OFFICE OF COMMUNICATIONS

Innovative uses of spectrum

Consultation

Publication date: 9 October 2008

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Contents

Section 1

Executive summary

1.1 In recent years, we have been approached by a number of organisations that wish to launch innovative commercial wireless services using spectrum for which there are no existing suitable licences. Existing processes already allow organisations to access spectrum for non-operational use, in particular for testing and development purposes. Organisations also have the ability to negotiate with existing licensees to use spectrum that is liberalised and tradable. This document considers the general approach that we propose to take when licensing commercial use of non-liberalised and non-tradable spectrum for which there are no existing suitable licences.[1]

1.2 We are already doing a number of things to encourage innovative uses of spectrum. For example, we are in the middle of a programme of open, transparent and non-discriminatory awards that are releasing spectrum on a service- and technology-neutral basis. We are reducing the restrictions imposed by existing licence classes and encouraging market forces by introducing spectrum trading. And we are working with the Government to improve the efficiency of its spectrum use.

1.3 Once complete, these actions will have fostered a market-led approach to spectrum access. However, for now, licensing use that does not fit within an existing licence class requires us to consult on and create a new bespoke product. This is time-consuming and may not always be proportionate – when a user wishes to carry out a commercial trial or launch a new service rapidly, for example. So we are proposing to create a new type of licence to accommodate these requests. This "innovation licence" is designed to suit uses of spectrum that can benefit from access with more flexibility than a non-operational licence. We expect that it will often be used as an interim measure to allow organisations to launch commercial services more rapidly than would otherwise be possible. We expect that organisations using innovation licences will often wish to migrate to use spectrum licences that offer greater security of tenure and rights to protection from interference. As such, we would expect that innovation licences will often only be needed for a short period of time. Although, as explained below we are proposing that in general the licence has an indefinite duration, although licensees would need to accept short security of tenure and limited protection from interference.

1.4 Initially, we are proposing that innovation licences are only available in spectrum managed by public bodies (e.g. the Ministry of Defence – MOD). This may be extended to other bands in the future, although we would not expect to introduce innovation licences for spectrum that has already been liberalised and tradable.

1.5 Table 1 summarises the key features we are proposing for the innovation licence (which we would formally term a Spectrum Access: Non-Protected licence). Those relating to licence term, revocation and protection from interference are particularly important for this licence product.

[1] "Liberalised" in this context means there are no restrictions in the wireless telegraphy licence on the services or technologies that the licensee can deploy. "Liberalised and tradable spectrum" is used in this document to describe spectrum in which liberalised and tradable licences are available.

Table 1. Key features of the innovation licence

Licence term	In general, licences would have an indefinite duration but no minimum term. There may be some exceptions in particular cases.
Revocation	We would have the power to vary or revoke the licence for spectrum-management reasons with a year's notice (recognising that other grounds for revocation include the licensee causing harmful interference, and that revocation on such grounds could occur on less that a year's notice). We would expect that the licence may be revoked when a spectrum band is liberalised and made tradable.
Protection from interference	Licences would be granted on a non-interference, non-protected basis, i.e. the basis that licensees: • did not cause harmful interference to services that are entitled to protection; and • would not have the right to claim protection from harmful interference from other authorised uses.
Award mechanism	Licences would be granted on a first-come-first-served basis.
Spectrum available	Spectrum managed by public bodies.
Licence fees	£2,000 per year for each licence.
Spectrum trading	We would allow outright total transfers of the rights and obligations associated with the licence.
Liberalisation	The licences would contain the minimum necessary technical conditions and would not specify either the services to be offered or the technology to be used.
Technical conditions	Technical licence conditions would be defined on a case-by-case basis but would be the minimum necessary to: • ensure compliance with international agreements; and • minimise the risk of harmful interference to authorised users of the same or adjacent spectrum who are entitled to protection. Rights to use the licensed spectrum could be UK-wide or for smaller areas.

1.6 When considering whether to grant an innovation licence, key considerations will be our duty to secure optimal use of the spectrum and, in particular, to ensure that new uses do not cause harmful interference to existing authorised uses. As our proposals relate in the first instance only to holdings managed by the public sector, we would look at applications carefully on a case by case basis and consult with the relevant public body.

1.7 The innovation licence would create a stepping stone between non-operational licences and full commercial licences that would allow rapid commercial deployment of new uses of spectrum.

Next steps

1.8 This consultation will close on 18 December 2008. Depending on the outcome of this consultation, we would expect to publish a statement concluding on these issues, along with a statutory consultation on the draft regulations in early 2009. Following this, we would expect to make the regulations and issue the first innovation licences in spring 2009.

Section 2

Introduction

2.1 New wireless services have delivered significant benefits to citizens and consumers and driven efficiency and growth in a number of sectors of the economy. For example, the development of digital technologies has not only allowed more users to access improved television, radio and telephony services but also, because they use significantly less spectrum than analogue technologies, allowed new services to use the frequencies released as a consequence.

2.2 Securing optimal use of the spectrum is one of our statutory duties, and licensing efficient technologies, as described above, is one way of doing this. We must also have regard to the desirability of encouraging investment and innovation in relevant markets. In recent years, a number of organisations have approached us with requests to use spectrum in non-standard ways (i.e. ways that cannot be satisfactorily accommodated using an existing licence product) for innovative services. We currently have no single approach to dealing with these types of requests and no existing suitable licences to accommodate them in all cases. This means that for each request not fitting within existing licence classes we would potentially need to create a new licence product. This process is time-consuming and needs to be customised for each new product. This, in turn, increases costs.

2.3 This document proposes a general approach that we could take to deal with requests to use spectrum in ways that are not suited to one of our existing licences.

2.4 Requests for licences for innovative uses of spectrum can be categorised as falling into one of three categories:

- requests for non-commercial[2] use;
- requests for commercial use of liberalised and tradable spectrum; and
- requests for commercial use of non-liberalised and non-tradable spectrum.

Requests for non-commercial use

2.5 We have a well established process for issuing non-operational licences in response to requests for non-commercial use of spectrum. The process ensures that spectrum use can be licensed in specific areas with due consideration of the views of relevant existing users of the spectrum.

2.6 The nature of non-operational licences allows problems (e.g. of harmful interference) to be resolved rapidly as licences are issued on a non-interference, non-protected basis. This means that if a non-operational licensee causes harmful interference to another licensee, we can readily revoke its licence. Non-operational licensees also do not have the right to protection from harmful interference from other authorised spectrum users who are entitled to protection.

[2] Commercial in this context is where the rights to use radio frequencies involves the provision of a network or service, normally for remuneration

Requests for commercial use of liberalised and tradable spectrum

2.7 Organisations seeking access to liberalised and tradable spectrum for commercial use can do so through the secondary market. We would not normally expect to intervene in this process. If any issues arise in the secondary market for spectrum we would consider it carefully and, if any action were necessary, we would look for an appropriate and proportionate regulatory response.

Requests for commercial use of non-liberalised and non-tradable spectrum

2.8 We have received a number of requests in recent years that fall into this category, particularly for spectrum that is managed by the public sector (e.g. the MOD). As noted above, we currently have no single approach to dealing with these requests and no existing suitable licences to accommodate them in all cases.

2.9 Given the focus of these requests, the rest of this document considers the general approach that we propose to take only in respect of spectrum managed by public bodies. We will keep the scale of requests to use spectrum in other bands under review and may extend our approach to them in the future.

Structure of this document

2.10 This document is structured as follows:

- section 3 provides a brief overview of our duties and powers as they relate to licensing use of spectrum;
- section 4 sets out our proposed approach to considering requests for commercial use of non-liberalised and non-tradable spectrum for which there are no existing suitable licences;
- section 5 considers the conditions that we would include in an innovation licence; and
- section 6 describes next steps.

Section 3

Legal framework

3.1 We make decisions within a framework defined in European Union (EU) and UK law. This sets out our overarching general duties that apply across all our functions, below which sit a number of specific duties.

