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Dear Michael,

Bespoke licence fees for aeronautical VHF communications frequencies – a further consultation

NATS welcomes the opportunity to comment on the further consultation on AIP fees for aeronautical services, issued on 10th March 2011, having responded to the previous consultations on this subject. We have a number of comments that are provided in the Annex to this letter, which forms part of this response and have also addressed Ofcom's questions in more detail where appropriate. References to paragraph numbers in this response are to those in the Consultation Document issued on 10th March 2011.

Yours sincerely,

Ken Ashton
Head of Navigation and Spectrum

Annex to NATS response to Ofcom Bespoke fees consultation, 10th March 2011

Application of bespoke fees

NATS welcomes the type of more granular fees structure being proposed by Ofcom and is of the view that applying such bespoke fees to the VHF band would be of benefit and go some way towards providing an incentive for WT Act licensees to consider their use of the VHF communications band.

NATS does however feel that a consistent approach should be taken by Ofcom in relation to bespoke fees and that these should be available for all uses of the band with exclusive assignments. NATS as a matter of course always seeks to minimise our DOC requirements, being very familiar with the difficult issues of finding frequencies in the planning process, but we believe that the proposals in the December 2010 Statement do not in principle provide any cost incentive for operators of VOLMET and ACC frequencies, including ourselves, to limit DOC size. The principle of this being recognised in the fees associated with VOLMET and ACC assignments through bespoke fees would provide a level playing field for all exclusive uses in the band and provide common incentives at all levels of the industry to consider frequency use. NATS also has some comments regarding the methodology being proposed for the calculation of the sterilised area and this is further considered later in this response.

Licence conditions

There is a new proposal in this consultation to include a legally binding reference to the DOC in each licence (§2.38/2.72) – it isn't absolutely clear whether this is for all licences or just those with bespoke fees. NATS is still seeking to assess the potential implications of this proposal, noting the lack of detail, but our broad concerns are around compliance issues as follows:

This appears to place a responsibility on the WT Act licence holder that they cannot discharge as the licensee as they are not able to prevent aircraft transmissions outside the DOC. When an aircraft call is received, the Air Traffic Control Officer (ATCO) / operator will not know where the aircraft is located relative to the DOC and will respond. In addition it would require a fundamental way in which all pilots, whether flying large civil aircraft or GA, are trained globally since currently they are taught to contact the next frequency they wish to use as soon as possible and the concept of DOCs and their implications is not taught for communications.

From a NATS perspective DOC design for Area services is a balance between operational requirements and spectrum efficiency that has been developed in conjunction with CAA over a number of years. Thus in day to day operations some aircraft may legitimately be operating outside the DOC for the following reasons:

> DOCs may not have been designed to account for 100% of all aircraft that may use the frequency. It may be known that a small volume of traffic will use a planned frequency further away, generally in one direction, than all other aircraft that would otherwise be within the DOC. In this case it is unlikely that NATS would seek a DOC that fully encompassed that one larger requirement as this would be spectrally inefficient.
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> Assignments have also been artificially limited to a maximum 45,000 feet (ICAO FMG Conclusion 7/5) although the top of controlled airspace is at 66,000 feet and certain aircraft are capable of operating above this level. Aircraft using any frequency above 45,000 feet would be considered to operate outside of a DOC.

Depending on the nature of the legally binding reference to the DOC that is being proposed, this may introduce ground station related compliance issues. It is currently the case that part of the multiple site ground infrastructure supporting Area services on a small minority of assignments may be located outside the DOC boundary, although this is only where it is unavoidable. The ICAO EUR Frequency Management Manual planning rules only state the radio stations being within the DOC as being an assumption, while also allowing for placement of radio stations beyond the DOC; both in the context of adjacent channel operation (the aircraft location impacts the co-channel reuse). The current UK assignment letters and licences do not preclude this, albeit unusual, situation and there would be a serious impact were the proposal given in §2.72 to introduce a new requirement for the ground infrastructure to be located within the DOC.

In addition to the concerns raised above, were this proposal to be implemented, NATS would very strongly recommend that the DOCs are not quoted on the licence documents and instead that a cross reference is made to an assignment letter that is issued once for the lifetime of each assignment. This will avoid the need to keep the same information current in two documents and reduce the administrative burden of having to check the DOC associated with each licence each time the document is reissued, particularly for polygonal DOCs with lists of co-ordinates.

