OFFICE OF COMMUNICATIONS

Temporary assignment of UHF analogue interleaved frequencies

Consultation

Publication date: 22 October 2008

Closing Date for Responses: 19 November 2008

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Section 1

Executive Summary

1.1 Digital terrestrial television (DTT) in the UK remains an integral part of the broadcasting environment and increasingly so as digital switchover (DSO) starts in earnest later this year. However, even as DSO commences, the terrestrial landscape continues to evolve to enable higher bandwidth services through the adoption of new, more efficient digital broadcast technologies such as MPEG-4 and DVB-T2.

1.2 Our November 2007 consultation highlighted the opportunities presented by the new MPEG-4 and DVB-T2 technologies and our April 2008 Statement[1] proposed a roadmap to realising these opportunities. In July this year legislation came into force which empowers Ofcom to implement that roadmap; that is, to upgrade Multiplex B (operated by BBC Free to View Limited), and to enable the launch of three HD services on the multiplex. The launch is expected to commence with the Granada television region in late 2009, with rollout thereafter following the DSO timetable which completes in 2012. However, this means that some parts of the UK will not have access to the new Multiplex B services for potentially up to three years after they first launch.

1.3 We noted in our April 2008 Statement that we would consider whether frequencies could be temporarily assigned to enable earlier access to the new services and that we would consult on this issue during 2008. Subsequently, the BBC requested that we consider temporarily assigning frequencies to enable a launch of the new Multiplex B services in some key areas ahead of DSO. This could materially increase the proportion of the UK's population that has access to the new services between 2009 and completion of DSO in 2012.

1.4 This consultation outlines our spectrum management and other duties and the approach that we propose to adopt in responding to the BBC's request. We discuss the frequency assignment framework within which temporary assignments for DTT broadcasting use would be made. To provide context we have applied the frequency assignment framework to a case study for London (in which we discuss the potential use of Channel 31) – one of the metropolitan areas identified by the BBC and one of the most congested geographic areas). The case study assesses impacts on existing spectrum users and concludes that, in this instance, the impacts would be minimal and therefore an assignment could be made. We intend to conduct a similar assessment for other requests and in some cases suitable frequencies may either not be available or carry power restrictions to avoid unacceptable interference to existing users. We invite comments on the proposed process of technically assessing these impacts.

1.5 Our analysis, informed by discussions with the BBC, other broadcasters and stakeholders, suggests the benefits to citizens and consumers of assigning frequencies to enable early launch are significant. The benefits, mainly to consumers, relate to early access to the new Multiplex B services sooner and to increased competition between receiver providers (potentially leading to a wider range of receiver product at lower prices). There are also likely to be producer benefits, to equipment manufacturers and to broadcasters although our analysis has not focused on these. We believe the benefits are likely to outweigh the costs associated with this policy including spectrum opportunity costs which we believe are low due to the circumstances of the frequencies in question. We are minded therefore to assign frequencies to enable the early launch of the new Multiplex B services ahead of DSO, subject to availability.

[1] http://www.ofcom.org.uk/consult/condocs/dttfuture/statement/

1.6 This document also sets out our proposed approach to other issues including spectrum pricing and licensing – in the context of the BBC's request (should it decide to proceed), we propose to grant a new WTA licence to BBC Free to View Limited, and to vary its existing Multiplex B licence for the use of this spectrum. With respect to spectrum pricing, we have taken account of the specific circumstances of this temporary assignment in setting spectrum fees for that WTA licence in reaching a view that fees should be set on a cost recovery basis for the duration of these assignments.

1.7 Subject to the outcome of this consultation, we would expect to follow the approach outlined in this document in dealing with a formal request from the BBC to temporarily assign frequencies (and to any future comparable requests).

1.8 This consultation closes on 19 November. We will consider responses at that time and intend to issue our Statement as soon as possible thereafter, which we expect will be in December 2008 or early in 2009.

Section 2

Introduction

Background

2.1 The radio spectrum is a valuable national resource that underpins many essential public services, such as transport, defence and the emergency services. It is also estimated that activities directly dependent on the use of the radio spectrum contribute around 3% to the UK's GDP.

2.2 Spectrum in the frequency band 200MHz to 1GHz is generally considered to be the most useful. This is because these frequencies offer a combination of capacity (bandwidth) and coverage (signal penetration) that makes them suitable for a wide range of services. Presently, analogue and digital television broadcasts occupy a significant proportion of this spectrum band – UHF bands IV and V which range from 470-862MHz (Channels 21 to 69 with the exception of Channels 36, 38 and 69)[2].

2.3 The digital terrestrial television (DTT) platform is divided into six distinct multiplexes each using a group of radio frequencies; the frequencies used by each differ according to geographic location. The UK was the first to launch a DTT service in Europe and it remains an integral part of the broadcasting environment, with 65% of UK households viewing regularly (38% of these view only DTT) and a total of 88% of households watching digital television on all platforms, including satellite, cable, IPTV and DTT.[3]

2.4 However, even as the take-up of DTT grows, the broadcasting landscape continues to change - with digital switchover (DSO) beginning in earnest later this year (and concluding in 2012) and new, even more efficient digital broadcast technologies such as MPEG-4 and DVB-T2 emerging.

Upgrade of Multiplex B

2.5 Ofcom has an important role in managing the radio spectrum due to our statutory duty to secure the optimal use of the radio spectrum. Our April 2008 Statement '*Digital Television: Enabling new services – Facilitating efficiency on DTT*'[4] highlighted the opportunities presented by the new MPEG-4 and DVB-T2 technologies to use existing spectrum more efficiently in order to deliver new services for viewers, including the potential to launch new high definition (HD) television services. The Statement concluded a public consultation[5] that was carried out to inform Ofcom's advice to Government on how best to introduce these new technologies to the DTT platform. A key reason for intervening was our conclusion that existing multiplex operators would be unable to coordinate this process effectively within the necessary timeframe to secure the same level of benefits. In short, we recommended that:

- one multiplex (Multiplex B, operated by BBC Free to View Limited) be cleared and upgraded to the new DVB-T2 and MPEG-4 technologies;
- the remaining existing two public service broadcasting (PSB) multiplexes be reorganised to accommodate any displaced services;

[2] Channel 36 (590-598MHz) will continue to be used for aeronautical radar until early 2009, Channel 38 (506-514MHz) is currently used for radio astronomy and Channel 69 (854-862MHz) is currently used exclusively by the PMSE community). Figure 1 in Section 4 shows how these frequencies are currently assigned in London.
[3] http://www.ofcom.org.uk/research/tv/reports/dtv/dtu_2008_q1/dtu_2008_q1.pdf
[4] http://www.ofcom.org.uk/consult/condocs/dttfuture/statement/
[5] http://www.ofcom.org.uk/consult/condocs/dttfuture/dttfuture.pdf

- the reorganisation and upgrade be executed as soon as possible to maximise the benefits to citizens and consumers and that action by Government and Ofcom would be necessary to achieve this; and
- a competition among PSBs be held to determine who will be reserved capacity on the upgraded Multiplex B, and for any services broadcast on it to be licensed accordingly.

2.6 In addition to spectrum efficiency, these recommendations furthered a number of Ofcom's duties which we set out in detail in Annex 6, most notably our duties to further the interests of citizens and to further the interests of consumers in markets (where appropriate by promoting competition), by securing the availability of a wide range of high quality television services which appeal to a variety of tastes and interests throughout the UK, and by promoting the fulfilment of the purposes of public service television in the UK.

2.7 The Government accepted our recommendations and implemented them in the *Television Multiplex Services (Reservation of Digital Capacity) Order 2008*[6] (the Order) which came into force on 2 July 2008. Ofcom is now working with the BBC and industry to implement the Order; in particular on 17 October, Ofcom made a Determination reserving capacity across the UK for the use of Multiplex B.[7]

2.8 In order to receive the new services, to be broadcast on an upgraded Multiplex B, viewers will need to purchase MPEG-4 and DVB-T2 compatible receiving equipment. Although compatible receivers are not yet available we are aware that a number of receiver manufacturers are now developing suitable equipment with the intention of launching compatible products in late 2009 or as soon as possible thereafter. We also note that prototype DVB-T2 transmitting and receiving equipment was recently demonstrated by the BBC and others on the Digital Video Broadcasting (DVB) stand at this year's IBC in Amsterdam.[8]

2.9 The expectation is that the new services will be launched regionally, commencing with the Granada television region in late 2009. The reorganisation of the DTT platform will depend upon the mode change being adopted by some multiplexes at switchover. This leads to a net increase in DTT capacity which will be needed to accommodate the services displaced from Multiplex B, and it is appropriate as it will minimise disruption to viewers (eg. retuning of equipment).

Purpose of this document

2.10 Against this backdrop, we noted our concern (see paragraphs 5.46 and 5.47 of the Statement) that, by virtue of this timetable, those parts of the UK completing switchover later will not have access to the new Multiplex B services until DSO in their particular region, potentially several years after they first launch. We indicated in our Statement that we would explore whether any additional frequencies could temporarily be used to carry the new services in pre-DSO regions in the period leading up to DSO. We also said we would consult on this issue during 2008.

[6] http://www.opsi.gov.uk/si/si2008/uksi_20081420_en_1
[7] http://www.ofcom.org.uk/media/news/2008/10/nr_20081017. This decision followed Ofcom's statutory notice inviting applications for Multiplex B capacity http://www.ofcom.org.uk/consult/condocs/dttfuture/ita.pdf
[8] http://www.dvb.org/news_events/events/ibc_2008/T2%20Guide%20IBC2008.pdf

2.11 Subsequently, the BBC (as operator of Multiplex B) has requested that Ofcom consider making a temporary assignment of frequencies in a number of key metropolitan areas to allow the early launch of the new Multiplex B services ahead of DSO. The BBC's expectation is that such an early launch would allow more people to access the new services sooner which will in turn create greater incentives for equipment manufacturers to develop receiver equipment and that competition and scale would help bring compatible receiver prices down, a further benefit to viewers. This would mean that some of the UK's largest population centres such as London could potentially have access to the new services more than two years earlier than currently scheduled – possibly in time for major events such as the 2010 Football World Cup. The BBC proposed that the temporary assignments could be licensed as a variation to the existing Multiplex B licence held by BBC Free to View Limited.