3.2 This section provides a brief overview of our duties and powers as they relate to licensing use of spectrum. It does not provide a comprehensive statement of all the legislative provisions relevant to our functions or to the grant of licences.

Our duties under the Communications Act

3.3 Section 3 of the Communications Act 2003[3] sets out our general duties and provides that our principal duties are:

- to further the interests of citizens in relation to communications matters; and
- to further the interests of consumers in relevant markets, where appropriate by promoting competition.

3.4 In performing these duties, we are required to secure among other things the optimal use for wireless telegraphy of the electromagnetic spectrum and the availability throughout the UK of a wide range of electronic communications services and to have regard to the different needs and interests of everyone who may wish to use the spectrum for wireless telegraphy.

3.5 Section 3(3) of the Communications Act provides that, in performing our principal duties, we must in all cases have regard to the principles of transparency, accountability, proportionality and consistency as well as ensure that our actions are targeted only at cases in which action is needed.

3.6 Section 3(4) of the Communications Act requires us in performing our principal duties to have regard to a number of factors as appropriate, including the desirability of promoting competition, encouraging investment and innovation in relevant markets and encouraging the availability and use of high-speed data-transfer services throughout the UK.

3.7 Where there is a conflict between our duties, priority must be given to the European Community requirements set out in section 4.

European Community requirements

3.8 Section 4 of the Communications Act implements article 8 (policy objectives and regulatory principles) of the Framework Directive.[4] This sets out the objectives that national regulatory authorities must take all reasonable steps to achieve. These include promoting competition in the provision of electronic communications networks and services by, among other things, encouraging efficient investment in

[3] www.opsi.gov.uk/acts/acts2003/pdf/ukpga_20030021_en.pdf.
[4] Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:108:0033:0050:EN:PDF.

infrastructure and promoting innovation, and encouraging efficient use of radio frequencies; and contributing to the development of the internal market by, among other things, removing obstacles to the provision of electronic communications networks and services at a European level, encouraging the interoperability of pan-European services and ensuring that, in similar circumstances, there is no discrimination in the treatment of undertakings providing electronic communications networks and services.

3.9 Article 8 also requires EU Member States to ensure that, in carrying out their regulatory tasks, national regulatory authorities take the utmost account of the desirability of making regulations technologically neutral.

Our duties when carrying out our spectrum functions

3.10 In carrying out our spectrum functions, we have a duty under section 3 of the Wireless Telegraphy Act 2006[5] to have regard in particular to:

- the extent to which the spectrum is available for use or further use for wireless telegraphy;
- the demand for use of that spectrum for wireless telegraphy; and
- the demand that is likely to arise in future for the use of that spectrum for wireless telegraphy.

3.11 We also have a duty to have regard, in particular, to the desirability of promoting:

- the efficient management and use of the spectrum for wireless telegraphy;
- the economic and other benefits that may arise from the use of wireless telegraphy;
- the development of innovative services; and
- competition in the provision of electronic communications services.

3.12 Where it appears to us that any of our duties under section 3 of the Wireless Telegraphy Act conflicts with one or more of our general duties under sections 3 to 6 of the Communications Act, we must give priority to our duties under the latter. Section 5 of the Communications Act concerns our obligation to carry out our functions in accordance with any directions made by the Secretary of State. Section 6 concerns duties to review regulatory burdens.

Granting wireless telegraphy licences

3.13 The Wireless Telegraphy Act sets out our legal power to grant wireless telegraphy licences. Section 8(1) makes it an offence for any person to establish or use any station for wireless telegraphy or to install or use any apparatus for wireless telegraphy except under and in accordance with a licence granted by us under that section (a wireless telegraphy licence).

3.14 Section 9(1) of the Wireless Telegraphy Act gives us the power to grant wireless telegraphy licences subject to such terms as we think fit.

[5] www.opsi.gov.uk/acts/acts2006/pdf/ukpga_20060036_en.pdf.

3.15 However, our broad discretion in relation to the terms that can be imposed in a wireless telegraphy licence is subject to the rule that we must impose only those terms that we are satisfied are objectively justifiable in relation to the networks and services to which they relate, not unduly discriminatory and proportionate and transparent as to what they are intended to achieve (see section 9(7)).

3.16 Under section 8(4) of the Wireless Telegraphy Act, we have the duty to exempt from licensing any use of wireless telegraphy apparatus that we consider is not likely to cause harmful interference. Licence exemptions are granted by us by way of regulations made under section 8(3).

Charging fees for wireless telegraphy licences

3.17 Under Article 13 of the Authorisation Directive, any fees imposed for rights of use of radio frequencies shall reflect the need to ensure the optimal use of the resources. Such fees must be objectively justifiable, transparent, non-discriminatory and proportionate in relation to their intended purpose and take into account the objectives set out in article 8 of the Framework Directive.

3.18 Section 12 of the Wireless Telegraphy Act permits charging for wireless telegraphy licences by enabling us to prescribe in regulations the sums payable for these licences. This power enables us to recover the cost of administering and managing wireless telegraphy licences. Section 13 of the Wireless Telegraphy Act permits us to recover sums greater than these if we think fit in the light (in particular) of the matters to which we must have regard under section 3, including promoting the efficient management and use of the part of the electromagnetic spectrum available for wireless telegraphy.

3.19 The fees for most wireless telegraphy licences, whether set to recover costs or to incentivise, are set out in specific regulations. The current regulations are the Wireless Telegraphy (Licence Charges) Regulations 2005 (SI 2005/1378) (as amended).[6]

[6] www.opsi.gov.uk/si/si2005/uksi_20051378_en.pdf.

Section 4

Proposed approach

Introduction

4.1 This section sets out our proposed approach to considering requests for commercial use of non-liberalised and non-tradable spectrum managed by the public sector for which there are no existing suitable licences in the light of our duties and powers.

Authorisation decision

4.2 We have a duty to secure the optimal use of spectrum. We also have a duty to have regard to the desirability of encouraging investment and innovation in relevant markets. In order to satisfy these duties, we consider it important to look at ways of authorising commercial use of spectrum even when there are no existing suitable licences.

4.3 Applications for new licences will be examined on a case-by-case basis. There may be situations where we consider that we should refuse a request for an innovative use of spectrum. One of the main considerations in these situations will be whether the use of the spectrum is likely to cause harmful interference.[7] The first step when deciding whether to take forward a request will therefore be to understand the interference implications for authorised existing users of the same and adjacent bands. A case-by-case assessment of individual applications will be required, and if we consider that harmful interference to existing users is likely, we will not agree to the request.

Licence exemption

4.4 When authorising the use of spectrum, we have to consider licence exemption under section 8 of the Wireless Telegraphy Act. If we are satisfied that exempting the equipment that will use the spectrum from the need to hold a wireless telegraphy licence is not likely to cause harmful interference, we must do so.

Liberalising spectrum

4.5 If it is inappropriate to make equipment licence exempt, our next consideration will be whether, in the spectrum bands where we have been asked to issue a new licence, we can liberalise the spectrum licences that are already available and make them tradable. This would enable new entrants to obtain access to the spectrum through the secondary market. This is our preferred route as it removes regulatory risk and allows market- rather than regulator-led decisions.

Licensing options

4.6 Making spectrum liberalised and tradable can be a complicated and, consequently, time consuming process. In addition to the practical issues of making the appropriate changes to licences and regulations, there are often policy issues that need to be resolved before spectrum can be liberalised and made tradable. One example of this is the process that we are going through to consider Crown Recognised Spectrum

[7] Other considerations include, but are not limited to, incompatibility with an international obligation or a direction from the Secretary of State.

Access (RSA). This has required significant consultation and discussions with stakeholders and requires a number of legal and policy issues to be resolved before the RSAs can be issued and before new operators can access the spectrum using market mechanisms.

4.7 Therefore, if it is not possible to liberalise the spectrum and make it tradable in the near future, we will consider the most appropriate method of licensing use. We have considered three broad licensing options:

- licensing all innovative uses of spectrum within the miscellaneous licence class;
- creating a bespoke licence for each innovative use; and
- creating a single new licence class that will accommodate all innovative uses.