Consideration of DOC areas (§2.36 *et seq*).

Ofcom's position in relation to whether an opportunity costs exist for areas over the sea is not clear to NATS. The use of the UK land mass area only for fees calculation implies Ofcom sees no opportunity cost for assignments sterilised over the sea and yet §2.57 would appear to support using an area larger than that of the UK land mass area for calculating fees as it implies that there is an opportunity cost for use over sea areas.

NATS believes that by considering only the equivalent area of a DOC and not its actual location relative to the UK land mass as Ofcom is proposing may disadvantage certain assignments as it is not comparing like areas. The UK Flight Information Region (FIR) extends over both the UK land mass and some sea areas and a number of assignments used by NATS (NERL) have DOCs that are predominantly over the sea with, in some cases, quite a small part or none of the DOC being over land. We note Ofcom's comments in §2.57 on over sea coverage and where bespoke pricing is applied NATS would argue that the location of the DOC / sterilised area should also be taken into account such that an assignment only has that portion of its sterilised area that is above the UK land mass considered against the 71,000 nm^2 figure used by Ofcom.

We recognise that considering the placement of a DOC relative to the land mass would result in a more complex algorithm and a possible alternative would be to compare the full sterilised area of the assignment in question to that of the UK FIR, as this is more representative in an aviation context as the assignments can be made anywhere within the UK FIR over both land and sea, thus reflecting the opportunity cost over the whole FIR.

Calculation of sterilised area for Polygonal DOCs (§2.50)

We note the implication that "Area" always equals polygonal DOC and vice versa although also Ofcom recognises that some APP might be polygons. In our view this section may better be titled Polygonal DOCs as it is the fact the DOC is a polygon, rather than a circle, that drives the ICAO planning rules to adopt the radio horizon rules rather than the 5*radius separation rules.

Notwithstanding our previous comments about geographic placement of the sterilised area, the calculation of sterilised areas based upon an "equivalent circular" representation of a polygon would appear to offer a suitable way to deal with the different polygon shapes. One problem

that we have noted in §2.51 and in Figure 3 is that the DOCs are considered to be the same. For Area DOCs this situation is very rare and since the radio horizon (RH=1.23√height) and hence the sterilised area is based upon the height of the DOC at the edge of coverage, then the statement made in §2.52 "…..radius plus 50%....." is not always correct. The correct wording should be "……area of radius equal to its own service radius plus the radio horizon from its service edge." This is fully in line with the proposal in §2.52 but does not require any assumption to be made about the next co-channel frequency assignment and therefore should be used for any calculations associated with sterilised areas.

Other issues

Given the relatively large fees that will be being introduced, NATS has some concerns as to how the administrative arrangements for aeronautical licences (e.g. payment mechanisms) will function when fees have been set according to the proposals set out in the December 2010 Statement and March 2011 Consultation and would welcome the opportunity to discuss these with Ofcom and CAA.

In the interests of transparency, NATS would expect Ofcom to publish the algorithms to be used for the calculation of bespoke fees as is the case for other Licence types, e.g. Fixed Links.

NATS responses to the consultation questions:

Question 1 We propose to derive fees for Air/Ground, Aerodrome Flight Information Service, Tower, Approach and ATIS assignments on a bespoke approach, under which fees would reflect the geographic impact of each individual assignment. What is your view of the merits of this approach compared with the alternative generic fees approach set out in the December 2010 statement?. Do you take the same view about all of these service types?

NATS response Q1: No, NATS would propose that fees for all exclusive assignments are derived on a bespoke basis; see our main text.

Question 2 Where an assignments prevents re-use of a frequency across an area which is larger than the area of the UK land mass, it appears to make little difference to potential alternative UK users whether the affected area is only marginally greater or is several times greater than the area of the UK land mass. Do you take a different view? Are there any reasons why very large service areas and associated separation zones do have greater impact on the availability of frequencies than assignments which impact a smaller area equivalent only to the size of the UK land mass? If so, please provide a full explanation of how this effect operates.

NATS response Q2: NATS would agree that once a frequency has been "denied" to an alternative aviation user over the whole of the UK land mass (as against an area equal to that of the UK land mass) then there is no difference to the situation if the assignment is slightly larger or significantly larger than the UK land mass. NATS see that there is a wider issue with Ofcom proposing comparison with an area equal to that of the UK land mass without considering the geographic placement of the DOC relative to the UK land mass as NATS have commented earlier in our response.

