BAA’s Response to RA/Ofcom’s Spectrum Trading Consultation

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BAA welcomes the opportunity to respond to RA/Ofcom’s Spectrum Trading Consultation.

BAA is the world’s leading private airport operator, with seven UK airports including the three London airports Heathrow, Gatwick and Stansted and twelve international airport interests. Heathrow is the world's busiest international airport in terms of passenger numbers, and number two for air cargo. Every year over 130 million passengers travel through our UK airports. The UK Government forecasts that passenger numbers will double over the next 20 years.

The Government has recently given the green light to major expansion of London’s airports in its’ 30 year Aviation White Paper. Announcing plans for a new runway at Stansted and a possible third runway at Heathrow, Alistair Darling said “Air travel remains crucial to our growing economy – our future prosperity depends on it”. BAA has already committed £6.6 billion to the development of Heathrow including Terminal 5 over the next 10 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, and the lack of flexibility in managing it, especially at Heathrow, are significant constraints on airport operations and the provision of services. BAA welcomes Ofcom’s proposals to allow trading and liberalisation of spectrum which we believe could lead to more efficient use of spectrum and new innovative services if correctly managed. On the other hand the many safety of life services at airports need to be adequately protected from interference which could arise from change of use of spectrum.

BAA believes it is ideally placed to manage spectrum at airports, especially for low power indoor systems, due to its detailed specific knowledge of the built environments. We support moves towards a flexible micromanagement of spectrum at our airports.

BAA is therefore supportive of spectrum trading and of liberalisation, provided there are safeguards to minimise disruption to airport operations.

Answers to specific questions in the consultation document are given below.

**Question 1:**
(a) Do you believe that spectrum trading will be beneficial to consumers, businesses and radio users?
(b) **What could Ofcom do to increase the benefits and mitigate the disadvantages of spectrum trading?**

(a) BAA believes that spectrum tradability and liberalisation will benefit airport stakeholders and passengers by increasing the availability of spectrum in congested areas such as Heathrow airport, and enabling improved/additional spectrum-based services.

(b) To maximise the benefits of tradability it is essential that a register of rights holders is available and transaction costs are minimised. To minimise the disadvantages of liberalisation it is vital that interference risk is accurately assessed. Unexpected interference could have serious consequences on airport operation and safety of life. Licensees of affected safety of life services should be consulted ex-ante. In some cases it may be appropriate for Ofcom to send those affected a copy of the proposer’s document demonstrating compliance with their interference rights. Safety of life services should have greater protection against interference through lower interference thresholds. Constraints on spectrum which apply to a generalised national Frequency Allocation Table could be relaxed within defined local boundaries, such as airports, to maximise the potential for spectrum efficiency.

**Question 2:**

*How could Ofcom’s proposals for spectrum trading be amended to reflect the potential benefits of emerging transmission technologies?*

By relaxing standard band plans locally, frequency agile technology with appropriate channel selection techniques could make the best use of spectrum to suit changing patterns of usage with location and time. Higher safety and security could be enabled by permitting differing levels of priority of access to spectrum according to security alert levels and importance to airport operational needs. Similarly innovative services could be enabled to benefit the traveller, such as information and location services using technologies such as adaptive antennas.

**Question 3:**

(a) **Should tradability be universal within licence classes, and not an option, as proposed?**

(b) **Do you agree that liberalisation of spectrum use should be implemented through issuing guidance rather than through the precise definition of licence terms?**

a) Yes, BAA sees no reason for an option given that no licensee will be obliged to trade.

b) Yes, BAA believes that issuing guidance would be better than precise terms since this would allow more flexibility, provided that the proposer of a change of use is still required to demonstrate to Ofcom, and important threatened users that no undue interference would be caused.

**Question 4:**
Are there any reasons why existing licence holders should not be authorised to participate in the trading process? If so, please provide details of which types of licence holders you consider should be excluded from the new trading process and why.

No, BAA sees no reasons why existing licence holders should not be allowed to participate in trading.

**Question 6:**  
Do you think trading should be introduced more or less rapidly than suggested above?

BAA considers the proposed timescale to be about right.

**Question 7:**  
(a) Do you anticipate problems in defining the right to transmit in terms of transmitted power or equivalent isotopically radiated power and a ‘spectrum mask’, and if so what?  
(b) What alternative approaches (such as standardised frequency trading units) would you prefer?