4.8 One of our existing licence classes, the Science and Technology: Miscellaneous licence,[8] is currently being used to license unique commercial products. This is generally the case for specific, relatively low-power uses for science and technology purposes, in specific geographic areas, that are not likely to recur elsewhere. Although a licence product was created so that all these types of request could be dealt with relatively rapidly, there are no standard conditions beyond the licence fee. As a result, all the licence conditions for miscellaneous licences have to be tailored on a case-by-case basis.

4.9 Given that miscellaneous licences cover various types of application, we could bring new innovative services within this existing class. However, miscellaneous licences are in effect bespoke licences where each of the licence conditions has to be tailored to specific unique products. New commercial applications would benefit from a licence product which has a number of standard licence conditions that allows such requests to be dealt with rapidly. So, while some licence conditions would have to be tailored for each application, others – notably the non-technical licence conditions – could stay the same and apply to the entire class. We are therefore not proposing that the existing miscellaneous licence class be extended to innovative uses of spectrum.

4.10 We also do not favour creating a bespoke licence for each innovative use. Our general approach to liberalised spectrum is to avoid fragmenting authorisations for use across service- or technology-specific licence classes. This allows future changes of use to be accommodated without varying the licence, consulting on and making regulations to create a new licence class and/or changing our business processes, all of which take time and resources. We would need several years to license the various requests for innovative uses of which we are currently aware in this way, and we can reasonably expect to receive more requests in that time. This effort might even turn out to be wasted if new uses are not a commercial success.

4.11 We therefore propose to create a new licence class that will accommodate innovative uses. Standard conditions would be contained in the licence itself, with conditions specific to each innovative use addressed in a schedule. We believe that this will enable us to meet requests for innovative uses more creatively, responsively and effectively and give those uses a better chance to be commercially successful.

[8] There are two Science and Technology: Miscellaneous licences – one for up to one year at a rate of £20 and the other for up to five years at a rate of £50.

4.12 Given the limitations of the licence (discussed in section 5), we expect this licence to be suitable for uses of spectrum that are at a stage of their development between a non-operational and a full licence (although it would not be limited to such uses). It would provide a short-term opportunity for uses to prove their commercial viability prior to full exploitation. While it would not preclude full commercial exploitation, licensees would need to accept the limitations of the licence, as discussed in section 5.

Question 1. Do you agree with our proposal to create a new innovation (Spectrum Access: Non-Protected) licence class?

Granting innovation licences

4.13 We have three different ways in which to grant innovation licences:

- by auction;
- by beauty contest; or
- on a first-come-first-served basis.

Auctions

4.14 We have used auctions to grant wireless telegraphy licences for a number of spectrum bands in recent years as we believe them to be the fairest and most transparent way to award rights to use spectrum. However, they are most appropriate where demand for spectrum exceeds supply. Most of the requests for licences for innovative uses of spectrum that we have received concern bands where this is not the case (i.e. supply exceeds demand or the proposed uses can coexist with existing uses). Designing and holding auctions can also be expensive and time consuming—often disproportionately so, we believe, in the case of innovation licences.

4.15 As a result, we do not think that auctions are an appropriate way to grant innovation licences. We may review the situation if we receive requests for licences to use spectrum for which demand does exceed supply. However, as discussed in section 5, this may not be necessary if innovation licences are tradable.

Beauty contests

4.16 Beauty contests involve the spectrum manager deciding who should be granted wireless telegraphy licences, usually on the basis of specific criteria. They carry the risk, particularly in a market characterised by competing uses and rapid change, of our making subjective and/or wrong judgements about who can make optimal use of spectrum. As a result, this is not an approach that we generally favour when granting licences. However, beauty contests can sometimes be useful (e.g. where holding an auction would entail significant risks of market failure).

4.17 We have not identified any reasons why beauty contests would be appropriate for granting innovation licences. It is also relevant that most requests for licences for innovative uses of spectrum concern bands where supply exceeds demand. Again, we may review the situation if the circumstances warrant in a particular case.

First come, first served

4.18 This approach involves granting wireless telegraphy licences in the order in which they are requested. It is appropriate where supply of spectrum exceeds demand to use it, as is often the case for requests for licences for innovative uses. It is also quick and simple for us to administer and easy for applicants to understand.

4.19 There is a risk that granting innovation licences on a first-come-first-served basis will exclude more valuable uses of the spectrum that emerge over time. We can mitigate this risk in several ways:

- by making licences tradable and not including any application or technology restrictions in the licence so that their use can also change over time;
- by retaining the ability to revoke licences for spectrum-management reasons if the optimal use of the spectrum can not be secured. This would allow us to grant new licences using a different method, including those described above; and
- by granting licences on a non-interference, non-protected basis to make it clear that we may issue further licences in these spectrum bands.

Conclusion

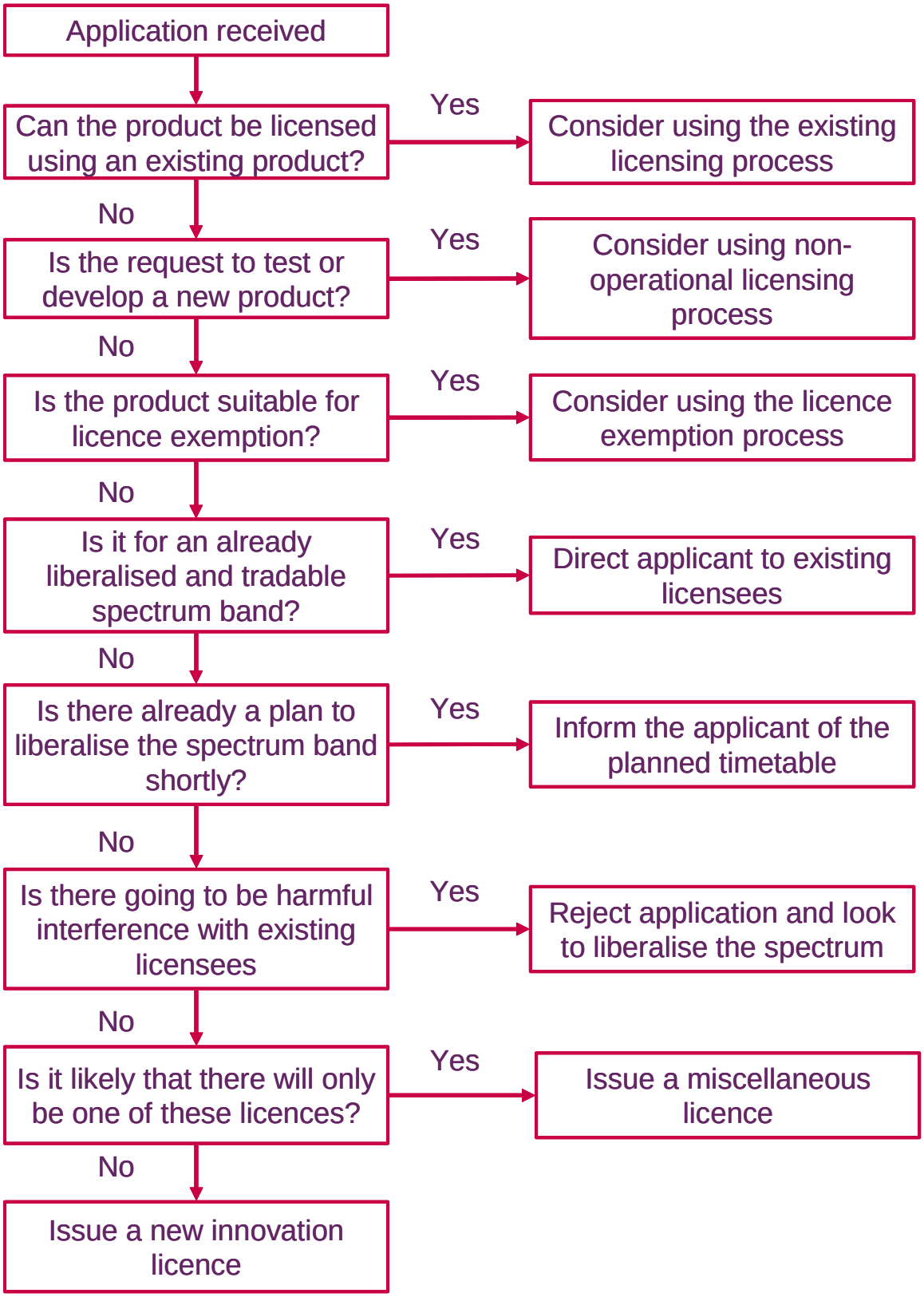
4.20 In the light of the arguments set out above, we propose to grant innovation licences on a first-come-first-served basis.

