



BAA's Response to Ofcom's Consultation "Applying  
spectrum pricing to the Maritime and Aeronautical sectors"

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BAA welcomes the opportunity to respond to Ofcom's consultation "Applying spectrum pricing to the Maritime and Aeronautical sectors" published on 30<sup>th</sup> July 2008.

BAA is the world's leading private airport operator, with seven UK airports including the three London airports Heathrow, Gatwick and Stansted. Heathrow is the world's busiest international airport in terms of passenger numbers, and number two for air cargo. BAA also operates the Heathrow Express rail link. Currently over 130 million passengers travel through our UK airports annually. The UK Government predicted in 2003 that passenger numbers would double over the following 20 years.

BAA's airports are some of the most complex radio environments in the UK, with a large number of service types and a heavy demand on spectrum. Radio communications are critical to airport operations, helping to ensure the safety and security of all airport users. Airport expansion and the provision of new wireless-based services will lead to increasing demands on the radio spectrum. The lack of available spectrum, especially at Heathrow, is a significant constraint on airport operations and the provision of services.

BAA currently hold 10 aeronautical licences, all of them at Southampton. NATS hold the aeronautical licences at BAA's other six airports.

BAA is supportive of trading and liberalisation and other measures to improve spectrum efficiency, provided these measures are demonstrated to be effective. Administered Incentive Pricing (AIP) is a tool which can improve spectrum efficiency, although it is a top-down method (unlike trading) since the regulator needs to define the correct price.

However BAA is extremely concerned about Ofcom's proposals to apply AIP to the aeronautical sector for the following reasons:

**The aeronautical sector is global so unilateral action by the UK is inappropriate**

Aircraft fly across national and regional borders, so on board radiocommunications equipment (VHF communications, radar transponders etc.) must comply with international standards. There is therefore little opportunity for existing aeronautical services to vacate their current bands. Additionally ITU constraints on the relevant bands mean that usage of them for alternative services such as cellular communications is unlikely to be economically viable.

Within Europe the SESAR programme is expected to bring significant spectrum efficiencies by the time it is fully implemented in 2020. In our view Ofcom's proposed spectrum efficiency measures should be coordinated with SESAR to ensure they are effective.

## **There is a significant risk that Ofcom's proposals will adversely affect air safety**

Some licensees may decide not to maintain their licences (for VHF communications, radar, etc.) due to the huge increase in costs. This could result in increased airspace infringements and reduced air safety. See also our response to Question 2 below.

## **Ofcom's proposals could be detrimental to UK competitiveness**

Ofcom's proposals do not contain details of radar and navaid fees however our estimates of fees, based on the proposed reference rates, show astronomical increases to as much as £500,000 or so per year for an individual radar, compared to £100 or so currently. For airports which are already in financial difficulties such high fees might force airport closures, affecting the competitiveness of UK regions which rely on air travel.

## **Ofcom's proposed prices significantly over-value radar and navaid spectrum, and are likely to lead to regulatory failure**

In the case of the primary radar bands we believe that AIP may be able to increase spectrum efficiency, since primary radar is not reliant on standardised aircraft equipment. However in our view Ofcom have significantly over-valued the relevant spectrum by taking insufficient or no account of recent auctions, or of the impact that international harmonisation (or lack of) has on spectrum value. We believe that the proposed reference rates are far too high, by over a factor of 100 in some cases.

The discussion herein illustrates the very large range in possible reference rates and thus the difficulty in choosing the correct value. We agree with Ofcom (§3.87) that "the outcome of setting prices too high results in a far greater loss of economic efficiency [than setting prices too low]". In our view the proposed price increases are a significant intervention with a high resulting cost (in both financial and air safety terms) but with little likelihood of improved spectrum efficiency.

## **The proposed prices will have a significant and unexpected financial impact on BAA's airports**

We estimate licence fees across the seven airports will increase from ca. £11,000 to ca. £4 million per year. BAA's three London airports (Heathrow, Gatwick and Stansted) have recently entered a new Quinquennial Review period for five years starting in April 2008, with no prospect of passing increased licence fees on to customers in this period.

We recommend therefore that:

- AIP is not applied unilaterally without international coordination, and certainly not before the impact of SESAR is understood
- Where AIP is used then Ofcom evaluate a range of possible prices for each band, and initially choose the lowest price in this range. Prices can then be reviewed after a number of years.
- Ofcom carry out a thorough impact assessment of their proposals to ensure the benefits outweigh the costs

Answers to specific questions in the consultation document are given below. Note that all answers relate to the aeronautical sector - BAA has no comment on the maritime sector.