2.12 It is with reference to the BBC's request that we are holding this consultation. We note that we do not normally carry out a consultation or conduct an impact assessment for new frequency assignments where there are existing procedures (for example, in assigning new business radio licences), and do not consider that the application of the assignment framework, as set out in this consultation document, will have a significant effect on businesses or the general public. However, we note that there may potentially be some impact on existing viewers and current programme making and special events (PMSE) licensees where temporary frequency assignments are deployed in some areas (particularly London) and we reflect that in this document.

2.13 This document therefore sets out our views in relation to the BBC's request for Ofcom to make temporary frequency assignments to enable a launch of the new services on Multiplex B ahead of DSO in some areas. In particular we discuss the general framework within which such temporary frequency assignments for DTT broadcasting use would be made to BBC Free to View Limited.

2.14 For the purposes of this consultation, we have focused on the London region, which has been used as a case study to test the application of the assignment framework which may be applied to other regions (see Section 4 in which we discuss the potential use of Channel 31 in London). London is one of the key regions identified by the BBC, because it is a highly populated, late switching region. London is also an area where spectrum availability is very restricted and where interference impacts may be high, ensuring a stringent test of the technical assignment process.

2.15 Subject to the outcome of this consultation, we would expect to follow the approach outlined in this document in dealing with a formal request from the BBC to temporarily assign frequencies (and to any future comparable requests).

This document

2.16 This rest of this document is structured as follows:

- Section 3 sets out the frequency assignment process; it sets out how our duties and objectives apply to this framework and the process that we intend to adopt in response to requests to temporarily assign frequencies to launch new services.
- Section 4 applies the process set out in Section 3 to a case study for London, as a potential area identified by the BBC for early launch.
- Section 5 sets out our conclusions and proposed next steps.

Section 3

The frequency assignment framework

Introduction

3.1 As set out in Section 2, our April 2008 Statement identified that because the reorganisation and upgrade of the DTT platform will follow the same timetable as the DSO regional implementation, this meant viewers in later switching regions could have to wait up to three years to receive the new Multiplex B services. The BBC has since requested that Ofcom consider making temporary frequency assignments for use in a number of late switching DSO regions. The BBC's request reiterated Ofcom's concerns about limited viewer access to these services in the early years and expressed further concern that the comparatively small post DSO market would result in limited receiver selection and increased receiver prices.

3.2 As a result, we have explored whether any additional frequencies could be used to carry the new services in pre-DSO regions in the period leading up to DSO. Our objective for doing so is to promote spectrum efficiency by making optimal use of existing UHF broadcasting spectrum in the run up to DSO.

3.3 This section sets out the process we intend to follow in response to the BBC's (and any future comparable) requests. In summary, we intend to adopt a three stage process:

3.3.1 Consider whether making a temporary frequency assignment to the BBC Free to View Limited for this purpose, would be compatible with:

- the spectrum management framework we operate within; and
- Ofcom's duties and objectives;

3.3.2 Assess whether suitable frequencies within the UHF band are available for assignment; and

3.3.3 Investigate the technical feasibility of assigning frequencies (ie. whether the assignment causes unacceptable interference to existing services).

3.4 We believe these are the relevant considerations and set out our reasoning below.

Assignment of frequencies

3.5 Annex 6 sets out the legal framework under which Ofcom operates. It also introduces the Limitations Order which limits use of the relevant UHF frequencies to broadcasting and PMSE; the Limitations Order also limits assignment of these frequencies to certain specified parties, including licensed digital multiplex operators such as BBC Free to View Limited.

3.6 Broadcasting is a primary user of the UHF band, with PMSE a secondary user.

3.7 Apart from the major reorganisation of broadcasting assignments necessitated by DSO (carried out administratively by Ofcom and explained further below), most recent assignments in the UHF band have been for PMSE use, where thousands of licences, both short and long term, are granted each year. PMSE licences are granted on a *first come first served basis* – ie. a licence will be granted unless to do so would cause unacceptable interference to existing users.

3.8 There are also a number of examples of broadcasting assignments being made at the request of a licensee, such as:

- to increase coverage of Channel Five's analogue service;
- to extend the DTT coverage of all multiplexes but especially Multiplexes C & D during the period 2000 to 2002 (the so-called equalisation programme);
- to make short duration or event restricted television service licences (RTSLs) available; and
- to test and develop digital broadcasting for existing RTSL holders in advance of switchover.

3.9 In such cases, the process followed by Ofcom has been to grant a licence to use the frequency (or frequencies) to the broadcasting or multiplex licensee(s), unless doing so would be inconsistent with the legal framework we operate within - including abiding by international coordination agreements.

3.10 Therefore, provided a frequency assignment request would not lead to unacceptable interference to either existing UK use or conflict with our international agreements (the technical assessment typically undertaken by Ofcom to determine interference levels is set out later in this section), we are minded to assign these temporary frequencies on a *first come first served basis*.

Consistency with Ofcom duties and objectives

3.11 As we note above, reassigning underutilised frequencies to secure more efficient use of the radio spectrum is one of our primary duties. We draw particular attention to our specific spectrum duties which require that we have regard to the extent to which spectrum is available for wireless telegraphy use or further use, and the existing and likely future demand for use of that spectrum for wireless telegraphy. We must balance this against our duty to take account of the different needs and interests of everyone wishing to use the spectrum for wireless telegraphy. In addition, we would expect to consider consistency with our general duties – the most relevant of which are set out in Annex 6.

3.12 Under this framework, assignments would be made on a temporary basis in order to improve coverage, help drive take-up of the new services where the benefits could be shown to outweigh the costs (see Impact Assessment at Annex 5 for further details).

3.13 We consider that the assignment process outlined is consistent with our duties and objectives in relation to citizens and consumers. We will consider the benefits of such an approach against any request received on a case by case basis, as we have done with the London case study (see Section 4).

Availability of frequencies

3.14 Initially the UHF 470-862MHz frequencies were only used for the broadcasting of analogue terrestrial television (ATT) services. However, following the legislative changes introduced by the Broadcasting Act 1996, the ITC licensed five DTT multiplexes to start broadcasting in this band in 1998 alongside a sixth multiplex operated by the BBC and existing analogue services.

3.15 In 2001, following discussions with the Government and the Radiocommunications Agency, the ITC ceased making new analogue assignments. In 2003 the Government[9] decided that ATT services should be switched off and that around 70% of the spectrum currently used for analogue television should be reserved for DTT (256 of the 368MHz available). The remaining 112MHz is being released for new users and/or uses, and this forms the subject of Ofcom's digital dividend review (DDR) process.

3.16 In 2005 the Government confirmed its DSO plans[10]; that ATT would cease broadcasting on a region by region basis and that the coverage of the PSB services on DTT would be increased to match analogue broadcasters 98.5% coverage level.

3.17 The UK's UHF broadcasting assignments are planned by the Joint Planning Project (JPP)[11] and are coordinated by Ofcom with our nearest European neighbours. Due to the nature of the broadcast services it is possible that some additional non-broadcast services can make secondary use of some of the frequencies between these broadcast assignments in a particular geographic area. These so called 'white spaces' (which are also referred to as the "analogue interleaved" spectrum) are currently licensed for use on a secondary basis for the PMSE community. PMSE users make extensive use of the UHF bands (currently operating in over 44 channels) which they access on a secondary basis to TV broadcasting.

3.18 Availability of analogue interleaved spectrum varies across the UK, depending on which channels are used for broadcasting in each region and other constraints on use, such as protecting foreign assignments. We know however, from DSO planning that there is some analogue interleaved spectrum which although currently available (on a secondary basis) for PMSE use, is only lightly used and therefore potentially available for further broadcast use (subject to the constraints imposed by DSO and the DDR).

3.19 Following DSO, the UHF spectrum will be reserved for DTT use, awarded to a band manager with obligations for PMSE users, or auctioned as part of the DDR (as nationally cleared or local interleaved spectrum) and made available for new uses. Ofcom announced its decisions on the use of this spectrum in the DDR in December 2007.[12] Ofcom has more recently issued detailed proposals for consultation on its proposed award process for the cleared and interleaved spectrum and for the appointment of a band manager to manage PMSE access to the interleaved spectrum post switchover.[13]

3.20 These decisions together effectively place a 'sunset' on the use of any analogue interleaved spectrum at the completion of DSO in 2012. As a result, and as DSO draws nearer, the opportunity to utilise this spectrum is declining and consequently the opportunity cost for its use is reduced over this shorter period.

3.21 We conclude that while additional frequencies in the UHF band are available throughout the UK, they differ by geographic location and availability, and may be further limited by existing PMSE use and DSO and/or the DDR process in neighbouring regions. Therefore, we believe availability should be considered on a case by case basis. We consider the specific example of London in Section 4.

[9] http://www.digitaltelevision.gov.uk/pdf_documents/publications/statement_on_availability.pdf
[10] http://www.culture.gov.uk/reference_library/media_releases/3059.aspx
[11] The JPP is a spectrum planning group established by an MoU between the BBC, Ofcom, NGW and Arqiva, with multiplex operators D3&4, SDN, NGW and BBC as observers. Its purpose is to develop detailed frequency plans for the enhancement of the existing DTT transmitter network and for the future post-switchover network.
[12] http://www.ofcom.org.uk/consult/condocs/ddr/statement/.
[13] Consultations for the DDR cleared award (http://www.ofcom.org.uk/consult/condocs/clearedaward/), DDR interleaved award (http://www.ofcom.org.uk/consult/condocs/ddrinterleaved/) and DDR band manager award http://www.ofcom.org.uk/consult/condocs/bandmngr/

Technical feasibility

3.22 As part of our analysis of whether a temporary frequency could be assigned (subject to it not causing unacceptable interference to either neighbouring UK or foreign assignments) we would conduct a technical feasibility assessment - looking at the impacts of in-band and adjacent band interference to existing users of the bands. Existing users include analogue and digital broadcasting and PMSE.