Question 2. Do you agree with our proposal to grant innovation licences on a first-come-first-served basis?

Summary of the authorisation process

4.21 Figure 1 summarises our proposed approach to considering requests for licences for innovative uses in spectrum managed by the public sector.

Figure 1. Proposed approach to requests for innovative uses of spectrum



Grant of innovation licences to use spectrum managed by Crown bodies

4.22 The majority of the requests that we have received for innovative uses of spectrum concern spectrum managed by Crown bodies (e.g. Government departments).

Granting licences to use this spectrum needs to be considered carefully and we usually consult with the bodies concerned before doing so. We would continue this practice in respect of the proposed innovation licences to ensure we did not cut across those bodies' current or planned exploitation of the spectrum, especially in view of the reforms to public-sector spectrum management currently being introduced.

4.23 These reforms follow the Independent Audit of Spectrum Holdings, undertaken by Professor Martin Cave for HM Treasury,[9] and the Government's acceptance of its recommendations.[10] They are discussed in our statement of 31 January 2008 on the Spectrum Framework Review for the Public Sector.[11] Delivering these reforms will involve formalising the public-sector spectrum holdings and making them tradable so as to provide incentives and opportunities for public bodies to make them available for commercial use. The reforms are being phased and are likely to begin with a pilot in the 406.1-430 MHz band. This band is managed by the MOD, which has the most extensive spectrum holdings in the public sector. We need to make various regulations for the pilot to proceed, to which end we published a Statutory Notice and further consultation on 20 June 2008.[12] The MOD is consulting on its plans for spectrum release and sharing[13] and expects to make a statement on its intentions in November 2008. Subject to the outcome of that and our consultation, the pilot could be launched early in 2009.

4.24 Where public-sector spectrum holdings are liberalised and tradable (or will become so in the near future), we would, in accordance with the principle set out in section 2, normally expect organisations seeking access for commercial use to negotiate this with the public body concerned.

4.25 Therefore innovation licences may be considered to authorise use of public-sector spectrum holdings that are not yet liberalised and tradable. However, as stated earlier, granting access to these holdings would require consulting the public body concerned and ensuring we did not cut across its current or planned exploitation of the spectrum.

4.26 If an innovation licence were granted to use spectrum managed by the public-sector and that spectrum were later liberalised and made tradable, we might need to give the licensee notice of revocation on spectrum-management grounds if this were necessary to enable the public body concerned to exploit the spectrum in accordance with its wishes.

4.27 Given that the focus for the requests that we have received to date has been in spectrum that is managed by the public sector we are intending to initially only make innovation licences available in the spectrum managed by crown bodies.

4.28 We will keep the situation under review in considering if these licences should be made available in other spectrum bands. However, in any event, where spectrum is liberalised and tradable we would generally expect the market to deliver a suitable outcome without any intervention from us (i.e. we would not generally expect to issue an innovation licence).

[9] www.spectrumaudit.org.uk/pdf/caveaudit.pdf.
[10] www.bandsharing-forum.org.uk/documents/governmentresponsetocaveaudit.pdf.
[11] www.ofcom.org.uk/consult/condocs/sfrps/statement/statement.pdf.
[12] www.ofcom.org.uk/consult/condocs/sfrps08/sfrps08.pdf.
[13] http://www.mod.uk/NR/rdonlyres/8B9CFFD1-6C36-476A-A6C3-8A3E5635DC55/0/dsm_consultation_report.pdf.

Section 5

Licence conditions

5.1 This section considers the conditions that we are proposing to include in an innovation licence. We have approached these in the expectation that the new licences will be used mainly as a measure to allow organisations to launch commercial services rapidly; once the spectrum that they wish to use is liberalised and made tradable we would expect access to the spectrum to be acquired via the market.

5.2 Our underlying principle has been to keep restrictions on the use of spectrum to the minimum necessary to secure optimal use. This is consistent with our preference for allowing users to decide how best to use spectrum. We have nonetheless looked at the benefits that could come from granting innovation licences quickly but with some limitations as a consequence.

Service and technology neutrality

5.3 If we do not include service or technology restrictions in innovation licences, licensees will be able to change their use of the spectrum without obtaining prior permission from us. This should allow the use of the spectrum to change efficiently over time as different services and technologies emerge. This is in line with our general approach to spectrum management.

Question 3. Do you agree with our proposal that innovation licences be service and technology neutral?

Protection from harmful interference

5.4 We impose technical licence conditions to minimise the risk of harmful interference, and we provide indicative benchmarks for what interference may be expected. We also investigate complaints of harmful interference.

5.5 We will carefully consider the impact on existing spectrum users before issuing an innovation licence. Technical limits will be examined and set on a case by case basis as we can not anticipate in advance which technical licence conditions would best mitigate the risk of harmful interference to and from existing authorised users of the spectrum. Gaining that knowledge before any individual applications are made to us could lead to significant delays in granting licences and we do not expect the risk of harmful interference to be high given that we expect to grant licences to use spectrum where supply exceeds demand.

5.6 We therefore propose that innovation licences not confer any right to protection from harmful interference and licensees would also have to ensure that their use of the spectrum did not cause harmful interference to services that are entitled to protection. This means that we would not seek to protect innovation licensees from harmful interference from other authorised users of spectrum, including other innovation licensees. We would also not consider the risks of harmful interference to innovation licensees when authorising other users of spectrum, including through other innovation licensees so we may authorise other uses of the same spectrum in the same areas covered by innovation licences. Innovation licensees would be required to avoid harmful interference with current and future authorised spectrum

users. Specifically there would be a “non-interference, non-protected” condition in the innovation licence.[14]

5.7 As now, we would investigate complaints of harmful interference, but we would not take any action unless we found evidence of unauthorised use of spectrum.

5.8 This approach would enable us to deal with requests for innovative uses of spectrum rapidly, so encouraging innovation.

Question 4. Do you agree with our proposal that innovation licences should include a “non-interference non-protected” licence condition?

Licence duration

5.9 There are two options for the duration of innovation licences:

- no end date; or
- fixed duration.

5.10 It was proposed in the Spectrum Framework Review: Implementation Plan (SFR:IP) that new wireless telegraphy licences to be awarded by auction should generally have an indefinite term with an initial period.[15] During the initial period, the grounds for variation or revocation would not include a general right to do so on spectrum-management grounds. After the end of the initial period, the grounds for variation or revocation would include such a right, subject to a minimum notice period of five years. We also proposed that notice of variation or revocation for spectrum-management reasons could be given to take effect the day after the expiry of the initial period.

5.11 The aim of proposing an indefinite term was to give licensees the opportunity to continue operating their business beyond the initial period. However, during this period, we would be able to recover the spectrum by serving notice of revocation in a similar manner to many other licences if this step was justified on spectrum-management grounds. In addition, we would reserve the right to charge Administered Incentive Pricing (AIP) after this period to incentivise efficient use of the spectrum.

5.12 We consider that there are a number of reasons why licences with an indefinite term are likely to promote optimal use of spectrum and other relevant objectives, including promoting competition.

