

## INDEPENDENT REVIEW OF SPECTRUM MANAGEMENT – CAA RESPONSES FINAL REPORT

REPORT REFERENCE	CAA COMMENT
<p>1. Interference Management - Page 12, para 46                      “This would entail shifting the balance of responsibility for interference management from the regulators further towards industry.”</p>	<p>1. Whilst there is no difficulty in principle with this aim, there is a need for caution in how it is implemented. It must be “right first time” as where spectrum use is a safety issue, as in aviation, the correct standards of interference prevention must be achieved from the outset.</p>
<p>2. Interference Management – Page 13, para 47                      “Public on-line database.”</p>	<p>2. We fully support the need for openness and transparency that could be effectively achieved through this database approach. Fortunately, much of the aeronautical use is already in the public domain due to the need to promulgate information for use by all operators. However, two issues that need to be considered are the continuing threat to aviation safety through malicious interference with VHF voice communications, (e.g. false ATC instructions) and the national security aspect of primary radar frequencies. Although neither of these is viewed as a cause for objection, they will need to be addressed in the round.</p>
<p>3. Legislative Framework – Page 15, para 55                      UKSSC                      (Also Chap 6, Page 93 Para 6.25 and Recommendation 6.2</p>	<p>3. The need to review the constitution and resourcing of the UKSSC in the context of Ofcom is agreed. However, the continuing need for and value of such a forum is fully supported by CAA.</p>
<p>4. Licensing Tools – Page 16, paras 61 &amp; 62                      Spectrum Access Licensing</p>	<p>4. There are no major issues in respect of Spectrum Access Licensing, but given the proposed change in emphasis in interference management (as commented on at Comment 1 above) there is a need to ensure that there is no adverse impact on other users from the outset.</p>

<p>5. Financial Incentives – Page 17, para 66 Opportunity Cost</p>	<p>5. It is reassuring to note that the potential opportunity cost for aeronautical spectrum subject to international obligations is recognised as being limited. It is presumed therefore, that this will be reflected within the pricing mechanism whilst not undermining the principle of delivering financial incentives.</p>
<p>6. Licence-Exempt Spectrum use – Page 22, paras 91 &amp; 92</p>	<p>6. Once again, the issue here is one of ensuring adequate interference management and compliance from the outset. Once licence exempt systems are allowed into the market place, it would be extremely difficult to recover the situation following detection of any adverse impact on other users. In particular, there would need to be an assurance that there would not be an insidious build-up of interference through the impact of cumulative effects.</p>
<p>7. Public Services – Page26, para 110 Opportunity Cost/pricing regime</p>	<p>7. It is worth re-iterating that in using the opportunity cost to calculate the appropriate level of administrative pricing, aeronautical spectrum may be severely limited in its re-use potential due to international obligations.</p>
<p>8. Recommendations – Legislative Framework Page 36, para 6.3 Also Chap 6, Page 93-94, paras 6.26-6.32 and Recommendation 6.3.</p>	<p>8. The comments and recommendations concerning Government powers of intervention are fully supported. However, from CAA experience, the key to ensuring that that the relationship is effective, is through the Directions issued by the Secretary of State, which can provide the detail which is of necessity not incorporated into primary legislation. These must be drafted to ensure that, without becoming cumbersome, there is no ambiguity in terms of responsibility and the need to comply with related directives so that the necessary safeguarding of national interests is protected.</p>

<p>9. Recommendations – Legislative Framework Page 37, para 6.4</p>	<p>9. The only concern with the introduction of Spectrum Access Licensing is that there is a need to ensure that the necessary measures are in place to protect other users, particularly in adjacent bands, from interference. This must be assured before the licence is granted and not simply be a mechanism to resolve interference issues subsequently. Failure to take this approach could result in difficulties in resolving interference to other services. A more liberal licensing approach must not necessarily result in a reduction of protection standards for other users.</p>
<p>10. Legislative Framework Chap 6 – Page 87-89, para 6.10 Comparison with USA, Australia and New Zealand</p>	<p>10. It is recognised that there is merit in comparing the methods employed in other states, and the choice of the three states concerned is not unreasonable. However, it must be recognised that the US, Australia and New Zealand are, by virtue of their geographical location, and in 2 cases, their size, likely to be able to adopt far less restrictive practises than a state operating within/ or in close proximity to, the European environment.</p>
<p>11. Aeronautical and Maritime Chap 12 <u>Page</u> 181, Para 12.5 Spectrum Management</p>	<p>11. Following a meeting of ECAC Transport Ministers in Jan 00, Eurocontrol, ICAO and the States were tasked with reviewing and implementing revised processes to improve aeronautical spectrum and frequency management. The first significant proposals for institutional changes have been developed and are now awaiting endorsement at the provisional Council of Eurocontrol.</p>