***Question 1: How should Ofcom manage the process of taking advice from users, regulators and government on efficient apportionment of AIP fees in the maritime and aeronautical sectors? Are any new institutional arrangements needed?***

It was apparent at Ofcom's seminar on 29<sup>th</sup> September 2008 that Ofcom had no support for their proposals from the invited air industry participants. We believe that Ofcom should have arranged for greater involvement from the industry before drafting their proposals, for example through workshops with a few key stakeholders. BAA would be happy to participate in future work on improving spectrum efficiency in the aeronautical sector.

Ofcom also needs to take account of European views on the regulation of aeronautical spectrum, since differences in approach could distort the European air travel market. We would like to see this addressed in any follow up work from Ofcom.

***Question 2: If you consider that our proposals for pricing ground station users for any spectrum would be likely to have a detrimental impact on safety, please let us know. In order for us to understand your assessment fully, it would be helpful if you could outline the mechanisms whereby this might happen.***

We do not believe that AIP would affect systems at BAA airports or on aircraft that land there, as the equipment is mandated by CAA. However at Ofcom's seminar in September representatives of the GA sector expressed serious concern that the huge price rises would cause aerodromes, and therefore general aviation (GA) aircraft users, to switch off their VHF systems. There is therefore a risk that Ofcom's proposals could result in an increased number of infringements of controlled airspace.

We are also concerned that smaller airports may switch off radars, where possible, to minimise licence fees.

***Question 3: Do you have any evidence which indicates that AIP charged to ground stations could have a material detrimental impact on UK competitiveness?***

AIP could have a significant impact on some of the smaller airports which have few flights but nevertheless require radars and nav aids. We estimate that Ofcom's proposed AIP rates would translate to an annual cost of £584,000 [<sup>1</sup>] at Southampton Airport, compared to £1,275 currently. The cost would be similar at smaller airports with similar communication, navigation and surveillance equipment but with little prospect of recovering the costs from their customers.

Additionally there is some evidence that airlines change routes to minimise air traffic control fees [<sup>2</sup>]. These tactics can result in significant additional emissions of greenhouse gases.

***Question 4 : Taking into account the information available in this document, including that set out in Annex 5, our initial views on VHF radiocommunications licence fees and on the reference rates for bands in other uses, and any information you have about the organisations to whom we are proposing to charge fees, please provide any evidence that you think is relevant to us in considering the financial impact of the fees we intend to propose for VHF radiocommunications, or for other uses.***

BAA estimates that the total cost of Ofcom's proposals would amount to ca. £4 million per year across its 7 airports [<sup>3</sup>], compared to £11,425 currently. As discussed above we believe the huge increase will not result in improved spectrum efficiency.

***Question 5: Do you agree that there is little to be gained, in terms of economic efficiency, from charging AIP to WT Act licences for aircraft?***

Yes. From an air safety perspective it is important that GA users are not discouraged from using radios.

***Question 6: Do you consider that we should discount fees for any particular user or type of user? Specifically, do you consider that there should be a discount for charities whose object is the safety of human life in an emergency?***

Yes, we believe charities which provide emergency assistance should be given a significant discount.

***Question 7: Do you agree that Ofcom should apply AIP to ground stations' use of maritime and aeronautical VHF radiocommunications channels, to help manage growing congestion in current use and to ensure that the cost of denying access to this spectrum by potential alternative applications is faced by current users?***

No. We concur with the findings of the Cave report in 2002 that "the opportunity cost will be zero ... where use of a particular band in the UK has

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<sup>1</sup> All cost estimates are based on bandwidths derived from emission codes and assuming a frequency reuse factor of 5 within the UK.

<sup>2</sup> <http://news.bbc.co.uk/1/hi/england/7124021.stm>

<sup>3</sup> Based on details of 102 licences supplied by CAA.

been exclusively defined through international agreements and incumbents have no scope to change their spectrum use". The aeronautical VHF band is just such a case (as are other uses which rely on aircraft equipment).

Ofcom have estimated the opportunity cost if international restrictions were to be lifted. We cannot say that restrictions will never be lifted, however the extremely slow pace of change in international aeronautical regulations means that it may well be 20 years before a unilateral drive to increase spectrum efficiency in the UK has the effect of removing international restrictions. In the meantime VHF licensees could have paid £80 million in AIP fees for no benefit.