BAA considers the EIRP and spectrum mask alone to be insufficient to define transmission rights. For example a transmit system mounted on a 30 m mast will cause far more interference than the same system in a building basement. BAA believes that the rights should be expressed in such a way as to take account of interference to neighbouring geographical areas and frequencies.

A concept similar to standardised frequency trading units may be more attractive, since it implicitly includes the impact of local site shielding variations. The definition of trading units would need to be very carefully considered to ensure it balanced opportunities for spectral efficiency with simplicity and appropriateness of definition and enforcement.

**Question 8:**  
(a) How important is it to provide guidelines on levels of interference for each licence class?  
(b) Do you anticipate any problems in doing this, and if so what?  
(c) What alternative approaches might Ofcom adopt?

BAA considers it very important that Ofcom provide guidelines on interference levels for each licence class. This gives licensees the knowledge they need to be able to anticipate the level of interference they can expect when planning use of their licences. However, the guidelines should be indicative rather than mandatory, with scope for variation by agreement between potentially affected partners. This would ensure that developments in equipment and particular interference avoidance techniques could rapidly and efficiently be assimilated by the parties with the best knowledge of their own equipment and requirements.
**Question 9:**
(a) Do you agree that on the introduction of trading, current licences should have a rolling term with a defined notice period for termination?
(b) What notice period do you think would be appropriate?

a) Yes, BAA considers a rolling licence term to be the most appropriate.

b) BAA considers 5 years notice period to be too short, given the timescales for projects such as Terminal 5, and that 10 years would be a more appropriate term.

**Question 10:**
(a) In what circumstances do you believe it would be appropriate for Ofcom to revoke or serve notice on licences?
(b) Would the proposed guidelines provide sufficient certainty to licensees and potential purchasers and sufficient flexibility for the necessary management of the spectrum by Ofcom?
(c) Are there circumstances in which it might be appropriate for Ofcom to have a power to terminate licences on shorter notice, with compensation?

a) The four conditions in section 6.7.5 of the consultation document seem to be sufficient.

b) Yes, BAA believes the proposed guidelines would be sufficient.

c) Revocation at short notice might be appropriate if there were a breach of licence terms. Licence terms should include interference limits, so that undue interference would be a breach of licence terms. It should be the proposer’s responsibility both to demonstrate compliance with the licence terms beforehand, and to rectify afterwards if this analysis were shown to be wrong. No compensation would be required in these cases.

**Question 12:**
(a) What intermediaries do you expect to emerge in the market for spectrum licences?
(b) Are there any features of intermediaries which may require regulation?

a) BAA expects that agents will emerge to connect buyers and sellers, advise on market prices and negotiate on behalf of their customers.

b) Ofcom’s current Trading Regulations are hopefully sufficient, however these should be reviewed following the early stages of spectrum trading.

**Question 13:**
Do you agree with Ofcom’s proposed arrangements for the spectrum currently managed by JFMG, JRC, CSS and the CAA?

The proposed arrangements for CAA spectrum seem fine to BAA.

**Question 14:**
Do you agree with the extent of information that Ofcom is proposing to make available to the market?

The Public Spectrum Registry should contain as much information as possible, including spectrum usage information. It should be fully searchable for example by geographic area, frequency or licensee.

**Question 15:**
(a) What problems do you anticipate in the process for administering spectrum trading?
(b) Do you agree with Ofcom’s outline procedure?

The proposed procedure seems overly complicated where the trade does not involve any change of use.

**Question 16:**
(a) What kind of leasing and hiring arrangements do you envisage arising?
(b) Do you agree with Ofcom’s proposed arrangements for approval and registration of spectrum leases and hires?

Within an airport an organisation such as a construction company may require some spectrum for radio communication on a temporary basis, which could be hired out by BAA.

BAA suggests that the licensee should inform Ofcom of the date of actual change of use to assist in identifying the cause of interference problems.

**Question 17:**
(a) Do you think liberalisation of spectrum use as proposed should be pursued as well as trading?
(b) Do you agree with the constraints on liberalisation outlined above?