3.23 The requirement to undertake such an assessment is referred to in the technical frequency assignment criteria (TFAC) which have been developed for Television and Sound Broadcasting, and are published by Ofcom on its website (these criteria are referenced in the Limitations Order as set out in Annex 6). They are designed to ensure efficient use of the spectrum and avoid interference to other users, and therefore may limit (or prevent) the availability of a licence. The TFAC set out the procedures for obtaining national clearances and international coordination of frequencies used by television and sound broadcast transmitters in the UK (we set out our assessment in relation to a case study in London in Section 4). In this context, we consider that the criteria have been satisfied by that assessment.

3.24 Ofcom's Code of Practice on Changes to Existing Transmission and Reception Arrangements (the Code)[14] also sets out the acceptable levels of interference that may be caused to viewers as DSO upgrades take place. The Code provides licensees with guidance on the priorities that it expects them to adopt during DSO and the remedial actions they are required to take, as a result of any interference. This includes working closely with the JPP to handle any requests and/or complaints under the Code.

3.25 PMSE equipment can often make use of a range of channels within a particular frequency band and be retuned to operate in adjacent channels. We will work with JFMG (and once awarded, the new band manager with obligations to PMSE users) to minimise any disruption caused by migrating existing licensees where this is necessary.

3.26 In assessing the impact for specific areas, we would liaise with relevant broadcasters and JFMG before forming a view on technical feasibility. An example is provided in Section 4 in the context of a temporary frequency assignment to the BBC in London.

Other issues

3.27 We also consider three further matters relating to the BBC's request; as these are generic we address them fully in this section (rather than in the case study in Section 4)

Spectrum pricing

3.28 We confirmed our general approach to spectrum pricing in our June 2007 Statement: 'Future pricing of spectrum used for terrestrial broadcasting'.[15] We concluded in that Statement that administrative incentive pricing (AIP) should apply to all terrestrial broadcasting uses of spectrum, but that in the case of spectrum used to broadcast the current DTT multiplexes, AIP should not be charged until 2014. Under our general approach, and confirmed in the Statement, we believe that AIP should apply immediately to any spectrum used for broadcasting any new terrestrial broadcast service, unless such spectrum is acquired through an auction. However, we noted that we would publish detailed proposals on the methodology and expected charges for AIP prior to its introduction in 2014, once better information about opportunity costs is known. For example, the DDR cleared spectrum award and other awards and pricing reviews in broadly comparable spectrum bands will have taken place before then.

[14] http://www.ofcom.org.uk/tv/ifi/tech/codes_guidance/cop/cop.pdf
[15] http://www.ofcom.org.uk/consult/condocs/futurepricing/statement/statement.pdf

3.29 Since we are of the view that the BBC's request for the temporary assignment of analogue interleaved frequencies would require a further spectrum assignment for broadcasting, we have, in line with our general approach, considered the level of fee to set. In doing so, we have taken account of the specific circumstances of this case.

3.30 First, the very limited timescales of these assignments (ie. less than three years) will have a direct effect on whether AIP fees could be expected to contribute to efficient decisions on spectrum use. In our spectrum pricing statement, we recognised that many of the efficiency gains from AIP for spectrum used for terrestrial broadcasting would come in the form of long term investment decisions by broadcasters, and strategic decisions by broadcasters and regulators. The short duration of any temporary assignments, and the fact that they are designed to fit within the continuing broadcasting regulatory framework, including technical standards, both strongly suggest that opportunity cost-based pricing would be unlikely to drive efficiency improvements over the period of their use. The long term decisions mentioned above are much more likely to be taken looking at the platform (and other platforms available to broadcasters) as a whole, not this time limited use.

3.31 Second, given the high initial costs of launching the service, it is possible that the service itself would not generate sufficient commercial benefits over the period of the assignments to justify the total investment when including spectrum fees based on AIP. If the imposition of AIP at full opportunity cost level resulted in decisions by broadcasters not to launch the services in London (or other areas), there would be a loss of benefits to consumers (see Annex 5 for further analysis). As the spectrum will only be available in this format for a very limited time, it would be unlikely that such a loss of benefits would be offset by alternative uses with similar value for consumers.

3.32 For the above reasons, we think the scope for pricing to incentivise more efficient decisions in relation to the use of these assignments bringing benefits for consumers and citizens, is materially limited. In addition, our thinking and analysis on the opportunity cost of spectrum in the UHF broadcasting band, and appropriate fee levels, is still at a preliminary stage. We think it would be disproportionate, in comparison with the limited potential benefits, to devote time and resources – both stakeholders' and our own – to deriving an opportunity cost estimate for the spectrum in these assignments. We would in any case plan to run a full opportunity cost assessment and fee-setting consultation for spectrum in the UHF broadcasting band before implementing pricing for existing multiplex spectrum in 2014, with the benefit of information provided by the market following the DDR awards.

3.33 In light of these considerations and the specific circumstances of this assignment, we are minded on this occasion to set spectrum fees on a cost recovery basis for the duration of these assignments. We therefore do not propose to apply AIP to this exceptional case.

3.34 We note also the recent proposals in the DDR cleared award for charging PMSE users on an administrative cost basis for temporary continued access (of up to one year) to cleared spectrum awarded through the DDR, but prior to DSO and its subsequent clearance. We consider the charging approach outlined above is consistent with our proposals for PMSE access given the use of spectrum in question relates to the period before DSO in both cases.

Licensing

3.35 We have considered the licensing implications of the BBC's request to launch Multiplex B services earlier in some pre-DSO regions. Our view is that since this is essentially a Broadcasting Act assignment within the remit of the current Multiplex B licence (which is exempt from payments until 2014), we consider that with regards to content licensing, any additional temporary frequencies can be included within the existing Multiplex B licence. In light of this, we do not intend to apply additional broadcast licensing fees to the Multiplex B component of the assignment (held by BBC Free to View Limited). We note that until the DSO programme is completed, the Multiplex B licence would comprise broadcast frequencies under a number of different power transmission levels, depending on the region and its DSO status. Content licensing for other comparable requests will be considered on a case by case basis.

3.36 With regards to spectrum licensing under the Wireless Telegraphy Act 2006 (the WTA), we propose to issue a new WTA licence to BBC Free to View Limited to carry the new services for the temporary period up until DSO in the region(s) in which they launch. This is in line with the existing regulatory framework, although for the avoidance of doubt, our approach will differ in terms of the period for which the licence will be granted given the temporary nature of any assignment using this framework. Licence fees are dealt with under the Spectrum pricing section above.

Timing for launch

3.37 It would be left to the BBC and other broadcasters to agree a launch date for any new Multiplex B services launched prior to DSO using temporary frequency assignments, but it is unlikely to precede the timeframe for service launch of the upgraded Multiplex B services in Granada, currently expected to be in late 2009. A number of factors may affect this timing, including DSO resourcing, progress with manufacturing of receiver equipment and the quantities of equipment available. Subject to the outcome of this consultation and to Ofcom receiving an application for a WTA licence, Ofcom would aim to make spectrum available as soon as practicable after receiving a request.

Section 4

London Case Study

Introduction

4.1 As detailed above, the BBC has asked Ofcom to make a temporary frequency assignment to BBC Free to View Limited to allow early launch of the new Multiplex B services in large metropolitan areas such as London from late 2009/early 2010. The assignment(s) would expire at the completion of DSO which, for London, is expected to be mid 2012.

4.2 We have completed an assessment using the framework set out in Section 3, which we summarise in this section. In light of this we are minded to temporarily assign the relevant frequency to BBC Free to View Limited for the specified period, subject to considering any responses to this consultation.

Spectrum authorisations

4.3 We are minded to temporarily assign UHF frequencies for an early launch of the new Multiplex B services on a *first come first served* basis, which would be consistent with current practice for certain uses as discussed in paragraphs 3.7 and 3.8 above.

Consistency with Ofcom duties and objectives

4.4 As outlined in Section 3 and Annex 6, securing efficient use of the radio spectrum is one of Ofcom's duties. We would therefore generally support any request which takes advantage of underutilised analogue interleaved spectrum, provided the other components of the assignment framework were also met.

4.5 Our analysis suggests that accepting the BBC's request is likely to further facilitate the implementation of Ofcom and the Government's policy to reorganise services on DTT and upgrade Multiplex B to use the more efficient DVB-T2 and MPEG-4 standards. Further, that the use of this temporary frequency in the London region is likely to result in an earlier and larger market for the new services and related equipment. Such assignment is therefore expected to increase competition between receiver manufacturers resulting in more choice and lower prices for viewers. We also believe that the opportunity cost of assigning this frequency for the limited period proposed is relatively low and the benefits potentially high (see Impact Assessment in Annex 5).

4.6 In summary, we believe that a temporary frequency assignment in London to BBC Free to View Limited would be consistent with Ofcom's duties and objectives for the following reasons:

- it makes efficient use of potentially valuable but constrained and underutilised spectrum in London;
- viewers will benefit through early access to new PSB services, through more choice and lower equipment prices;
- risks to early adopters (broadcasters and viewers) will be reduced;
- it is likely to be conducive to future efficiency gains on the platform by increasing the penetration of MPEG-4 / DVB-T2 receivers; and
- it promotes innovation and competition among suppliers of DTT receiver equipment.

4.7 Collectively it would appear to us that these factors present substantial benefits to both consumers (viewers) and businesses (broadcasters, receiver manufacturers etc) with few apparent costs. We consider the costs and benefits further in the Impact Assessment in Annex 5.

