



Digital Switchover and 800MHz Clearance – Management of transitional coverage issues

Consultation

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Section 1

Introduction

- 1.1 In 2005 the Government confirmed that digital switchover (DSO) would occur across the UK on a region-by-region basis between 2008 and 2012. The programme of switchover will involve engineering works being carried out at every one of the UK's television transmitters.
- 1.2 During the period between the start of DSO preparation work in 2006 and the end of DSO roll out in 2012, the implementation of the DSO plan has the potential to cause some interference to the normal reception of the analogue terrestrial services (BBC1, BBC2, Channel 3, Channel 4/S4C and Channel 5), the pre-switchover digital terrestrial television (DTT) services and the six DTT multiplex services as they will be broadcast after switchover on a region by basis.
- 1.3 The licences held by the multiplex operators under the Broadcasting Act 1996 include a condition requiring the broadcasters to comply with a Code of Practice on Changes to Existing Transmission and Reception Arrangements. This Code was originally drawn up by the Independent Television Commission to provide guidance to the broadcasters on how to minimise the impact of the initial launch of DTT in 1998 on analogue viewers.
- 1.4 The Code was updated in 2007 by Ofcom to reflect the likely work involved in DSO and to provide guidance to the broadcasters on the priorities they should adopt when planning and carrying out digital switchover. Since that time, there have been further developments specifically regarding the DTT clearance programme that make it pertinent for Ofcom to revisit the wording of the Code.
- 1.5 In 2009, Ofcom confirmed the UK would align with the emerging European position on clearing the frequency channels 61 to 69 (known as the 800MHz band). Most of these channels have been in use for television broadcasting and the UK had from an early point in DSO planning intended on clearing channels 63 to 68. However, including channels 61, 62 and 69 means that some changes will be required to the UK's frequency plan. While it should be possible to incorporate these changes in some regions at the time of switchover (the "DTT Integration Clearance Programme"), some work to clear the 800MHz band will need to be carried out in regions that have already completed switchover (the "DTT Clearance Retrofit Programme").
- 1.6 Ofcom believes that it is important that any disruption to viewers caused by the implementation of the DSO and 800MHz clearance programmes is minimised, whilst enabling the broadcasters to implement these complex projects in a timely and cost effective manner.
- 1.7 This consultation sets out Ofcom's proposals for how the Code of Practice on Changes to Existing transmission and Reception Arrangements should be revised to achieve these objectives. It is intended to provide clear guidance to the digital multiplex licensees about how they should minimise the impact of DSO and 800MHz clearance on existing analogue and DTT viewers.

- 1.8 Ofcom considers that this is not a matter which involves any fundamental change in policy and is not proposing any change to licence conditions in the multiplex licences. Nevertheless we consider that it is appropriate that interested parties are made aware of the issues and are given the opportunity to comment on the proposed changes to the Code of Practice.

Section 2

Developments since 2007 and clearance of the 800MHz band

- 2.1 The frequency planning process that underpins the UK's switchover plans was described in Ofcom's discussion document "*Digital Switchover – Management of Transition Coverage Issues*" in 2007¹.

At that time, it was envisaged that the phased transition from analogue to digital through the DSO programme may temporarily affect the coverage of existing DTT and analogue services (i.e. until digital switchover is completed) for two main reasons:

- a) DSO preparation work at sites, with the sequence of events being:
 - Several years before DSO, the existing DTT antenna may need to be removed to enable the construction of new DSO-ready antennas (e.g. to make room on the mast).
 - Some of the existing DTT antennas transmit less power in certain directions to protect the reception of services broadcast from existing analogue transmitters, these are known as antenna restrictions.
 - If these restrictions can be removed, it may be possible to transfer the existing DTT services into the analogue antenna whilst the new DSO-ready antenna is built; and then use the new DSO-ready antenna up until DSO.
 - Removing the restrictions on the existing DTT service can increase the risk of interference to the reception of services broadcast from some of the smaller analogue relay transmitters.
 - In cases where this interference is higher than acceptable the alternative will require the construction of a new dedicated antenna for the existing DTT service which maintains the current restrictions. However, these may only be needed for two or three years and the costs may be very high.
- b) The regional roll out timetable, where the sequence of events is:
 - There are several instances where the channels planned for DSO use at one station are the same as those used for existing DTT or analogue at a neighbouring station which is in a different ITV region.
 - As the regions are scheduled to switch over at different times the interference that may be caused by the DSO channels being adopted in one region may affect the reception of existing DTT or analogue services in another region.
 - This potential interference could exist for several years i.e. until both regions have switched over.