5.13 In particular, granting licences with an indefinite term reduces the need for regulatory intervention to reassign rights to use spectrum when they expire. One disadvantage of fixed-duration licences is that, when they expire, the rights to use the spectrum lapse unless any other action has been taken. This may result in a period during which the spectrum remains unused as the regulator must go through a process to reassign those rights. Furthermore, incentives to invest closer to the end of the licence term are significantly reduced given that electronic communications networks generally require continual investment. This lack of investment could result in detriment to citizens and consumers. The alternative of licences with an indefinite term removes the risk of discouraging investment and creates additional

[14] The proposed condition is included in paragraph 3 of Schedule 1 of the draft licence in Annex 6 of this document.
[15] www.ofcom.org.uk/consult/condocs/sfrip/sfip/sfr-plan.pdf.

opportunities for the market to secure optimal use of the spectrum, particularly where it is tradable.

5.14 We consider that, as a matter of principle, it is preferable to look to market mechanisms rather than regulatory intervention to promote the efficient use of resources unless the case for such intervention is clear. To date, we have not identified a general need for us to recover spectrum at the end of the initial period in relation to any of our spectrum awards.

5.15 We consider that there are likely to be a number of other advantages to adopting the general approach proposed above. In particular, it typically takes significant time and resource for the regulator to reassign rights to use spectrum. The spectrum may also lie idle for a period as the regulator prepares for reassignment. While it may be possible to reduce this problem through the use of overlay awards, the approach of an indefinite term together with trading seems likely to offer a simpler and less costly way of securing optimal use of spectrum.

5.16 We believe these arguments apply equally to innovation licences. Given the other licence conditions that we are proposing, granting licences with no end date should not lead to alternative uses of the spectrum being precluded. The retention of powers to vary or revoke licences on spectrum-management grounds provides a mechanism allowing regulatory intervention if this is justified in particular cases.

5.17 We therefore propose that innovation licences have an indefinite duration. Only in some limited cases might we need to limit the duration of a licence (e.g. where this is a requirement of a public-sector body whose manages the spectrum that the licensee is using or where there is already a timetable for liberalising the spectrum and making it tradable).

Question 5. Do you agree with our proposal that, in general, innovation licences have an indefinite duration?

Initial period and minimum notice period

5.18 There are two options for the initial period of innovation licences:

- no initial period; or
- an initial period.

5.19 The SFR:IP's aim of proposing an initial period was to give licensees high security of tenure and limit grounds for variation or revocation to a narrowly defined set of conditions. The length of the initial period should be linked to a reasonable view of the time required to efficiently earn an appropriate return on the investment anticipated for optimal use of the spectrum and take into account any other relevant factors.

5.20 The very nature of an initial period means that it is more difficult to change the use of spectrum if a more efficient use is subsequently found. This is less of an issue if the rights to use the spectrum are well publicised and granted through a competitive process (as is the case with our auctions) as potential users can consider their current and future needs and express their interest in light of the available spectrum. However, this is not likely to be the case with requests for innovative uses of spectrum, which we are proposing to consider on a reactive basis.

5.21 As a result, there is a risk that granting innovation licences with an initial period will fail to secure optimal use of spectrum. This can be partly mitigated by making licences service and technology neutral and tradable. However, in order to fulfil our duties there may be situations where we may want to be able to revoke the existing licences for spectrum-management reasons.

5.22 We therefore propose to rely instead on a minimum notice period of one year. This is in line with our approach to some other wireless telegraphy licences (e.g. for fixed links) and would give innovation licensees some security of tenure. We consider the absence of an initial period or a longer minimum notice period to be balanced by the relative speed with which innovation licences, as proposed, could be granted. We also consider a shorter minimum notice period, combined with the lack of protection from harmful interference, to mitigate against the risk of sub-optimal use of spectrum (e.g. from anticompetitive or inefficient spectrum hoarding)s.

Question 6. Do you agree with our proposal that innovation licences have no initial period?

Question 7. Do you agree with our proposal that innovation licences have a minimum notice period for variation or revocation on spectrum-management grounds of one year?

Varying or revoking innovation licences

5.23 In addition to the proposal above relating to variation or revocation on spectrum-management grounds, we propose that we retain the ability to vary or revoke innovation licences at any time for the following reasons:

- with the licensee's consent;
- for non-payment or late payment of the licence fee;
- if there has been a breach of any of the terms of the licence;
- if the licensee has not complied with any requirement of any relevant trading regulations;
- in the interests of national security or for the purposes of complying with a Community obligation of the UK or with any international agreement or arrangements to which the UK is party; and
- for the purpose of complying with a direction made by the Secretary of State.

Question 8. Do you agree with our proposals for varying or revoking innovation licences at any time?

Requests for licences with greater security of tenure

5.24 The proposals set out in this section assume that innovation licensees will have security of tenure of only one year. This might not always be the case (e.g. when network rollout requires greater certainty to justify upfront investment).

5.25 We will consider requests for innovative uses of spectrum that require security of tenure of greater than a year. However, the longer this period is, the greater certainty we will want that we will not preclude a more efficient use of the spectrum. Specific

analysis undertaken in connection with our spectrum awards define what the minimum operational term of a wireless telegraphy licence would need to be supporting substantial new investment in a network. These awards follow processes to ensure that the primary grant of licences is as efficient as possible and, as such, tend to take between one and three years from identifying the possibility of new use of the spectrum to granting licences.

5.26 Our general approach to requests for licences that have terms that differ to those proposed in this section is discussed in paragraph 5.37.

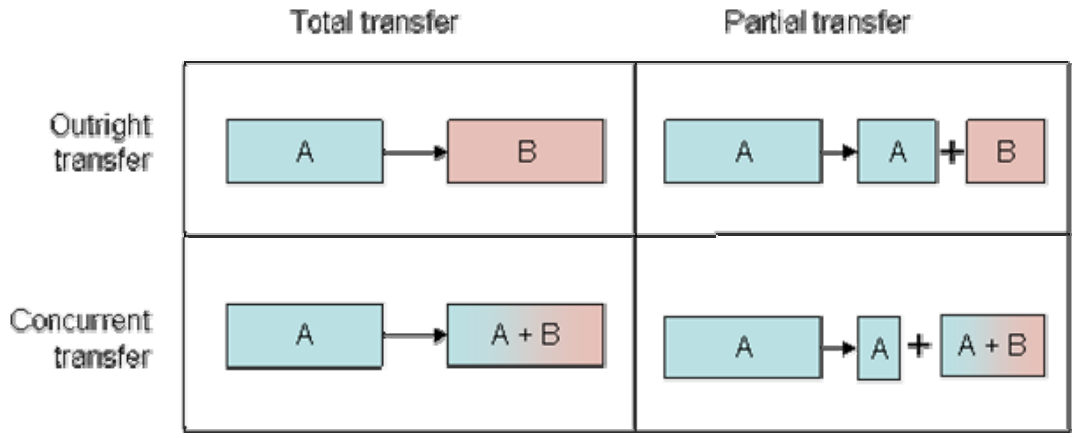
Trading

5.27 We began implementing trading for selected wireless telegraphy licence classes through the Wireless Telegraphy (Spectrum Trading) Regulations 2004.[16] As described in our August 2004 statement on trading,[17] these introduced the possibility for licensees to carry out:

- outright total transfers (i.e. transfers of all the rights and obligations arising under a licence to a third party);
- concurrent total transfers (i.e. transfers of all the rights and obligations arising under a licence to a third party that result in a concurrent holding of those rights and obligations by the transferor and the transferee(s));
- outright partial transfers (i.e. transfers of some of the rights and obligations arising under a licence to a third party); and
- concurrent partial transfers (i.e. transfers of some of the rights and obligations arising under a licence to a third party that result in a concurrent holding of those partial rights and obligations by the transferor and the transferee(s)).

5.28 Figure 2 illustrates these four generic types of trade.

Figure 2. Possible types of trade



5.29 We believe that the benefits of partial and concurrent trades of innovation licences, as proposed, are significantly less than of licences with greater security of tenure. This is because those gaining rights to use spectrum through such a trade would be able to realise the same benefits by simply asking us for a new innovation licence in

[16] www.opsi.gov.uk/si/si2004/uksi_20043154_en.pdf.
[17] www.ofcom.org.uk/consult/condocs/spec_trad/statement/sts.pdf.

their own right. The costs of partial and concurrent trades are also high compared to outright trades due to their greater administrative complexity. However, there may still be situations where a licensee is acquired by another organisation and it would be beneficial to be able to transfer the licence with minimal regulatory risk. We therefore propose to amend the Spectrum Trading (Wireless Telegraphy) Regulations to allow outright total transfers of innovation licences.