Availability of frequencies

4.8 We know from DSO planning that some of the analogue interleaved spectrum currently available for PMSE use, is only lightly utilised by PMSE in many locations and therefore potentially available for broadcast use. In particular we have identified Channel 31 (550-558MHz) as a lightly utilised channel in London that could be assigned temporarily to the BBC.

4.9 However, in making any decision on availability, we would take account of both the impact on existing PMSE licensees in or adjacent to this channel, and on viewers of ATT and DTT services using this or adjacent channels, and this assessment is set out in the Technical feasibility section which follows.

Technical feasibility

4.10 We asked NGW to identify the best frequency available in London and to assess any impacts that its use for DTT might have on existing users in the UK and neighbouring countries (the report is available on request). NGW's analysis concluded that Channel 31 would be the optimal frequency to use, maximising coverage whilst imposing minimal interference on existing broadcasting use both in the UK and internationally. The interference impacts provided are generally conservative estimates and are explained in further detail in the following sections.

4.11 The report makes a preference for use of the Croydon transmitter (rather than Crystal Palace) because it assumed DSO works on the Crystal Palace antenna would leave it unavailable for part of the period between late 2009 and switchover in 2012. We understand that this may now not be the case, and that the Crystal Palace antenna will be available, in which case Crystal Palace would be Ofcom's preferred transmitter site as we expect broadcasting impacts to be further reduced.

4.12 An illustrative assessment of the impacts on existing users of the bands for an early launch in London is set out below. We make clear in the analysis where impacts relate to Croydon or Crystal Palace transmission, and we would undertake further analysis to confirm our views should the Crystal Palace antenna be used.

4.13 It should be noted that Channel 31 was previously used in London to transmit the BBC's HD trial[16] for over six months during 2006. The trial service was broadcast under a non-operational licence at low transmission power (5kW). At that time, Channel 31 was selected because from the frequencies available, it was assessed as having the lowest impact for existing users. Ofcom did not receive any complaints of interference from broadcasting or PMSE users during this time. The BBC have recently requested use of this channel from Crystal Palace to conduct a pilot of the new Multiplex B services prior to the planned Granada launch in late 2009, although its use is still subject to confirmation by Ofcom.

4.14 As we noted in Section 3, when considering the technical impacts of this assignment the potential in-band and adjacent band interference to existing users will be assessed in a manner consistent with normal JPP practice. Typically for ATT, the assessment considers the level of degradation of the service where the resulting viewing effects are

[16] http://www.bbc.co.uk/info/policies/pdf_text_archive/dtt_hdtrial.pdf

likely to range from 'snow' or fuzzy pictures to complete loss of the service, and the number of households within the agreed analogue preferred service area (APSA) that this affects. The JPP considers that degradation to ATT services which occurs for up to 5% of the time falls within acceptable interference parameters, while interference which results in 50% degradation or more is generally considered to result in a loss of that service. The acceptable interference threshold for DTT services is set higher at just 1% of the time, given that interference effects for digital television are much more sensitive (eg. even very modest levels of interference can result in severe degradation or the loss of the service).

4.15 The JPP's role is to identify suitable assignments which minimise the number of households experiencing a loss of service within these acceptable interference parameters. Where significant numbers of households may be impacted, planners investigate where the interference problems are and consider whether alternative signals are available for those areas. They may also look at the level of degradation involved, whether existing aerials could be altered to receive alternative transmitter signals, or in the case of ATT interference whether a conversion to digital television may resolve the problem[17].

ATT

4.16 We noted in Section 3 that prior to the completion of switchover, both analogue and digital television services are currently being broadcast across the UK. Existing high power ATT transmissions in or near to Channel 31 in London (and surroundings areas) include:

- C4 on Channel 30 transmitting from Crystal Palace at 1000kW ERP; and
- BBC1 on Channel 31 transmitting from Sandy Heath at 1000kW ERP (noting however that Sandy Heath is expected to complete DSO in 2011, and therefore any impacts on analogue services will cease at that time).

4.17 NGW's technical analysis for Croydon shows very limited predicted interference to the analogue Channel 4 service; impacts are only estimated to occur when transmission power for the proposed Channel 31 service increases to 20kW ERP but these are still very low (less than 0.01%). There is likely to be minor interference to the BBC1 service (within the acceptable interference levels set out in the Code), where we anticipate that a 5-10kW ERP transmission initially would be acceptable; this can be increased once the Sandy Heath transmitter completes DSO in 2011. Of the households which receive BBC1 from Sandy Heath, the analysis estimates that 0.6% could experience some degradation to their service up to 5% of the time, with 0.3% of households potentially losing access to a continuous service (eg. service loss 50% of the time). The proposed power level could however, be reduced if an unacceptable level of complaints were received under the Code. Other potential mitigation measures could also be used, and these are outlined in the Code. For example, given that most interference impacts were found to be in the south and south east of the region, affected viewers may still be able to receive the service by retuning to an alternative nearby transmitter such as Crystal Palace.

[17] In this context we also note the very high penetration levels of digital television across all platforms, which as we noted in section 2 now reaches around 88% of households. In considering any further action, we would expect to take into account the fact that only a small proportion of the estimated number of households caught within the APSA would actually lose access to the service.

4.18 With regards to anticipated impacts should the Crystal Palace antenna be used in place of Croydon, we would expect no interference at all for the C4 service (as an adjacent channel broadcasting from the same antenna), but that the predicted impacts are likely to remain similar for co-channel interference caused to Sandy Heath.

4.19 We also found the use of Channel 31 up to 20kW ERP has only a small impact on our international neighbours, as the antenna is already restricted towards France, and although levels towards both Belgium and the Netherlands exceed GE-06 trigger thresholds, these are well below coordinated permissible interference from Sandy Heath and Rowridge and therefore no further action is required. This applies to both ATT and DTT assignments.

4.20 We also note that previous use of Channel 31 to transmit the HD trial service in London, albeit at lower transmission powers, did not cause unacceptable interference to existing ATT services (see paragraph 4.13).

DTT

4.21 The DTT transmissions in or near to Channel 31 in London (and surrounding areas) include:

- Mux 1 on Channel 31 transmitting from Reigate at 0.2kW ERP; and.
- Mux A on Channel 32 transmitting from Crystal Palace at 20kW ERP.

4.22 With regard to co-channel interference on Multiplex 1, NGW's technical analysis for Croydon shows limited interference within the levels acceptable under the Code – 0.1% of households could experience degradation to their service up to 1% of the time, and the analysis shows very limited or no impact on the multiplex services up to 5% of the time where transmission powers of up to 10kW ERP are used. (At 20kW ERP, the impact remains low but interference to other broadcasting services particularly the analogue service at Sandy Heath, will likely constrain the power level to within 5-10kW ERP). A Crystal Palace transmission is unlikely to affect this analysis, and we would expect equally low levels of interference as found from Croydon.

4.23 NGW's analysis shows some minor interference for Multiplex A services when broadcasting from Croydon, although where power levels are kept below 10kW ERP, the impact remains within the Code's acceptable parameters – 0.1% of households might experience degradation to their service up to 1% of the time. However, should the Crystal Palace antenna be used for transmission instead, we expect that the impact on Multiplex A services will be reduced to nil, given that the services transmit from the same antenna and would therefore be unlikely to interfere with each other.

4.24 Again, we expect to handle any complaints under the provisions of the Code, and would look to reduce power levels in the first instance to mitigate any complaints about interference caused, as well as pursuing other mitigation strategies as appropriate.

4.25 We also note that as with ATT transmissions discussed above, previous use of Channel 31 to transmit the HD trial service in London, albeit at lower transmission powers, did not cause unacceptable interference to existing DTT multiplexes.

PMSE

4.26 As explained in Section 3, PMSE equipment can often make use of a range of channels, and be retuned to operate in adjacent channels. We believe it likely that existing PMSE indoor users of Channel 31 could continue operating within the channel alongside a low power DTT multiplex (as is currently the case for Channel 32) or users could be accommodated in adjacent channels at either no or limited cost to themselves and without causing further interference to existing users of those channels. Our reasoning for this is set out below.

4.27 PMSE use of Channel 31 is already time limited and expected to cease as a result of DSO and the DDR (Channel 31 is part of cleared DDR[18] spectrum); the effect of temporarily assigning the frequency to BBC Free to View Limited will be to bring the cessation forward. Therefore, unless PMSE users of Channel 31 are able to coexist within the channel, they may have to be accommodated in adjacent channels until DSO (after which alternative arrangements will be made as set out in the DDR).

4.28 To better understand past PMSE usage of Channel 31 in the London area, we examined the licences issued during 2007, and found that 297 separate licences were granted to 56 different licensees. The vast majority of these were short term licences (most lasting less than one week's duration) with only a small number of long term licences (which we define as longer than three months' duration).

4.29 According to the most up-to-date licensing figures (end September 2008), there are 15 licensees (accounting for 33 individual assignments in 15 locations) still operational for Channel 31 in the London area; 13 of these are long term licences which have been granted for either wireless microphones or talkback devices[19]. We would expect four of the long term licences to be subject to renewal before the end of 2008, however all of these licences are set to expire by 17 July 2009. We therefore need to make a prompt decision as to how to proceed with these licences so that arrangements can be put in place with JFMG regarding the future use of this frequency in London (ie. where necessary, to cease further long term PMSE assignments and look to migrate existing licensees to adjacent channels).