¹ <http://stakeholders.ofcom.org.uk/consultations/transition/>

- The interaction could also occur in reverse. That is when services from an existing DTT or analogue station a region which has yet to switch over can cause interference to a DSO station in another region at the point of switchover.
 - This is more likely to occur in the case of relays which use new DSO channels (as opposed to converted analogue channels).
- 2.2 The frequency planning body JPP² was asked to identify those sites where additional interference is predicted to result from the implementation of the digital switchover programme. The JPP has also been asked to identify how this increased interference could be minimised through the use of a variety of techniques including changes in transmission power, the use of temporary antennas and the use of parking channels.
- 2.3 Since 2007, the JPP has worked to identify potential interference interactions and together with the broadcasters and Digital UK, has planned appropriate mitigation techniques. As of early 2010, around fifty significant predicted interactions have already been successfully dealt with and passed in the switchover programme without giving rise to widespread difficulties for viewers.

800MHz band clearance

- 2.4 Digital television transmission is much more efficient in its use of the spectrum than analogue television. Digital switchover not only offers viewers a wider range of programmes to watch, but also provides the opportunity to release some of the spectrum historically occupied by television broadcasting. This cleared spectrum, known as the digital dividend, can be used to provide new services such as mobile communications, wireless broadband, or perhaps additional television services, either in standard or high definition.
- 2.5 The UK was one of the first countries to confirm its intention to undergo digital switchover in 2005. Our plans at that time included clearing fourteen frequency channels known as channels 31 to 40 and 63 to 68 (channels 36 and 38 have been in use for purposes other than television broadcasting that either have or will also soon cease). Detailed plans for switchover in the UK were developed on that basis and the process of equipment procurement and installation commenced by the broadcasters.
- 2.6 During 2008 it became clear that a number of other countries in Europe were also beginning to plan for their own digital dividends. A picture emerged from Europe that envisaged clearing the higher frequency channels 61 to 69³ which are closest to those used by mobile communications services. This range of frequencies is known as the 800MHz band.
- 2.7 While the UK had already planned to clear most of the 800MHz band frequencies, we were not planning to clear channels 61 and 62. Although the UK had already commenced the process of switchover, it was recognised that there would be a number of benefits if countries in Europe cleared the same frequencies. Following a

² Joint Planning Project - the group responsible for planning the switchover frequency plan. The group is chaired by Ofcom and includes representatives from the broadcasters, multiplex operators and Digital UK.

³ Channel 69 is at present used by wireless microphones in the UK.

public consultation, Ofcom confirmed in 2009 that the UK would align with the emerging European approach and clear channels 61 to 69⁴.

- 2.8 Aligning with the European position will involve making changes to the frequencies planned to be used by some of the UK's transmitters. The ideal situation would be for these changes to be made at the same time as switchover occurs. However this is only likely to be possible in the latter switchover regions as procurement and installation of digital transmitter equipment runs one to two years ahead of switchover. Changes will therefore be needed in a number of regions after switchover has completed. Licensees will be able to apply for a grant to cover the reasonably incurred additional costs of clearing channels 61 and 62⁴.
- 2.9 Approximately half of the UK's transmitters are potentially affected by clearing DTT channels 61 and 62. Therefore, in a similar fashion to DSO, the implementation of clearance, which will also be done on a phased basis, may cause some temporary disruption to the normal reception of digital terrestrial television services by a relatively small number of viewers in the same or adjacent regions. In practice the actual impact on viewers will be very much less than for DSO as:
- Some of the clearance changes will be integrated with the switchover programme (this is known as "the DTT Clearance Integration Programme") and will therefore be dealt with at the same time as switchover
 - At sites where changes have to be made after switchover (this is known as "the DTT Clearance Retrofit Programme"), only one or two DTT multiplexes will need to change frequency (although there may be short term impacts on other multiplexes while engineering work is carried out)
 - In the large majority of cases, no changes will be required to the broadcast antennas already installed at transmitters for DSO
 - Viewers will already have made the necessary aerial and equipment changes to receive digital services and should only need to retune their receivers when frequency changes have been made.
- 2.10 Nevertheless, there remains the possibility that some of the temporary effects on coverage outlined above in paragraph 2.2 which arise as a result of the transition from analogue to digital-only coverage may also occur as a result of the DTT Clearance Programme which is also being carried out on a phased basis. The JPP has therefore been asked to deal with potential interference interactions between broadcast transmitters that may arise from the 800MHz clearance programme in a similar fashion to those that may occur through the process of DSO and to aim to minimise the consequential impact on viewers.

