forward, Bristol have got their master plan, we've got our master plan of what we want to do in terms of growth, and this fits very nicely into that because if we redesign the airspace with modern technology without taking into account the needs of other airspace users and airfields, collectively we need to work collaboratively together to make sure that we meet the needs of ourselves and Bristol. Now, because we're going through this progress and when it comes to the engagement and the consultation, I went to Bristol's version of this meeting, and Bristol came to mine yesterday. When it comes to consultation, we would make our designs and plans available for everyone to look at. If we hadn't spoken to them, they would go, 'well that doesn't really work for us'.

I went to one of the workshop meetings. Ourselves and Bristol have been working really closely together and sharing information. We've had bilateral, trilateral and multilateral meetings. So bilateral between us and Bristol. We've had other meetings with us, Bristol and Exeter and ACOG, and where we've discussed about how we might go forward with our proposal as a whole, and how we can align to make sure that we go through the process together. By doing that, we keep the design process and the consultation together.

So, what we're planning to do is to work closely and to make sure that we are aware of each other's needs and we go through the design side of things, acknowledging that, without interfering on what they want to do and meeting our requirements as well. And they'll be doing the same from their side of things. We've got a really good relationship with Bristol, and we need that, because there will be a time when we have a difference of opinion or we need to agree a way forward, and the fact that we're starting at this early stage together. As far as LAMP is concerned on FASI, there are the planning and the four or five deployment phases. And the level of deployment is very, very complicated because we're geographically set against the West, they are planning to use as the trailblazers, us and Bristol and potentially bringing Exeter into the equation as well to be the first deployment, and we are given lots of support from ACOG in terms of bilateral, trilateral and multilateral meetings to work together to understand what the timelines look like and wonder how we might want to move forward the process together, and when we get past this phase now and get into the more detailed design phases, we've got people attending their design meetings and they'll have some coming to us as well. So we get that expert input from the early stage. Very positive.

Cowbridge Town Council: Exeter seems a long way away doesn't it? Even though it's just over the water.

CWL: It is, but if you're thinking about where the aircraft are start descending...

Facilitator: So, questions?

Cowbridge Town Council: Well obviously, the sixth is what it is, we can't really do much about that we've got to let the MOD have its way. That goes with the police and other operations.

Cardiff & Vale College: I think the key word there is compatible isn't it? They've got to work together. How do we deal with the general aviation, hobbyists, and people who jump out of aircraft?

Facilitator: Well I would say that's outside controlled airspace, so what it means is it's going back to the previous idea. If you've got those people who do their hobbies in a certain area at the moment, you give regard to the fact that if you need to expand your controlled airspace, which might involve pushing them out, you've got to justify it. So you seek to minimise it.

Cardiff & Vale College: Minimised is a strange word because that's subjective isn't it? So, if it's been decided that your airspace is going to go around the extent of the Gower for example, and there are lots of skydivers, gliders, there's GA around that Swansea Gower area. So if there are needs to go there, then you can't minimise it, it's just part of the area.

Facilitator: For the purpose of this we're talking about, once you've got to 7,000 feet, that's what we're talking about from the airport. I'm not sure what a light aircraft would be over there, but you wouldn't seek to deliberately go out that way to disrupt that activity. The whole purpose of this – bluntly - not to irritate people, or to irritate people as little as possible and actually, everyone has got a role to play in this. So by saying minimise, I think what it's saying is, you can't say that there will never be an impact, because this might be the only option available and it might be the only option available if you want to minimise fuel burn and get out ahead.

Cowbridge Town Council: Should we be looking at using the word optimum or optimising rather than minimise? Choosing the best option out of all? Anyone got any views?

Cardiff & Vale College: Optimise rather than minimise.

Cowbridge Town Council: If it was kept to a minimum, then that wouldn't say optimise. It might be the minimum, it might not be easy to minimise it.

Cardiff & Vale College: Optimise for who though? For GA or? If I was part of the GA community in whatever area, then I would say no, nothing at all.

USE OF ADVANCED NAVIGATION TECHNOLOGY

Cardiff & Vale College: It's not debateable really, it is what it is. Maximum safety and efficiency, so safety, fair enough. Maximum efficiency will contradict some other noise, environmental effects. So I think maximum, this maximum here, it's got to be in consideration of the other points that we've just looked at here. It's not in isolation is it?

Cowbridge Town Council: We've got to take into account the economy and the noise.

Cardiff & Vale College: I mean point A to B is always maximum efficiency isn't it?

Cowbridge Town Council: Yeah, yeah.

Facilitator: So are you fairly comfortable with that?

Cowbridge Town Council: I think so.

Cardiff & Vale College: Just that word maximum I think. All of it really is quite hard to comment on isn't it?

Cowbridge Town Council: Yeah.

Cardiff & Vale College: It's just a consideration if the statement is correct without the underlying detail.