4.30 Additionally, we note that previous low power use of Channel 31 for the London HD trial had a minimal impact on, and did not cause unacceptable interference to, PMSE users. At that time, the only migration of PMSE services that was necessary was to move two BBC Outside Broadcast links from Channel 31 to Channel 24. However, we should bear in mind that:

- the existing talkback licensees referred to above were not operating in this channel during the trial so the precise impact in these cases is unknown, but we will work with relevant parties to minimise any disruption caused by migrating existing licensees where this is necessary; and

[18] http://www.ofcom.org.uk/consult/condocs/ddr/statement/

[19] Many current wireless microphones and talkback devices tune over at least three channels (24MHz). We understand that the talkback devices with annual licences in London tune between Channels 31-33. They are specialist high-quality, talkback equipment operating over 200kHz bandwidth instead of the usual 12.5kHz. Of these channels, Channel 32 is nominally available for PMSE use, however the utility of this channel for PMSE equipment may be impaired in some locations because of DTT (Multiplex A) transmission. The same would apply to DTT transmissions from an early launch operating at a lower power on Channel 31. The effect of any impairment is likely to be a reduction in operating range. We will not know the actual effect on each licensee until the impact has been examined at each location. We note that Channels 30 and 33 are more heavily constrained by ATT services transmitting from Crystal Palace (C4 and BBC2 respectively) and therefore unavailable for PMSE use.

- if higher transmission power levels were used, the impacts noted above for the 2006 trial may need to be adjusted.

Conclusion

4.31 As set out above, our technical assessment shows that impacts on existing users of this band are minimal and that a temporary assignment of Channel 31 in London is therefore feasible. Where interference problems do occur, we will employ mitigation strategies to offset any loss of services for viewers. With regards to PMSE, we note that all existing Channel 31 licences will expire by the middle of 2009, prior to any proposed launch of the new Multiplex B services. We would expect to work with existing licensees to minimise any disruption caused by migrating to alternative frequencies where licence renewals were required.

Question 1: Do you agree that our assessment of the technical impacts of the proposal to use Channel 31 in London is appropriate?

Question 2: Do you have any general comments which you think we should take into account?

Section 5

Conclusion and next steps

Summary of issues

5.1 We are consulting on the temporary assignment of analogue interleaved frequencies to support an early launch of new services on Multiplex B in advance of DSO, and in particular on the impacts of any such assignment on existing spectrum users.

5.2 Section 3 sets out the frequency assignment framework we intend to adopt in this instance, which involves a three stage process:

- Consider whether making a temporary frequency assignment to the BBC Free to View Limited for this purpose, would be compatible with:
    - the spectrum management framework we operate within; and
    - Ofcom's duties and objectives;
- Assess whether suitable frequencies within the UHF band are available for assignment; and
- Investigate the technical feasibility of assigning frequencies (ie. whether the assignment causes unacceptable interference to existing services).

5.3 In summary we believe a satisfactory framework exists for deciding on the assignment of frequencies of this nature within the relevant frequency band. Section 3 also sets out our proposed approach to other issues including spectrum pricing and licensing – in the context of the BBC's request, we propose to grant a new WTA licence to BBC Free to View Limited, and to vary its existing Multiplex B licence for the use of this spectrum, should it decide to formally apply. With respect to spectrum pricing, we have also taken account of the specific circumstances of this temporary assignment in setting spectrum fees for that WTA licence in reaching a view that fees should be set on a cost recovery basis for the duration of these assignments.

5.4 Section 4, applies this framework to a live example for London, one of the areas in question and one of the most congested geographic areas, and examines the impacts on existing spectrum users. It also sets out the consultation questions relating to the process of technically assessing these impacts and inviting general comments.

5.5 The London case study (which looks at use of Channel 31), found that an assignment could be made to BBC Free to View Limited for use by Multiplex B provided the power levels were restricted to prevent unacceptable interference to broadcast services and incumbent PMSE users (or that those users could easily be accommodated in adjacent channels).

Next steps

5.6 This consultation closes in four weeks time on 19 November. We will consider responses at that time and intend to issue our Statement as soon as possible thereafter. Our expectation is that this will be in December 2008 or early in 2009.

5.7 If, after consideration of responses to this consultation, we conclude that it is appropriate to proceed as outlined above, we would expect to adopt this process in responding to applications for any temporary assignment of frequencies from the BBC.

Annex 1

Responding to this consultation

How to respond

A1.1 Ofcom invites written views and comments on the issues raised in this document, to be made **by 5pm on 19 November 2008**.

A1.2 Ofcom strongly prefers to receive responses using the online web form at http://www.ofcom.org.uk/consult/condocs/interleaveduhf/howtorespond/form, as this helps us to process the responses 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 or not there are confidentiality issues. This response coversheet 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 DTTefficiency@ofcom.org.uk attaching your response in Microsoft Word format, together with a consultation response coversheet.

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

Jo Dench
Temporary assignment of UHF analogue interleaved frequencies
Spectrum Policy Group
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 at Annex 4. It would also help if you can explain why you hold your views and how Ofcom's proposals would impact 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 Jo Dench on 020 7981 3257 or by email on jo.dench@ofcom.org.uk.

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, can you please specify what part or whether all of your response should be kept confidential, and specify 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 will try to respect this. 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 Ofcom to use. Ofcom's approach on intellectual property rights is explained further on its website at http://www.ofcom.org.uk/about/accoun/disclaimer/

Next steps

A1.11 Following the end of the consultation period, Ofcom expects to publish a statement in December 2008 or early in 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: http://www.ofcom.org.uk/static/subscribe/select_list.htm

Ofcom's consultation processes

A1.13 Ofcom seeks to ensure that responding to a consultation is easy as possible. For more information please see our consultation principles in Annex 2.

A1.14 We note here the shortened consultation period of four weeks for this document. This is consistent with our guidance on consultation periods for documents which are consistent with existing policy and regulation, and/or which may have some urgency attached to them. We believe that the framework outlined in this document does not depart from nor seek to alter current practice in any significant way. There is some urgency associated with the use of any frequencies. to ensure that the impact on licensees is minimised and that the appropriate technical work can be carried out within the required timescales for launch.

A1.15 If you have any comments or suggestions on how Ofcom conducts its consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at consult@ofcom.org.uk . We would particularly welcome thoughts on how Ofcom could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumers, who are less likely to give their opinions through a formal consultation.

A1.16 If you would like to discuss these issues or Ofcom's consultation processes more generally you can alternatively contact Vicki Nash, Director Scotland, who is Ofcom's 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

Ofcom's consultation principles

A2.1 Ofcom has published the following seven principles that it 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 who 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 Guide 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. Ofcom's '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 would usually publish all the responses we have received on our website. In our statement, we will give reasons for our decisions and will give an account of how the views of those concerned helped shape those decisions.

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 coversheet for responses (see below) and would be very grateful if you could send one with your response (this 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 Ofcom would encourage respondents to complete their coversheet in a way that allows Ofcom 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 coversheet. 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 don't 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 ☐

Whole response ☐

Part of the response ☐

Name/contact details/job title ☐

Organisation ☐

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 Ofcom 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 which are marked as confidential, in order to meet legal obligations. If I have sent my response by email, Ofcom can disregard any standard e-mail text about not disclosing email contents and attachments.

Ofcom seeks 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

Question 1: Do you agree that our assessment of the technical impacts of the proposal to use Channel 31 in London is appropriate?

Question 2: Do you have any general comments which you think we should take into account?

Question 3: Do you agree with the analysis carried out for this Impact Assessment?

Annex 5

Impact Assessment

Introduction

A5.1 The analysis presented in this annex represents an impact assessment, as defined in section 7 of the Communications Act 2003 (the CA03).

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 CA03, 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 Ofcom's activities. However, as a matter of policy Ofcom is 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: http://www.ofcom.org.uk/consult/policy_making/guidelines.pdf

A5.4 We do not normally carry out a consultation process or conduct an impact assessment for the assignment of new frequencies where there are existing procedures (for example, in assigning new business radio licences), and do not consider that the application of the assignment framework, as set out in this consultation document, will have a significant effect on businesses or the general public. However, we note that there may potentially be some impact on existing viewers and current PMSE licensees where temporary frequency assignments may be deployed in some areas (particularly London) and we reflect this below.

The citizen and/or consumer interest

A5.5 The launch of the new Multiplex B services in key areas up to three years earlier will likely be of high interest to consumers who wish to gain access to them, but who (by virtue of the DSO timetable) are unable to do so. Citizens more generally have an interest in this document, as it seeks to further underline the importance of widely available, free to air television in the UK.

A5.6 We note however that the temporary assignment of analogue interleaved frequencies may lead to some impairment of the television services currently enjoyed by viewers (where interference is observed), and also on the PMSE community and their existing use of equipment. It is therefore important to provide a satisfactory level of protection for these services and we believe existing procedures are in place to do this.

Ofcom's policy objective

A5.7 We have considered the BBC request in the context of our duty to secure optimal use of the radio spectrum. We believe that temporary assignments of UHF analogue interleaved spectrum (where requested) to enable an earlier launch of the new Multiplex B services in later switching DSO areas will help to secure this policy by

making efficient use of underutilised spectrum in London. In particular, early access to new PSB services is likely to result in a wider range and availability of consumer receiver equipment sooner than would otherwise be the case and at lower prices. This is likely to increase take up of the new services and lead to a larger base of equipment including the DVB-T2 and MPEG-4 standards, thereby increasing the efficiency of the DTT platform in the longer term.

A5.8 A measure of success of this policy would be a more rapid take-up of the new services and subsequently, the earlier migration of additional DTT multiplexes to the new standards, and thereby increasing the overall efficiency of the DTT platform.

Options considered

A5.9 As mentioned in Section 2 of this document, the recommendations in Ofcom's 2008 Statement (and adopted by the Government's Order) are being implemented to bring about the adoption of DVB-T2 and MPEG-4 on Multiplex B (alongside the DSO regional implementation timetable) – ie. the no early launch option. An impact assessment was previously undertaken as part of that consultation process which examined the impact of intervening in order to bring about the reorganisation and upgrade on that multiplex. It concluded that intervention was necessary because of the risk that existing multiplex operators were unable to effectively coordinate this process within the necessary timeframe to secure the same level of benefits, which our analysis found to be significant.