5.30 It should be noted that trading is not currently possible in the Isle of Man and Jersey (because section 30 of the Wireless Telegraphy Act does not extend there) or in Guernsey (because, while section 30 of the Wireless Telegraphy Act does extend there, the Wireless Telegraphy (Spectrum Trading) Regulations do not).

Question 9. Do you agree with our proposal to allow only outright total transfers of innovation licences?

Licence fees

5.31 There are two options for the fees for the proposed innovation licence class:

- an AIP-based fee; or
- a cost-recovery fee.

5.32 For licences that are not acquired at auction, our general approach is to set AIP-based fees where the demand for spectrum exceeds supply. Otherwise, we look to set a fee that recovers our costs. AIP-based fees are intended to reflect the opportunity cost of the spectrum (i.e. what other users who have been denied access would have been prepared to pay). However, the spectrum used by innovation licensees, which we are proposing to grant on a first come first served basis, and not by auction or beauty contest, will likely be in excess supply, as we explained in paragraph 4.18. The opportunity cost of this use would therefore likely be low or zero. This suggests that we should set a licence fee that that only covers our administrative costs.

5.33 We expect the amount of work involved in granting innovation licences to differ according to the nature of requests. However, setting a fixed licence fee rather than a variable licence fee will give applicants greater certainty about the charging regime before they make any requests for innovative uses of spectrum.

5.34 As a result, we propose to charge a fixed fee of £2,000 per innovation licence per year.

Question 10. Do you agree with our proposal to charge a fixed fee of £2,000 per innovation licence per year?

Technical licence conditions

5.35 Specific technical licence conditions would need to be determined on a case-by-case basis. However, we would seek to follow the general principle that they be the minimum necessary to:

- ensure compliance with international agreements; and
- minimise the risk of harmful interference to authorised users of the same or adjacent spectrum who are operating within the terms of their licence (or other

authorisation). This would include any future services that we licensed in the band.

5.36 Although it would be our responsibility to determine the technical licence conditions, we would expect applicants to come to us with detailed proposals for what they want. In particular, we would expect them to provide a detailed explanation of how they would manage any risks of co- and adjacent-channel harmful interference.

Requests for licences with different conditions

5.37 We discussed some of the issues related to licence variations for the security of tenure above. However, in general, we will consider any request for innovative use of spectrum on terms which vary from those discussed above on a case by case basis. Depending on the change(s) requested, before being in a position to decide whether a licence with those new terms should be granted we may need to consider it in detail similar to a new award. Any organisation making such a request should therefore be aware of the timescales likely to be involved. This would not, however, preclude an organisation from applying for an innovation licence to allow it to offer commercial services under the terms of that licence while simultaneously requesting a licence with different conditions.

Draft licence

5.38 A draft licence is included at annex 6. Some of the detail—including the technical licence conditions, as noted above—would be developed on a case–by-case basis. However, we expect that there would be a number of standard conditions included in all innovation licences.

Section 6

Next steps

6.1 This consultation, published on 9 October 2008, lasts for a 10-week period. The closing date for responses is 18 December 2008. Annex 1 describes how to respond to this consultation.

6.2 When this consultation has closed, we will undertake a comprehensive review of responses. Depending on their contents, we expect to publish a statement in early 2009 along with a statutory consultation on a draft of the regulations. Assuming a satisfactory outcome to that process, we expect to make the regulations and grant the first innovation licences in spring 2009.

Annex 1

Responding to this consultation

How to respond

A1.1 We invite written views and comments on the issues raised in this document, to be made **by 5 p.m. on 18 December 2008**.

A1.2 We strongly prefer to receive responses using the online web form at www.ofcom.org.uk/consult/condocs/ius/ as this helps us to process them quickly and efficiently. We would also be grateful if you could assist us by completing a response cover sheet (see annex 3) to indicate whether there are confidentiality issues. This response cover sheet is incorporated into the online web-form questionnaire.

A1.3 For larger consultation responses—particularly those with supporting charts, tables or other data—please email gordon.drake@ofcom.org.uk, attaching your response in Microsoft Word format, together with a consultation-response cover sheet.

A1.4 Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.

Gordon Drake
Spectrum Policy Group
3rd Floor
Ofcom
Riverside House
2a Southwark Bridge Road
London SE1 9HA

Fax 020 7783 4303

A1.5 Note that we do not need a hard copy in addition to an electronic version. Ofcom will acknowledge receipt of responses if they are submitted using the online web form but not otherwise.

A1.6 It would be helpful if your response could include direct answers to the questions asked in this document, which are listed together in annex 4. It would also help if you can explain why you hold your views and how our proposals would impact on you.

Further information

A1.7 If you want to discuss the issues and questions raised in this consultation or need advice on the appropriate form of response, please contact Gordon Drake on 020 7981 3157.

Confidentiality

A1.8 We believe it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all responses on our website, www.ofcom.org.uk, ideally on receipt. If you think your response should be kept confidential, please specify what part and why. Please also place such parts in a separate annex.

A1.9 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and try to respect it. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.

A1.10 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to us to use. Our approach to intellectual property rights is explained further on our website at www.ofcom.org.uk/about/accoun/disclaimer/.

Next steps

A1.11 Following the end of the consultation period, we intend to publish a statement in early 2009 along with a statutory consultation on a draft of the regulations required to create a new innovation licence class. Assuming a satisfactory outcome to that process, we expect to make the regulations and grant the first innovation licences in Spring 2009.

A1.12 Please note that you can register to receive free mail updates alerting you to the publications of relevant Ofcom documents. For more details, please see www.ofcom.org.uk/static/subscribe/select_list.htm.

Our consultation processes

A1.13 We seek to ensure that responding to a consultation is as easy as possible. For more information, please see our consultation principles in annex 2.

A1.14 If you have any comments or suggestions on how we conduct our consultations, please call our consultation helpdesk on 020 7981 3003 or email us at consult@ofcom.org.uk. We would particularly welcome thoughts on how we could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumer, who are less likely to give their opinions through a formal consultation.

A1.15 If you would like to discuss these issues or our consultation processes more generally, you can alternatively contact Vicki Nash, Director Scotland, who is our consultation champion.

Vicki Nash
Ofcom
Sutherland House
149 St. Vincent Street
Glasgow G2 5NW

Tel 0141 229 7401
Fax 0141 229 7433

Email vicki.nash@ofcom.org.uk

Annex 2

Our consultation principles

A2.1 We have published the following seven principles that we will follow for each public written consultation.

Before the consultation

A2.2 Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

During the consultation

A2.3 We will be clear about whom we are consulting, why, on what questions and for how long.

A2.4 We will make the consultation document as short and simple as possible with a summary of no more than two pages. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened Plain English version for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.

A2.5 We will consult for up to 10 weeks depending on the potential impact of our proposals.

A2.6 A person within Ofcom will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organisations interested in the outcome of our decisions. Our consultation champion will also be the main person to contact with views on the way we run our consultations.

A2.7 If we are not able to follow one of these principles, we will explain why.

After the consultation

A2.8 We think it is important for everyone interested in an issue to see the views of others during a consultation. We will usually publish all the responses we have received on our website. In our statement, we will give reasons for our decisions and an account of how the views of those concerned helped shape them.

Annex 3

Consultation-response cover sheet

A3.1 In the interests of transparency and good regulatory practice, we will publish all consultation responses in full on our website: www.ofcom.org.uk.

A3.2 We have produced a cover sheet for responses (see below) and would be very grateful if you could send one with your response. (It is incorporated into the online web form if you respond in this way.) This will speed up our processing of responses and help to maintain confidentiality where appropriate.

A3.3 The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore, we encourage respondents to complete their cover sheet in a way that allows us to publish their responses upon receipt rather than waiting until the consultation period has ended.