Question 3 We currently propose that there is little merit in notionally deriving fees for Area Control, ACARS, VOLMET and VDL assignments on a bespoke basis when fees will rarely, if ever, be other than £9900. However, we recognise that there may be merit in applying a bespoke approach to fee setting so that, if assignments are ever made which impact an area smaller than the area of the UK land mass, fees would be reduced proportionately. In your view, would

a bespoke approach to fee setting for these service types have any practical value now or the near term?

NATS response Q3: Yes, NATS supports bespoke fees for Area control and VOLMET services for the reasons given elsewhere in our response but please also see our comments on coverage / equivalent coverage of the UK land mass.

Question 4 Would there be any merit in fees for other assignment types being derived on a bespoke basis? If so, which other service types should be subject to bespoke fee and how should these fees be derived?

NATS response Q4: As noted in the response to Q3, NATS supports bespoke fees for Area and VOLMET services, i.e. all exclusive assignments should be subject to bespoke fees.

Question 5 We are proposing to rely on ICAO's EUR Frequency Planning Manual when determining the size of the area in which one assignment prevents others from using the same frequency. For the purpose of setting fees, we propose not to take into account ICAO separation distance variables relating to adjacent channel use or bandwidth (although bandwidth will be reflected in fees as fees for 8.33 kHz and 50 kHz channels will be derived pro rata to fees for 25 kHz channels). We also propose to take into account the CAA's practice of applying, in the case of smaller DOCs, rules which ensure that an aircraft within one DOC cannot cause interference to the ground station of another. Are there other factors which should be taken into account when determining the size of the geographic area impacted by a particular assignment?

NATS response Q5: For the other factors yes, NATS believes that the location of the geographic area relative to location of the UK land mass and the amount of landmass that is actually sterilised should also be taken into account.

While NATS agrees in principle with relying on the ICAO EUR Frequency Planning Manual as stated in the question, please note our comments above on 2.51 and 2.52 regarding your interpretation of the co-channel re-use distance. NATS also supports Ofcom's view that the adjacent channel use or bandwidth should not be taken into account for the purposes of setting fees, other than for providing the incentive to convert to 8.33 kHz spacing. It should be noted that the manual is a living document and is subject to change.

Question 6 We are proposing that, until April 2016, bespoke fees should be capped at the level of the generic fees announced in December 2010. After that date, no bespoke fees will rise beyond £9900 per 25 kHz bandwidth, but some Air/Ground, Aerodrome Flight Information Service and Tower assignments with a relatively large DOC will attract bespoke fees in excess of the £2600 generic fee set out in December 2010. Does this timetable provide sufficient time for licensees to review their operational needs and, where appropriate, agree changes to their DOC, before fees, for some licensees, increase beyond the level announced in December 2010?

NATS response Q6: NATS agrees that bespoke fees should be capped at the generic levels announced in December 2010 during the ramp up to the full fees and that post 2016 no fees should rise beyond the £9,900 / 25 kHz level.

Question 7 We propose to introduce a new licence class for each of (a) Air/Ground, Aerodrome Flight Information Service and Tower, (b) Approach, (c) ATIS, (d) Area Control, (e) VOLMET, (f) ACARS, (g) VDL, (h) Aerodrome Surface, OPC and Offshore, (i) GA Sporting frequencies and (j) Fire and Emergency frequencies. Are there reasons why the portfolio of licence types should differ from this proposal?

NATS response Q7: Area FIS assignments are recorded separately in the ICAO frequency process with polygonal DOCs but are not recognised in this list. There are four of these assignments operated by NATS in the UK, a similar number to the VOLMET assignments; perhaps FIS should be listed as part of the Area Control class, c/f AFIS with A/G and Tower. Regarding VOLMET, since these are fundamentally ATIS type services NATS believe that one licence class covering both ATIS and VOLMET should exist. This could be addressed by having a Broadcast licence class as indicated in §2.49 and removing the separate ATIS and VOLMET classes.

Question 8 Do you have any specific additional information about the likely financial impact on licensees of these proposals to apply bespoke fees, instead of generic fees, for certain service types?

NATS response Q8: Any new requirement introduced under these proposals to have all ground radio infrastructure wholly contained within the DOC for Area services would have a significant cost implication as this would require investment in new radio stations.