A5.10 To assess whether assigning frequencies as requested by the BBC to secure an earlier launch of the new Multiplex B services in some areas would be beneficial, we have considered the following two options:

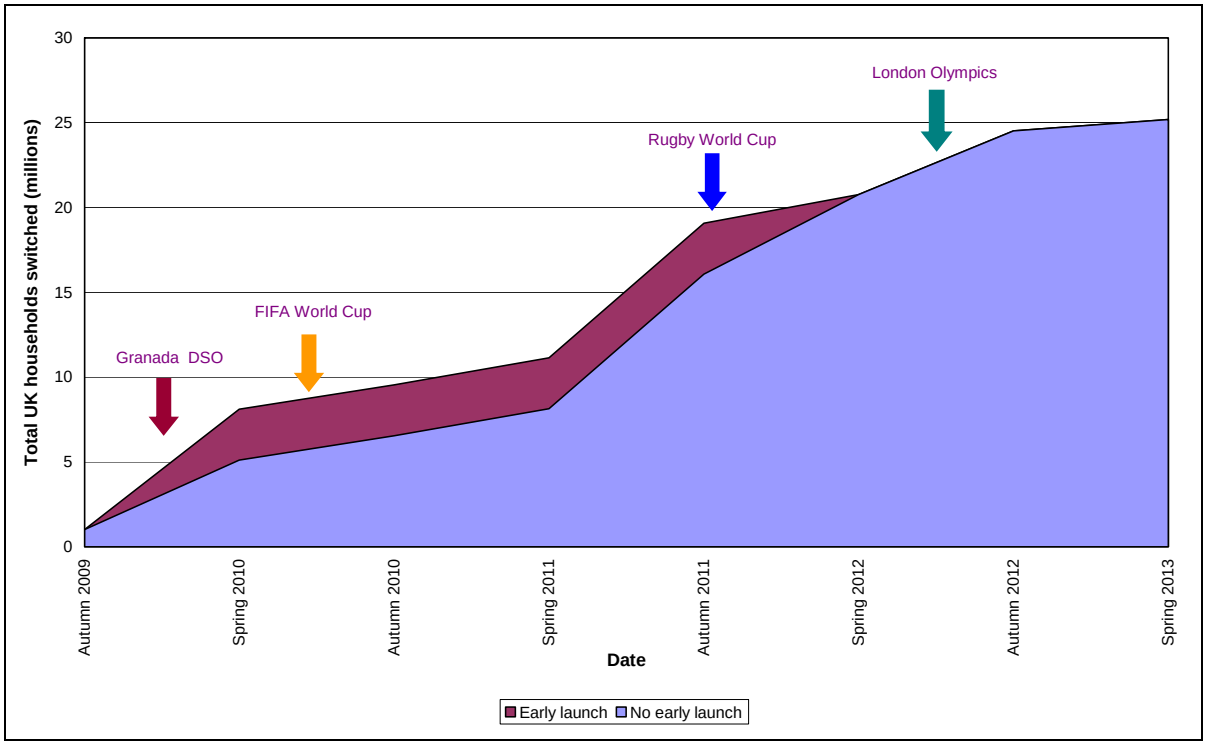
- To take no further action with regards to the new services on Multiplex B beyond what has already been set out in the 2008 statement, ie. that the services will rollout following the DSO timetable (the no early launch or 'do nothing' option); or

- To enable an earlier launch of the new Multiplex B services in some areas (by temporarily assigning underutilised analogue interleaved spectrum). For the purposes of this impact assessment and in line with our case study we have examined the impact of an early launch in London (the early launch option). We believe that an early launch is likely to affect existing users of the spectrum, take-up of the services and equipment used to receive the services, and the long-term efficiency of the DTT platform. Our assessment considers how low and high demand as well as no demand scenarios might affect take-up and equipment pricing under this option.

A5.11 In considering these options, we take particular account of Ofcom's duties under the CA03 and WTA. Those which we believe to be most relevant to this consultation are set out in Sections 3 and 4 of this document (as read together with Annex 6), and in particular include our duty to further the interests of citizens and consumers in relation to communications matters, and our duty to secure the optimal use of the electro-magnetic spectrum.

A5.12 A comparison of each of these options - showing the number of households that will have access to the new services over time, is shown at Figure 2 below. As shown in the diagram, the early launch option allows wider availability of the new Multiplex B services in time for key events such as the World Cup in 2010, which we believe may be important drivers of take-up for the new services.

Figure 2: Households with access to new Multiplex B services with or without an earlier London launch



Analysis of the different options

No early launch – do nothing

A5.13 In the 2008 Statement, we set out the benefits of reorganising services on DTT and upgrading Multiplex B to use the more efficient DVB-T2 and MPEG-4 technologies. The introduction of these technologies was consistent with our duties to secure optimal use of spectrum and increase choice for consumers. The 2008 Statement concluded however, that consumer and producer benefits were strongly linked to the speed of take-up of the new receiver equipment.

A5.14 The new Multiplex B services are already intended to be made available between late 2009 and 2012 as each region completes switchover, expected to begin with the Granada region (Manchester) in late 2009. By virtue of the DSO timetable, some of the most populous broadcasting regions such as London will not receive the new services for a number of years.

A5.15 Our analysis suggests that while access to the new services in a no early launch scenario will eventually catch up to the early launch scenario as the services are rolled out, the smaller initial market is likely to have a slowing effect on equipment take-up, receiver equipment prices will likely not drop as quickly as a result, and therefore the overall timing of the next (and subsequent) multiplexes upgrading (ie. also converting to the new technologies) on the platform could well be delayed. We consider these to be the key costs of taking no action.

A5.16 We do not expect stakeholders to incur any additional costs or experience further impacts as a result of this option.

Early launch (assessment for London)

A5.17 Sections 3 and 4 considered the legal and technical feasibility of temporarily assigning a frequency to launch the new Multiplex B services earlier, using London as a case study. The assessment concluded that a suitable frequency (Channel 31) is available and could be assigned within the existing assignment framework.

Costs

A5.18 The costs involved in the early launch are principally:

- The financial costs to the broadcasters of using the additional frequencies;
- The impact on existing spectrum users during the period in which the additional frequencies are used
- The opportunity cost of using the additional frequencies during this period.

A5.19 We believe the financial costs of providing the services (incurred by broadcasters) will be relatively modest. Over the early launch period the transmission and multiplexing costs for broadcasting the new Multiplex B services at each site over the interim period are estimated to be no more than several million pounds.

A5.20 Section 4 set outs our analysis of the impacts on existing users of the spectrum, both co-channel and adjacent channel. The impact on ATT and DTT broadcast services will depend on the location of the transmitter and power level at which it will broadcast – but is expected to be very limited and within acceptable interference levels under the Code (the numbers affected for each broadcast service are set out in that section). In any case, we consider that the proportion of viewers whose services will be affected will be very small in comparison to the number of viewers who could gain access to the new services once launched. We also note the role of the JPP in managing interference complaints, and, if unacceptable interference was experienced, would expect power levels to be reduced. Other mitigation measures may also be employed if necessary – as provided for by the Code.

A5.21 We also need to assess the opportunity cost of temporarily assigning this spectrum. We have proposed to allow use of cleared DDR spectrum to new users after it is awarded to them and as DSO rolls out regionally (once existing uses cease), subject to giving notice to PMSE users. In London, exceptionally, we have consulted on whether to hold back DDR spectrum until after the Olympics (which takes place after the completion of London DSO). In light of this and that alternative uses for this spectrum are restricted pre-DSO (under the existing terms of the Limitations Order), we would expect the opportunity cost to be low. In other areas, we would assess the opportunity cost for each case as part of our application of the assignment framework.

A5.22 The impact on PMSE users is more difficult to assess given licences are temporary and frequently changing. We already know that DSO and the DDR will change the way UHF spectrum is used by PMSE licensees. In particular, existing assignments will terminate at DSO (regarding which, the PMSE community have been informed) and assignments made from the post DSO UHF band plan. Channel 31 in London is one such assignment (DSO is set for 2012).

A5.23 As set out in Section 4, we believe PMSE licensees should be able to retune equipment to operate in adjacent channels, provided spectrum is available. We believe retuning will be possible in the vast majority of cases (see Section 4). If frequencies are not available in adjacent channels we will consider alternative solutions on a case by case basis with JFMG.

A5.24 It is also worth noting that previous DTT use of Channel 31 in 2006 (for an HD trial) did not result in any complaints relating to interference from other spectrum users.

A5.25 Therefore, we believe that the costs of the early launch over two to three years are unlikely to be significantly greater than several million pounds.

Benefits

A5.26 Our analysis suggests that the temporary assignment of additional frequencies to enable an early launch of services is likely to have benefits for consumers and the businesses which are far in excess of the costs. These benefits flow from increasing the initial market size which will have knock-on effects for equipment range and availability, prices and take-up. We believe this option will create two linked effects:

- greater coverage in the early years of HD which is likely to lead to an increased number of adopters; and
- greater numbers of adopters which is likely to lead to faster reductions in the price of compatible receiving equipment, which then feeds back into adoption levels (and subsequent multiplex conversions).

A5.27 In assessing the benefits, we examined the impacts of an earlier launch in London (expected to be from late 2009 to DSO in 2012). We assume a London launch could double the initial potential audience, which has the potential to bring considerable consumer benefits. We have considered a simple example over this short period illustrating these benefits which we summarise in Table 1 below.