A3.4 We strongly prefer to receive responses via the online web form, which incorporates the cover sheet. If you are responding via email, post or fax, you can download an electronic copy of this coversheet in Word or RTF format from the consultations section of our website at www.ofcom.org.uk/consult/.

A3.5 Please put any parts of your response you consider should be kept confidential in a separate annex to your response and include your reasons why this part of your response should not be published. This can include information such as your personal background and experience. If you want your name, address, other contact details or job title to remain confidential, please provide them in your cover sheet only so that we do not have to edit your response.

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

Please tick below what part of your response you consider is confidential, giving your reasons why

Nothing	☐	Name/contact details/job title	☐
Whole response	☐	Organisation	☐
Part of the response	☐	If there is no separate annex, which parts?	

If you want part of your response, your name or your organisation not to be published, can we still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response that Ofcom can publish. However, in supplying this response, I understand that Ofcom may need to publish all responses, including those marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard email text about not disclosing email contents and attachments.

We seek to publish responses on receipt. If your response is non-confidential (in whole or in part) and you would prefer us to publish your response only once the consultation has ended, please tick here. ☐

Name Signed (if hard copy)

Annex 4

Consultation questions

Proposed approach

Question 1. Do you agree with our proposal to create a new innovation licence class?

Question 2. Do you agree with our proposal to grant innovation licences on a first-come-first-served basis?

Licence conditions

Question 3. Do you agree with our proposal that innovation licences be service and technology neutral?

Question 4. Do you agree with our proposal that innovation licences should include a "non-interference-non protected" licence condition??

Question 5. Do you agree with our proposal that, in general, innovation licences have an indefinite duration?

Question 6. Do you agree with our proposal that innovation licences have no initial period?

Question 7. Do you agree with our proposal that innovation licences have a minimum notice period for variation or revocation on spectrum-management grounds of one year?

Question 8. Do you agree with our proposals for varying or revoking innovation licences during the minimum notice period?

Question 9. Do you agree with our proposal to allow only outright total transfers of innovation licences?

Question 10. Do you agree with our proposal to charge a fixed fee of £2,000 per innovation licence per year?

Annex 5

Impact assessment

Impact assessments are an important part of policy-making

A5.1 The analysis presented in this annex represents an impact assessment, as defined in section 7 of the Communications Act 2003.

A5.2 You should send any comments on this impact assessment to us by the closing date for this consultation. We will consider all comments before deciding whether to implement our proposals.

A5.3 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best-practice policy-making. This is reflected in section 7 of the Communications Act, which means that generally we have to carry out impact assessments where our proposals would be likely to have a significant effect on businesses or the general public or when there is a major change in our activities. However, as a matter of policy, we are committed to carrying out and publishing impact assessments in relation to the great majority of our policy decisions. For further information about our approach to impact assessments, see the guidelines "Better policy-making: Ofcom's approach to impact assessment," which are on our website at www.ofcom.org.uk/consult/policy_making/guidelines.pdf.

The citizen and/or consumer interest

A5.4 In recent years, we have been approached by a number of organisations that wish to launch innovative commercial wireless services using spectrum for which there are no existing suitable licences. Having a clear approach to considering such requests will enable organisation to launch those services more quickly, promoting innovation and competition in the interests of citizens and consumers.

Our policy objective

A5.5 Our main duty when considering whether to authorise use of spectrum is to promote its optimal use. In preparing our proposals to meet that duty in respect of innovative uses of spectrum, we have had regard, in particular, to the availability of and demand for spectrum and to the desirability of promoting:

- the efficient management and use of the spectrum for wireless telegraphy;
- the economic and other benefits that may arise from the use of wireless telegraphy;
- the development of innovative services; and
- competition in the provision of electronic communications services.

Analysis of the different options

Licensing options

Option	Advantages	Disadvantages
License all innovative uses of spectrum within the miscellaneous licence class	Very quick and simple to administer	The existing licence conditions are not entirely suitable for uses services that are not unique
Create a bespoke licence for each innovative use	Can tailor each licence to the specific requirements of the requested use	Likely to be time consuming and so lead to delays in launching services Will require significant resources from us and applicants
Create a single new licence class that will accommodate all innovative uses	Relatively quick and simple to administer Provides upfront certainty to applicants about the licensing process Allows technical licence conditions to be tailored to the requested use	Does not allow all of licence terms to be tailored to the requested use

A5.6 Our preferred option is to create a single new licence class that would accommodate all innovative uses, allowing us to provide certainty to applicants and rapidly licence new services.

Granting innovation licences

Option	Advantages	Disadvantages
Auction	Fair and transparent Incentivises user to maximise value from the spectrum	Unsuitable where supply exceeds demand Can be time-consuming to design and hold
Beauty contest	Can mitigate significant risks of market failure	Assessing applications involves element of subjectivity High risk of making wrong judgements about who can make optimal use of spectrum
First come, first served	Suitable where supply exceeds demand Low transaction costs Simple to administer	Might not assign spectrum to user who can make optimal use of it

A5.7 Although there are advantages to auctions, we expect most requests for innovation licences to concern spectrum where demand exceeds supply. Our preferred option is therefore to grant innovation licences on a first-come-first-served basis.

Service and technology neutrality

Option	Advantages	Disadvantages
Service- and technology-neutral approach	Market determines the optimal use of the spectrum Does not constrain future use	Can lead to increased risk of harmful interference as spectrum planning is more complicated Transaction costs associated with negotiating changes to technical parameters
Mandate a specific service and/or technology	Might assist in facilitating international harmonisation of equipment (though this is less likely to be relevant to these licences and can also be achieved by less intrusive and burdensome means)	Requires us to determine one or more services or technologies, excluding others that might make more efficient use of the spectrum

A5.8 In order to maximise efficiency and flexibility, our preferred approach is to adopt a service- and technology-neutral approach. This is likely to be especially beneficial by allowing a degree of experimentation during the development phase of new offerings.

Licence duration

Option	Advantages	Disadvantages
No end date	Does not limit uses of the spectrum Simple to administer Gives certainty to licensees	Obstacle to replanning for spectrum-management reasons (though this can be avoided through a relatively short minimum notice period for variation or revocation)
Fixed duration	Certainty for replanning for spectrum-management reasons (although this can be achieved through a relatively short period minimum notice period for variation or revocation)	Risk of choosing the wrong duration Creates uncertainty around licence renewal

A5.9 In general, we expect that optimal use of spectrum would be secured by granting licences with an indefinite duration, subject to a minimum notice period as discussed below.

Initial period and minimum notice period

Option	Advantages	Disadvantages
No notice period	Allows very rapid changes of use of the spectrum	Provides no security of tenure for licensees and so is a disincentive to investment
Relatively short minimum notice period	Allows licences to be granted quickly Allows relatively quick replanning for spectrum-management reasons.	May not provide sufficient security of tenure to justify investment in providing a new service
Long initial period (e.g. 15 years)	Provides significant security of tenure to allow rollout of networks	Makes it difficult to replan for spectrum-management reasons May take a long time to run a process likely to grant licences as efficiently as possible and may have high administrative costs

A5.10 We believe that a one-year minimum notice period would provide innovation licensees with some security of tenure without requiring us to carry out a significant amount of work to minimise the risk of suboptimal use of the spectrum. As a result, this is our preferred option.

Trading

Option	Advantages	Disadvantages
No trades allowed	No legislative changes required	More difficult for rights to use the spectrum to change hands
Allow all types of trade, outright and concurrent, total and partial	Allows the greatest flexibility in the use of the spectrum	Concurrent and partial trades would be more complicated to effect, for the same benefit, than requesting a new innovation licence The administrative cost of implementing this would be higher than for outright total trades
Allow outright total trades only	Minimises regulatory risk where a licensee is acquired by another organisation	No concurrent or partial trades

A5.11 Our preferred option is to allow only outright total trades in order to facilitate acquisitions of companies without creating redundant legislation.