Ofcom refer to the problem of growing congestion, however they do not refer to any request from stakeholders to address this issue. Before Ofcom intervene in such a radical way (through huge price increases) we would like clarification of the problems caused by current fee arrangements. We presume that a future Regulatory Impact Assessment will consider the option of taking no action, i.e. leaving fee levels unchanged.

In our view a far better method of managing congestion and improving efficiency would be through trading of licences. There would then be no need to apply AIP.

***Question 8: Do you agree with our initial view that it would be appropriate to apply a pricing system similar to that already existing for Business Radio licences to maritime and aeronautical VHF communications? If not, what are your reasons for proposing that we should develop a fee structure for maritime and aeronautical VHF channels which is distinct from that already established for Business Radio?***

No. Business Radio bands are not constrained by international agreements, unlike aeronautical VHF. AIP could act as an incentive for spectrum efficiency for Business Radio, but we believe AIP would have little or no impact on spectrum efficiency for aeronautical VHF. The Business Radio fee structure is therefore not appropriate to aeronautical VHF.

***Question 9: Are there any short term reasons specific to the sector(s) why it would be inappropriate to apply fees from April 2009?***

The size of the fee increases (by a factor of 10,000 for some radar licences) has come as a shock to BAA. The sector is already under pressure due to forecasts of recession and the failure of some airlines and travel agents. Air travel is particularly sensitive to economic conditions. We would like to see sufficient notice of fee changes so that they can be taken account of in the Quinquennial Review.

***Question 10: Ofcom would welcome stakeholders' views on the factors which should be taken into account when apportioning fees between individual users of radars and racons.***

BAA believes that AIP should not be applied to bands where usage is constrained internationally. This includes uses requiring internationally standardised aircraft equipment such as aeronautical VHF, VOR, ILS, DME, MLS and SSR.

The only uses which are not constrained in this way are L band, S band and X band radar. We believe in these cases that fee structures should be kept as simple as possible. The most important factors are the transmission bandwidth and the geographical size of the interference zone around the radar. Ofcom's approach is consistent with this however they have grossly over-estimated the value of the relevant bands.

***Question 11: Do you agree with our initial view that a reference rate of £126k per 1 MHz of national spectrum for L band and S band radar spectrum would achieve an appropriate balance between providing incentives to ensure efficient use of spectrum while guarding against the risks of regulatory failure in setting the reference rate too high? If you consider a different rate would be more appropriate, please provide any evidence that you think we should take into account.***

We believe this reference rate is far too high. In our view the most relevant benchmark is the recent 1452-1492 MHz L band auction which Ofcom calculates gives an equivalent annual opportunity cost of £36k/MHz (§3.87 of Ofcom's consultation). Ofcom's consultants have based their proposed reference rate (£252k/MHz) on the opportunity costs of spectrum for 2G mobile use. However, as Ofcom point out in §3.79, that lack of international harmonisation tends to reduce the value of spectrum. This is particularly the case for consumer applications such as mobile telephony.

The ITU's Frequency Allocation Table (FAT) shows the usage of the L band and S band radar spectrum is reserved internationally for radionavigation and radiolocation, and is *not* harmonised for mobile communications. The 1452-1492 MHz band on the other hand *is* harmonised for mobile communications (as well as for fixed and broadcasting). The market value of the L band and S band radar spectrum is therefore likely to be only a small fraction of the value achieved in the L band auction, perhaps 10% or £3.6k/MHz.

***Question 12: Do you agree with our initial view that a reference rate of £25k per single MHz of national spectrum would be appropriate for deriving fees for licences to use X band radar?***

Again BAA considers the reference rate to be far too high. We believe the most relevant comparison is Ofcom's recent 10 – 40 GHz auction which valued the 10 GHz band at only £150 per MHz per annum [<sup>4</sup>] - less than 1% of Ofcom's proposed reference rate.

***Question 13: Do you agree that, generally, spectrum used by aeronautical radionavigation aids is currently uncongested? Do you***

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<sup>4</sup> Digiweb paid £39k for 40 MHz of spectrum in the 10 GHz band giving £150 per MHz when annuitised at 15% (see footnote 29 in Ofcom's consultation)

***believe that this may change during the next few years and, if so, approximately when?***

No comment.

***Question 14: Do you agree with the basis on which Ofcom has arrived at its initial view on reference rates for aeronautical radionavigation aids?***

No. As mentioned above we believe AIP should not be applied to bands requiring internationally standardised aircraft equipment including aeronautical nav aids. If AIP were to be applied then we believe proposed rates greatly overvalue the spectrum, based on Ofcom's recent L band and 10 GHz auction results.