Table 1: Consumer value of temporarily assigning a London frequency (2009-2012)

		2009	2010	2011	2012	
1	Value of HD (£ per household per month)	5	5	5	5	
2	Months HD available	2	12	12	12[20]	
3	Cost of STB (£)	150	110	90	80	
4	Additional HD adopters (per million households)	0.2	0.4	0.6	0.8	
5	Incremental HD adopters (per million households)	0.2	0.2	0.2	0.2	
6	Additional consumer cost of HD (£m) = Rows 3 * 5	30	22	18	16	
7	Additional value of HD (£m) = Rows 1 * 2 * 4	2	24	36	48	
8	Reduction in STB cost (£)	1	1	1	1	
9	Total HD adoption (per million households)	0.2	0.7	1.5	4.0	
10	Incremental HD adoption (per million households)	0.2	0.5	0.8	2.5	
11	Gain from lower STB cost (£m) = Rows 8 * 10	0.2	0.5	0.8	2.5	
12	**Total Consumer Surplus (£m) = Rows 7 + 11 - 6**	**-27.8**	**2.5**	**18.8**	**34.5**	**NPV 20.6**

Source: Ofcom assumptions

[20]Although services are expected to launch in London in mid 2012 regardless, our assumptions take account of the benefits over a full year period because the impact that earlier adoption will have on set top box prices and take-up, which would not occur under a no early launch scenario, are expected to persist for a period after 2012.

A5.28 We believe that the assumptions used in the example for the level of take-up, consumer value and set top box costs are all plausible. In addition, we note that the example is likely to understate the size of the benefits as it only includes the benefit of the lower set top box costs up until 2012, and fails to factor in that the set top box costs incurred by the additional adopters in London are really just brought forward albeit at a higher per unit cost. Even on this basis, our analysis suggests that the consumer benefit will significantly outweigh the costs during this period (NPV of £20.6m using 3.5% discount rate).

A5.29 The benefits illustrated above also fail to capture the knock on effects of an early launch in London on the rest of the DTT platform. It is likely that the impact of this on the range, availability and crucially the price[21] of receiver equipment (lowering prices more quickly) would be likely to further stimulate equipment take up which will, we believe, have other knock-on effects for the platform as a whole, with additional multiplexes likely to convert to the new technologies sooner than under a no early launch scenario, which would unlock additional capacity on DTT for new services. This view is informed by our discussions with market participants including broadcasters and manufacturers; it takes into account key take up drivers such as the 2010 Winter Olympics and FIFA World Cup, followed by the London 2012 Olympics. This suggests that the actual benefits could be much higher over time, than are shown in the simple example set out in Table 1.

A5.30 Our analysis also suggests that broadcasters and equipment manufacturers will also benefit from the early launch of services – though increased viewing share where the new HD services are broadcast, and through increased consumer equipment sales. We have not sought to quantify these benefits for the purposes of this impact assessment.

Risks of factual case

A5.31 The benefits are lower than forecast above: it is possible that the benefits will be more limited than our stylised example suggests. However, as the benefits even in this stylised example significantly outweigh the costs and given that the stylised example only captures a sub-set of the available benefits (e.g. only captures the impact of reduced set top boxes until 2012) we think there is little risk of the cost outweighing the overall benefits. We also note that discretion is retained by the broadcasters and manufactures over the costs they may incur in launching services or receiver products, and that, in the event that consumer interest is lower than predicted, consumers are unlikely to incur the cost of acquiring additional set top boxes (which is the key consumer cost in the benefits calculation).

A5.32 The costs are higher than anticipated above: the analysis of impacts on existing users is considered to be robust and the contingency arrangements in place, should impacts be greater than anticipated, are proven and likely to be effective here. Discretion is retained by the broadcasters and manufacturers over costs they may incur in launching services or receiver products.

A5.33 Some existing licensees may not be aware of and have an opportunity to respond to this consultation: in line with our usual practice, this consultation is being brought to the attention of parties signed-up for Ofcom's spectrum updates.

[21] Due to economies of scale associated with a larger market, reduced risk to manufacturers and retailers and economies of scale that can be realised from manufacturing for a large initial market.

A5.34 The BBC and other broadcasters may decide not to launch the services: decisions will need to be taken on a case by case basis by the BBC and other broadcasters and, we expect, will need to be commercially justifiable. This consultation does not pre-empt these decisions.

Equality impact assessment

A5.35 A key part of the impact assessment process is to identify the impacts of our policies on different types of stakeholders, including different diversity groups. Under race, disability and gender anti-discrimination legislation, Ofcom has a legal duty to assess the impact of our policies on these three groups. However, in line with current good practice, Ofcom is also committed to assessing the impact of our policies on different age, religious and sexual orientation equality. We recognise that this assessment is a means to determine whether we are meeting our primary aim of acting in the interest of all citizens and consumers, regardless of their background.

A5.36 Our assessment has taken account of this policy being an extension (ie. through an earlier launch) of an existing policy – the DTT upgrade and reorganisation. The process we will use for the temporary assignment of frequencies also forms part of Ofcom's existing procedures.

A5.37 We believe that the framework set out in this document will ensure consumers have more choice and increase access to the new Multiplex B services by its very nature, and will not have any differential impact on the equalities groups mentioned above, particularly with regards to race, disability and gender.

A5.38 We also note that we have sought to ensure that the new services will take account of disability access issues so that viewers with a disability can also take advantage of the new services.

Conclusion

A5.39 We believe that, on the information presently before us, the benefits of an early launch outweigh the costs and risks associated - noting there are existing arrangements in place to address impacts on existing users of the UHF spectrum band. This analysis holds even under a pessimistic scenario where the initial larger market only has an impact on prices and doesn't bring forward the conversion of additional multiplexes to the new technologies. Broadcasters and manufacturers retain significant discretion over whether to commit resources and would be expected to do so only if commercially justifiable.

Question 3: Do you agree with the analysis carried out for this Impact Assessment?

Annex 6

Legal framework

Introduction

A6.1 The main issue raised by this consultation concerns the possible assignment of frequencies in certain geographic areas on a temporary basis. Such assignment would involve the grant of individual rights of use for any relevant frequencies, which matter falls within the common regulatory framework harmonised across the European Community. This annex therefore explains the legislative framework at Community law, as implemented in UK law, within which the frequency assignment framework (as described in Section 3 of this document) would operate.

Regulatory functions

Grant of wireless telegraphy licences

A6.2 One of Ofcom's functions is to manage and regulate the use of the radio spectrum. This function is conferred on Ofcom under the WTA through a system of licensing. It is unlawful to establish or use a wireless telegraphy station or to install or use wireless telegraphy apparatus except under and in accordance with a wireless telegraphy licence granted by Ofcom. However, Ofcom is under a duty to exempt from licensing any such establishment, installation or use that it considers is not likely to involve undue interference with wireless telegraphy.

A6.3 This system is therefore aimed at ensuring that individual rights of use for radio frequencies is granted where it is necessary to do so, as required by Article 5 of the Authorisation Directive.[22] If it is necessary to grant such rights, that Article provides that the grant shall be made upon request but subject to certain other provisions of the Directive (such as Article 7) and other rules ensuring the efficient use of the radio frequencies in accordance with the Framework Directive.[23] Member States are also required to grant rights of use through open, transparent and non-discriminatory procedures, with the exception that specific criteria and procedures may be adopted to grant rights of use to providers of television broadcast content services with a view to pursuing general interest objectives in conformity with community law.

A6.4 In the UK, anyone may therefore apply for individual rights of use for radio frequencies in the absence of any exclusion. Availability will in essence depend on any limitations imposed by Ofcom on the use of particular frequencies for the purpose of securing the efficient use of the spectrum. Such limitations have been imposed, in particular, under the Wireless Telegraphy (Limitation of Number of Licences) Order 2003[24] (the Limitations Order), which implements Article 7 of the Authorisation Directive.

[22] Directive 2002/20/EC on the authorisation of electronic communications networks and services.
[23] Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services.
[24] The Wireless Telegraphy (Limitation of Number of Licences) Order 2003, as amended by the Wireless Telegraphy (Limitation of Number of Licences) (Amendment) Order 2006. This Order was made under section 164 of the Communications Act 2003, now repealed but replaced by section 29 of the WTA.

Relevant limitations

A6.5 Pursuant to article 3 of the Limitations Order, Ofcom will grant only a limited number of wireless telegraphy licences at the frequencies and for the uses specified in Part 1 of each of Schedules 1 to 11 to this Order.

A6.6 As discussed in Section 2 of this document, the UHF bands IV and V range from Channels 21 to 69 (470-862 MHz). These frequencies are specified for the use of transmission of terrestrial UHF analogue TV services and digital TV multiplexes and PMSE in Part 1 of Schedule 1 (470.0-854.0 MHz) and in Part 1 of Schedule 3 (425.3-862.0 MHz), respectively.

A6.7 In relation to those frequencies and uses, Ofcom shall by virtue of article 4 of the Limitations Order:

- apply the criteria relating to the persons to whom wireless telegraphy licences may be granted specified in Part 2 of the Schedule concerned;
- apply the criteria limiting the number of wireless telegraphy licences specified in Part 3 of the Schedule concerned; and
- take into account the ability of each applicant for a wireless telegraphy licence to meet the licence terms, provisions and limitations applying to that wireless telegraphy licence,

in determining the limit on the number of wireless telegraphy licences to be granted and the persons to whom wireless telegraphy licences will be granted.

A6.8 With regard to digital TV multiplexes, Schedule 1 provides that the frequencies are assigned only to the British Broadcasting Corporation (BBC) and persons who possess one of the Broadcasting Act licences specified therein, including digital TV multiplexes under Part I of the Broadcasting Act 1996. Two criteria limiting the number of wireless telegraphy licences apply, namely:

- the availability of wireless telegraphy licences is limited at these frequencies by the technical frequency assignment criteria set out in the Technical Frequency Assignment Criteria for Television and Sound Broadcasting published by Ofcom;[25]
- applicants must undertake to use the assigned frequencies solely for the transmission and reception of signals as part of the broadcasting service as defined in Article 1.38 of the Radio Regulations.