(a) Yes, BAA believes that liberalisation of spectrum use will lead to greater spectrum value, particularly in congested areas such as airports. In addition airports are likely to have different spectrum requirements to other parts of the UK with many short range services from distributed antenna systems to increase spectrum capacity. A “one size fits all” frequency allocation table for the UK is therefore unlikely to meet airport requirements. On the other hand it is of critical importance that liberalisation does not cause interference to safety of life services such as air traffic services and airport fire services.

(b) Ofcom clearly needs to ensure that liberalisation does not breach international co-ordination agreements. However BAA believes that change of use should still be permitted in some cases on a “no-interference no-protection” basis for low power uses which may nevertheless conflict with the international frequency allocation table.

**Question 18:**
(a) Do you agree with the proposed process for approval of licence reconfigurations or changes of use?
(b) Are there any other factors which Ofcom should take into account in whether or not to approve an application for a change of use?
(c) Should Ofcom make commitments to performance targets for assessing applications for change of use?

(a) BAA is broadly in agreement with the proposed process, in particular that the licensee must demonstrate that the proposed change of use is consistent with Ofcom’s guidelines. Ofcom should consult with potentially affected licensees operating safety of life services. BAA has some concern that the MASTS automated procedure may not be robust enough to assess change of use requests adequately, and also that the procedure may not fully exploit scope for spectral efficiency.

(b) BAA believes that Ofcom should also consider the importance of the application, and the importance of users who may be affected.

(c) Yes. Ofcom should publish its performance statistics.

**Question 19:**
(a) What types of disputes do you envisage arising as a result of spectrum trading and licence liberalisation?
(b) Beyond its statutory duties on disputes, how far should Ofcom become involved?

(a) BAA believes that interference disputes are likely to be the most common.

(b) Ofcom should only become involved if the parties cannot resolve the dispute themselves. Ofcom may need to mandate measurements to assist in resolving disputes.

**Question 20:**
(a) Do you agree that an assessment of whether a spectrum trade can be expected to result in a substantial lessening of competition is appropriate?
(b) How should such a test be applied in practice?

(a) Yes, BAA believes so.

**Question 21:**
In what ways do you anticipate that administrative incentive pricing will need to be changed to take account of spectrum trading?

**Question 22:**
Do you agree with the proposals for application of spectrum trading to television and radio broadcasting spectrum?

Yes. Very low power broadcast spectrum could be useful at airports e.g. for broadcast of flight information to passengers, with negligible impact on users provided appropriate exclusion areas are defined.
**Question 24:**
Do you agree with the proposals for application of spectrum trading to public wireless networks? Specifically, do you agree with:
(a) the proposed timing of its introduction;
(b) the proposals for the extent of licence reconfiguration and change of use that would in principle be permissible; and
(c) the proposals for amendment to licence conditions?

(a) BAA believes that the proposed timing is appropriate.

(b) The proposals seem fine in general, however BAA believes that current FWA spectrum should not necessarily be constrained to fixed applications. Low power mobile applications might be useful in some cases e.g. at airports.

(c) These proposals seem fine.

**Question 25:**
Do you agree with the proposals for application of spectrum trading to private business systems? Specifically, do you agree with:
(a) the proposed timing of its introduction;
(b) the proposals for the extent of licence reconfiguration and change of use that would in principle be permissible; and
(c) the proposals for amendment to licence conditions?

(a) Yes. BAA is supportive of the earliest possible introduction of spectrum trading.

(b) and (c) Yes, the proposals seem appropriate.

**Question 27:**
Do you agree with the proposals for application of spectrum trading to maritime and aviation spectrum? Specifically, do you agree with:
(a) the proposed timing of its introduction;
(b) the proposals for the extent of licence reconfiguration and change of use that would in principle be permissible; and
(c) the proposals for amendment to licence conditions?

(a) Yes. Given the safety-of-life nature of aviation spectrum BAA believes that spectrum trading should not be introduced too early.

(b) and (c) Yes, the proposals seem appropriate.

**Question 28:**
Do you agree with the proposals for application of trading to science and technology spectrum, and that trading is inappropriate for licence exempt spectrum?

BAA agrees that trading in licence exempt spectrum is inappropriate.
Question 29: Do you agree with the proposals for application of spectrum trading to the emergency services and Ministry of Defence?

Yes, BAA agrees with these proposals.