Licence fees

Option	Advantages	Disadvantages
AIP-based fee	Incentivises optimal use of the spectrum	Unsuitable where supply exceeds demand No certainty of levels before applications are made Significant effort to calculate for each new licence
Variable cost-recovery fee	Enables full recovery of our costs for each licence	No certainty of levels before applications are made Difficult to allocate costs precisely
Fixed cost-recovery fee	Certainty of levels before applications are made	May not fully recover our costs for each licence

A5.12 Our preferred option is to charge a fixed cost-recovery fee of £2,000 per licence per year. This will provide certainty to applicants while recovering our costs in aggregate.

Impact on stakeholders

A5.13 Creating a new licence class of this sort should give stakeholders the certainty that they need to launch innovative commercial wireless services more quickly, promoting innovation and competition in the interests of citizens and consumers.

Monitoring the policy

A5.14 In order to monitor the effectiveness of this policy, we would:

- monitor any complaints about harmful interference; and
- monitor take-up of innovation licences.

Annex 6

Draft licence

Wireless Telegraphy Act 2006
Office of Communications (Ofcom)

SPECTRUM ACCESS LICENCE: Non-Protected

Licence no: **[licence number]**

Date of issue: **[date]**

1. The Office of Communications (Ofcom) grants this Licence to

[company name]
Company Reg No: [company reg no.]
(the "Licensee")
[address 1]
[address 2]
[address 3]
[postcode]

Contact name: **[contact name]**
Telephone number: **[telephone number]**

to establish, install and use radio transmitting and receiving stations and/or radio apparatus as described in the schedule (the "Radio Equipment") subject to the terms set out below.

Licence term

2. This Licence shall continue in force until revoked by Ofcom in accordance with paragraph 3 below or surrendered by the Licensee.

Licence variation and revocation

3. Pursuant to schedule 1, paragraph 8 of the Wireless Telegraphy Act 2006 (the "Act"), Ofcom may not vary or revoke this Licence under schedule 1, paragraph 6 of the Act except:

(a) at the request of, or with the consent of, the Licensee;

(b) if there has been a breach of a term of this Licence;

(c) if, in connection with the transfer or proposed transfer of rights and obligations arising by virtue of this Licence, there has been a breach of any provision of Regulations[18] made by Ofcom under the powers conferred by section 30(1) and (3) of the Act;

[18] On trading.

(d) in accordance with schedule 1, paragraph 8(5) of the Act;

(e) if it appears to Ofcom to be necessary or expedient for the purposes of complying with a direction by the Secretary of State given to Ofcom under section 5 of the Act or section 5 of the Communications Act 2003; or

(f) for reasons related to the management of the radio spectrum. This power may only be exercised after at least twelve (12) months' notice is given in writing to the Licensee.

4. Ofcom may only revoke or vary this Licence by notification in writing to the Licensee and in accordance with schedule 1, paragraphs 6 and 7 of the Act.

Changes

5. This Licence is not transferable. The transfer of rights and obligations arising by virtue of this Licence may however be authorised in accordance with regulations made by Ofcom under powers conferred by section 30(1) and (3) of the Act.[19]

6. The Licensee must give Ofcom prior notice in writing of any proposed change to the Licensee's name and address from that recorded in the Licence.

Fees

7. The licence fee in respect of this Licence is **£2000** per annum, which, for the avoidance of doubt, is exclusive of any VAT that may ultimately be payable.

8. If the Licence is surrendered or revoked, no refund, whether in whole or in part, of any amount that is due under the terms of this Licence or provided for in any Regulations made by Ofcom under sections 12 and 13(2) of the Act will be made.

Radio Equipment use

9. The Licensee must ensure that the Radio Equipment is established, installed and used only in accordance with the provisions specified in the schedule to this Licence. Any proposal to amend any detail specified in the schedule to this Licence must be agreed with Ofcom in advance and implemented only after this Licence has been varied or reissued accordingly.

10. The Licensee must ensure that the Radio Equipment is operated in compliance with the terms of this Licence and is used only by persons who have been authorised in writing by the Licensee to do so and that such persons are made aware of, and of the requirement to comply with, the terms of this Licence.

Access and inspection

11. The Licensee shall permit a person authorised by Ofcom:

(a) to have access to the Radio Equipment; and

(b) to inspect this Licence and to inspect, examine and test the Radio Equipment

[19] See Ofcom's website for the latest position on spectrum trading and the types of trade that are permitted

at any and all reasonable times or, when in the opinion of that person an urgent situation exists, at any time to ensure the Radio Equipment is being used in accordance with the terms of this Licence.

Modification, restriction and closedown

12. A person authorised by Ofcom may require any of the radio stations or radio apparatus that comprise the Radio Equipment to be modified or restricted in use or temporarily or permanently closed down immediately if in the opinion of the person authorised by Ofcom:

    (a) a breach of a term of this Licence has occurred; and/or

    (b) the use of the Radio Equipment is causing or contributing to undue interference to the use of other authorised radio equipment.

13. Ofcom may require any of the radio stations or radio apparatus that comprise the Radio Equipment to be modified or restricted in use or temporarily closed down either immediately or on the expiry of such period as may be specified in the event of a national or local state of emergency being declared. Ofcom may only exercise this power after a written notice is served on the Licensee or a general notice applicable to holders of a named class of Licence is published.

Interpretation

14. In this Licence:

    (a) the establishment, installation and use of the Radio Equipment shall be interpreted as establishment or use of wireless telegraphy stations and installation or use of wireless telegraphy apparatus as specified in section 8 of the Act;

    (b) the expression "interference" shall have the meaning given by section 115 of the Act; and

    (c) the expressions “wireless telegraphy apparatus” and “wireless telegraphy station” shall have the meanings given by section 117 of the Act.

15. The schedule to this Licence forms part of this Licence together with any subsequent schedules that Ofcom may issue as a variation to this Licence at a later date.

16. The Interpretation Act 1978 shall apply to this Licence as it applies to an Act of Parliament.

Issued by Ofcom

Signed by

For the Office of Communications

SCHEDULE TO LICENCE NUMBER: [licence number]

Schedule date: **[date]**

Licence category: Spectrum Access: Non Protected

1. Description of Radio Equipment licensed

The Radio Equipment means any radio transmitting and receiving stations and/or any radio apparatus that transmits in accordance with the requirements of paragraphs 4, 5 and 6 of this schedule.

2. Interface Requirements for the Radio Equipment used (if relevant)

Use of the Radio Equipment shall be in accordance with the following Interface Requirement:

[Interface Requirement number and title, if relevant]

3. Special conditions relating to the operation of the Radio Equipment

The Radio Equipment must operate on a non-interference and non-protected basis.

[Special conditions relating to restrictions on geographic areas, locations of base stations, usage logs being kept etc, if relevant]

4. Permitted frequencies

The Radio Equipment must only transmit and/or receive on the following frequencies (the "Permitted Frequencies"):

(i) **[frequency]** MHz

5. Maximum permissible e.i.r.p/Spectrum usage rights.

6. Transmission mask

Frequency/GHz	**dBc**

7. Interpretation

In this schedule:

(a) "e.i.r.p." means the equivalent isotropically radiated power. This is the product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna (absolute or isotropic gain);

(b) “dBc” means decibels (logarithmic scale) relative to the total mean power of the transmitted signal;

(c) “dBw” means the power level in decibels (logarithmic scale) referenced against 1 Watt (i.e. a value of 0 dBW is 1 W);

(d) “out of block emissions” means radio frequency emissions generated by the Radio Equipment and radiated into the frequency(s) adjacent (in terms of frequency) to the Licensee’s Permitted Frequency(s);

(e) “non-interference, non-protected” means that no harmful interference may be caused to any radiocommunication services that are entitled to protection and that no claim may be made for protection of these devices against harmful interference originating from authorised radiocommunication services;

(f) [“base station” means a radio transmitter not intended to be used while in motion to provide a communications service, typically used in mobile or broadcasting radio systems (if relevant)]; and

(g) [“mobile station” means a radio transmitter intended to be used while in motion or during halts at unspecified locations (if relevant)].