A6.9 For PMSE, no criteria apply as to persons to whom wireless telegraphy licences may be granted. With regard to the criteria in Schedule 3 to the Limitations Order limiting the number of wireless telegraphy licences, there are two:

- the availability of wireless telegraphy licences at these frequencies is limited by the technical frequency assignment criteria set out in Technical Frequency Assignment Criteria—Programme Making and Special Events published by Ofcom;[26]

[25] http://www.ofcom.org.uk/radiocomms/ifi/licensing/classes/broadcasting/tfac/
[26] http://www.ofcom.org.uk/radiocomms/ifi/glines/bas_cg/pmse

- all applications for licences are considered (and the technical frequency assignment criteria applied) in the order of receipt of each correctly completed application form except for the UK Wireless Microphone (Annual) Licence and the UK Wireless Microphone (Biennial) Licence for which the technical frequency assignment criteria do not limit the number of licences.

A6.10 Accordingly, the frequencies in question may be licensed to the specified persons for both digital TV and PMSE, subject to satisfying the criteria discussed above.

Licence process and terms

A6.11 Any application for a grant of a wireless telegraphy licence is, by virtue of section 10 of (and Schedule 1 to) the WTA, to be determined in accordance with procedures prescribed in regulations made by Ofcom. The present regulations[27] prescribe that Ofcom must make a decision (including notifying it to the applicant and publication) on an application for the grant of a licence not more than six weeks after the day of the receipt of the application.[28]

A6.12 The regulations provide that Ofcom must grant licences either in relation to particular equipment or in relation to any equipment falling within the description specified in the licence and expressed by reference to such factors (including factors confined to the manner in which it is established, installed or used), as are described in the licence. They also require that an applicant must complete the licence application form which is appropriate for the class of licence being applied for and must, in particular, provide the information prescribed in the regulations.

A6.13 The regulations also give particulars of the terms, provisions and limitations to which a licence is made subject, including those which are contained in the Wireless Telegraphy Act Licences (Terms, Provisions and Limitations) document published by Ofcom.[29] This publication details the terms, provisions and limitations which apply to each class of licence listed in it, and includes sample licences and, where applicable, the terms and conditions booklets which relate to those licences. However, the class of licence relevant in this context[30] does not appear on that list.

A6.14 Therefore, in light of the specific characteristics proposed to be attached to the frequency assignments discussed in this document (such as the temporary duration and geographical limitations), Ofcom intends to rely on powers contained in the WTA itself. Specifically, section 9(1) of the WTA gives Ofcom the power to grant wireless telegraphy licences subject to such terms, provisions and limitations as Ofcom thinks fit, provided that they are objectively justifiable in relation to the networks and services to which they relate, not such as to discriminate unduly against particular persons or against a particular description of persons, proportionate and transparent to what they are intended to achieve.

[27] The Wireless Telegraphy (Licensing Procedures) Regulations 2006, SI 2006/2785.
[28] This is because the licence would in this context relate to frequencies allocated for use in the United Kingdom Plan for Frequency Authorisation (http://spectruminfo.ofcom.org.uk/spectrumInfo/ukpfa): see 470-854 MHz, Broadcasting Services, Terrestrial TV Broadcast Transmission (UHF Analogue and Digital), and Non-tradable.
[29] http://www.ofcom.org.uk/radiocomms/ifi/wtf/
[30] i.e. Transmission of Terrestrial UHF Analogue TV Services and Digital TV Multiplexes.

A6.15 Such matters may include, for example, a description of the radio equipment that may be installed or used under the wireless telegraphy licence at specific places, the purpose for which, the circumstances in which and the persons by whom it may be used (such as providing the Multiplex B DTT multiplex service), together with any technical requirements (e.g. the frequency in question, the aerial heights and any maximum permitted radiated power). The licence may also contain broadcasting specific terms such as ensuring compliance with requirements in the Broadcasting Act licence for Multiplex B, specific parameters for transmitting sites, the Code of Practice on Changes to Existing Transmission and Reception Arrangements[31], the Guidance Note on Test Transmissions[32], the Technical Performance Code[33], and the Reference Parameters for DTT Transmissions in the United Kingdom[34].

A6.16 With regards to the duration, the WTA also prescribes that a wireless telegraphy licence continues in force, unless previously revoked by Ofcom, for such period as may be specified in the licence.[35]

Licence charges

A6.17 Pursuant to section 12 of the WTA, a person to whom a wireless telegraphy licence is granted must pay to Ofcom either such sums as Ofcom may prescribe by regulations or, if regulations made by Ofcom so provide, such sums (whether on the grant off the licence or subsequently) as Ofcom may determine in the particular case.

A6.18 This power therefore enables Ofcom to recover the cost of administering and managing wireless telegraphy licences. Section 13 of the WTA then permits Ofcom to recover sums greater than those necessary to recover costs incurred if Ofcom thinks fit in the light (in particular) of the matters to which it must have regard under section 3 of the WTA, including promoting the efficient management and use of the part of the electromagnetic spectrum available for wireless telegraphy. Ofcom's policy to spectrum pricing is discussed in Sections 3 and 4 of this document.

A6.19 In light of the above, the Wireless Telegraphy (Licence Charges) Regulations 2005 (SI 2005/1378) provide for fees to be paid to Ofcom but they do not prescribe any specific sums in relation to the class of (broadcasting) licence relevant in this context. However, regulation 6 of these Regulations provides that, where a sum is not prescribed by them (whether on the issue of a licence or subsequently), there shall be paid to Ofcom such sum as Ofcom may in the particular case determine.

Statutory duties

General duties

A6.20 The grant of a temporary assignment of the frequencies considered in this document by means of granting a wireless telegraphy licence would involve Ofcom carrying out one of its functions. As such, it is Ofcom's principal duty under section 3(1) of the CA03 to further the interests of citizens and to further the interests of consumers in markets for any of the services, facilities, apparatus or directories in relation to which Ofcom has functions, where appropriate by promoting competition.

[31] http://www.ofcom.org.uk/tv/ifi/tech/codes_guidance/cop/cop.pdf
[32] http://www.ofcom.org.uk/radiocomms/ifi/licensing/classes/noperational/ofw357nonopguide.pdf
[33] http://www.ofcom.org.uk/tv/ifi/tech/codes_guidance/tv_tech_platform_code.pdf
[34] http://www.ofcom.org.uk/tv/ifi/tech/codes_guidance/dttt_uk2.pdf
[35] Paragraph 5 of Schedule 1 to the WTA.

A6.21 In discharging its principal duty, Ofcom is required to secure a number of specific objectives set out in section 3(2). For reasons set out in Sections 2 to 4 of this consultation document, Ofcom considers that the following objectives are particularly relevant to this consultation:

- to secure the optimal use for wireless telegraphy of the electro-magnetic spectrum;
- to secure the availability throughout the UK of a wide range of TV and radio services which (taken as a whole) are both of high quality and calculated to appeal to a variety of tastes and interests.

A6.22 In performing these duties, Ofcom is also required to have regard to certain matters listed in section 3(4) as appear to us to be relevant in the circumstances. For the purpose of this consultation (as explained in Sections 2 to 4, we consider that the following matters are of particular relevance:

- the desirability of promoting the fulfilment of the purposes of public service television broadcasting in the UK;
- the desirability of encouraging investment and innovation in relevant markets;
- the different needs and interests of everyone who may wish to use the spectrum for wireless telegraphy;
- the interests of consumers in respect of choice, price, quality and value for money.

A6.23 There is no hierarchy in the legislation between the two components of the principal duty in section 3(1), or between the objectives in section 3(2), or between the matters in section 3(4), of the CA03. Rather, Parliament has recognised that Ofcom's duties require it to pursue a range of objectives while taking a variety of matters into consideration and that this was likely to present Ofcom with a need to resolve conflicts between these duties and matters. Therefore, Ofcom has a wide measure of discretion in such circumstances within an overall framework. Thus, in making its present proposals, Ofcom has taken account of its principal duty, the specific objectives and some additional matters in order to arrive at a judgement on the most appropriate option going forwards by weighing the technological as well as economic considerations presently before it, as set out in this consultation document.

Specific Community law duties

A6.24 Section 4 of the CA03 implements Article 8 (policy objectives and regulatory principles) of the Framework Directive.[36] 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 infrastructure and promoting innovation, and encouraging efficient use of radio frequencies. For this consultation, nothing turns on these specific duties as we consider that they overlap consistently with the general duties discussed above.

[36] Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services.

Spectrum specific duties

A6.25 In carrying out its spectrum functions, Ofcom is specifically required by section 3 of the WTA 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.

A6.26 Ofcom must also 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.

A6.27 Where it appears to us that any of our duties under section 3 of the WTA conflicts with one or more of our general duties under sections 3 to 6 of the CA03, we must give priority to our duties under the latter. In Sections 3 and 4 of this document (as read together with our Impact Assessment set out in Annex 5), we discuss our reasons why the proposal set out in this consultation is consistent with Ofcom's statutory duties mentioned above, particularly by promoting the efficient management and use of the spectrum for wireless telegraphy.

Broadcasting Act licence implications

A6.28 This annex discusses above the need for Ofcom to exercise its function to grant a wireless telegraphy licence to give effect to the proposal covered by this consultation, subject to Ofcom considering any responses made to this consultation and then BBC Free To View Ltd submitting an application to Ofcom for the grant of such licence as a person possessing a relevant Broadcasting Act licence for the purpose of satisfying the criteria under the Limitations Order discussed above.

A6.29 Any decision to grant a wireless telegraphy licence would also require Ofcom exercising its separate functions to vary the Broadcasting Act licence granted to BBC Free To View Ltd, which authorises it to provide the television multiplex service under Part 1 of the Broadcasting Act 1996 (known as Multiplex B).[37] The extent to which that licence would need to be varied by Ofcom would be considered following the receipt of any application made by BBC Free To View Ltd for a wireless telegraphy licence following this consultation.

[37] The Multiplex B licence was granted by the ITC on 16 August 2002.