<p>12. Aeronautical and Maritime Chap 12, Page 182, Para 12.8 Aeronautical Licensing</p>	<p>12. The transfer of aeronautical radio licensing to DAP on 14 Jan 02 has created an excellent opportunity to deliver increased efficiency in frequency management. It is now possible to have access to all elements of usage of aeronautical spectrum, which has enabled improvements in accuracy of information as well as providing the means by which compliance monitoring can be achieved</p>
<p>13. Aeronautical and Maritime Chap 12, Page 183-184 Radars</p>	<p>13. The radar discussion contained within the shaded boxes presents several misunderstandings. Firstly, from the perspective of the Review, the issue (from an aviation view) should only be centred on primary radar as used in surveillance. Radio-navigation equipments as carried on board aircraft generally work in conjunction with ground systems and are governed by ICAO Standards and are therefore, subject to international obligations.</p> <p>Primary radar is non-cooperative in that it does not rely on the carriage of specific equipment by aircraft. It can detect and track all aircraft within its coverage. The value of primary radar has taken on a revived significance following the events of 11 Sep 01 because of this. GNSS, in aviation, cannot provide a direct replacement for primary radar. It does have a significant potential in terms of navigation but its role must not be confused with that of primary radar.</p>
<p>14. Aeronautical and Maritime Chap 12, Page 186 – Recommendation 12.1</p>	<p>14. This recommendation is fully supported as failure to adopt more efficient equipment that is already available and mandated for certain users, acts as a major hindrance in delivering efficient spectrum use. Furthermore, by achieving a better level of technical interoperability through incentive driven license fees would, in the longer term, help to deliver more efficient airspace use.</p>

<p>15. Aeronautical and Maritime Chap 12, Page 187, Para 12.26 Ground-based Radars</p>	<p>The statement that regulatory measures alone appear not to have been effective in delivering spectral efficiency in respect of radar is somewhat presumptuous. The review has not been published and certainly the CAA has not had an opportunity to view it. Therefore, it is possible that the findings may well conclude that due to performance, technology and safety, there is little that can be done to deliver greater efficiency. The need for the review is fully supported by CAA, but the results must not be prejudged. In our view, one of the great benefits of such a piece of work is that it may serve to correct many of the misconceptions which exist outside of aviation concerning the role and application of radar and relationship with other developing technologies.</p>
<p>16. Aeronautical and Maritime Chap 12, Page 187, Para 12.27 Ground-based Radars</p>	<p>16. The introduction of spectrum pricing on the basis of more realistic license fees and the use of incentives to encourage spectrum efficiency is fully supported. However, it is recognised that this must be reasonable and appropriate. The difficulty will be in achieving the balance between not crippling the industry whilst ensuring that there is a real incentive towards achieving efficiencies.</p>
<p>17. Aeronautical and Maritime Chap 12, Page 187, Para 12.28 Ground-based Radars</p>	<p>17. It should be noted that the deployment of radars is driven by the location of airports and airspace that needs to be served by the coverage and performance of such systems. Therefore, geographical redeployment is unlikely to be a realistic option. It should also be noted that sharing of data is already practised but that sharing of bands with non-radar users is subject to significant work to determine whether or not the impact is likely to affect the required safety performance. Should there be a detrimental effect, this could have a significant economic impact due to the need to introduce (17</p>

<p>(17 continued)</p>	<p>continued)  revised procedures to maintain safety, which would invariably impact on capacity. This then becomes a Government decision.  In terms of developing the application of new technology within radar design to achieve spectral efficiency, there is the issue of who pays for the R&amp;D work. Radar is a high cost, low volume business and it is unlikely that the industry could sustain the costs of the necessary R&amp;D work to deliver such benefits. Furthermore, the beneficiaries of such work are unlikely to be part of the aviation industry. Therefore, there is a very robust argument that says such costs should be met either from Government, or from those industries that are likely to gain commercial benefits from being able to occupy the released spectrum.</p>
<p>18. Aeronautical and Maritime Chap 12, Page 188, Recommendation 12.2  Pricing Regime</p>	<p>18. The principle of the recommendation is fully supported but there must be caution in terms of confusing radio-navigation and radar (see 13 above). In terms of navigation equipment, we see spectrum pricing being introduced through the application of more realistic license fees for the ground elements. However, there must be an element of caution as these are subject to international standards and approvals. Nevertheless, the current charging is reminiscent of the “dog-license” scenario and needs to be reviewed. In terms of radar, subject to the review and the necessary R&amp;D, we fully support the use of a spectrum pricing system that would encourage and provide the financial incentives to move to more spectrally efficient technology if it is available. However, the events of Sep 11 and the need to meet safety criteria must be taken into consideration.</p>