For the avoidance of doubt, the proposed amendments to the Code do not intend to address issues which may arise from the future use of the 800MHz frequency band by new users, rather it is concerned with temporary disruption caused by the phased implementation of clearance of the 800MHz frequency band through the DTT Clearance Programme.

⁴ For further details see Ofcom's Statement "Digital Dividend: clearing the 800MHz Band", June 2009 (<http://stakeholders.ofcom.org.uk/consultations/800mhz/statement/>)

Section 3

Proposed Ofcom Action

- 3.1 The Code of Practice has been working well in providing guidance to the broadcasters during switchover in the early switchover regions. The existing wording is however based upon protection of analogue and pre-switchover DTT services. As some of the 800MHz clearance work will be carried out after switchover, to reflect and give guidance on the most appropriate way to mitigate the possible impacts in post switchover regions where analogue television is no longer being broadcast, we propose to make changes to the Code wording.
- 3.2 A revised Code has therefore been prepared and a copy is attached to this consultation. The existing multiplex licences already require that the licensees adhere to the Code as revised from time to time. Hence the key issue being considered is whether the provisions of the proposed revised Code relating to the 800MHz clearance work, as drafted, represent an appropriate way of managing this issue.
- 3.3 The proposed changes to the Code are summarised below:
- In post switchover regions two new categories of viewers are introduced to reflect the absence of analogue television services (sections 4.2 and 4.3)
 - Clarifications to the footnotes in section 5
 - A new section dealing with the priorities that broadcasters should adopt when planning and implementing the 800MHz clearance work in post switchover regions has been introduced (section 6)
 - Ofcom's view is that the broadcasters should use a variety of mitigation techniques to minimise the impact of switchover and 800MHz band clearance on viewers within the four priority groups. A new section dealing with potential mitigation measures arising as a result of the DTT Retrofit Programme has been introduced for post switchover regions (Section 8)
 - Consequential changes to the Introduction and Regulatory Principles Sections (paragraphs 1.3-1.4, 2.7-2.10, 3.1, 9.1).
- Other provisions of the Code remain unchanged.
- 3.4 Ofcom is publishing this consultation together with the draft revised Code in order to facilitate a discussion on its proposed approach. A key issue Ofcom would welcome views on is whether the Code as currently drafted provides a suitable means of managing this complex issue.

Question: Do you have any comments on Ofcom's proposed revisions to the Code of Practice on Changes to Existing Transmission and Reception Arrangements?

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 6 October 2010**.
- A1.2 Ofcom strongly prefers to receive responses using the online web form at <http://stakeholders.ofcom.org.uk/consultations/code-of-practice/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 copupdate@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.

 Peter Madry
 Spectrum Policy Group, 3rd Floor
 Riverside House
 2A Southwark Bridge Road
 London SE1 9HA

 Fax: 020 7981 3333
- 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 on you.

Further information

- A1.7 If you want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact Peter Madry on 020 7783 4325.

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 intends to publish a statement in late 2010.
- A1.12 Please note that you can register to receive free mail updates alerting you to the publication 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 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.
- A1.15 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

☐

Name/contact details/job title

☐

Whole response

☐

Organisation

☐

Part of the response

☐

If there is no separate annex, which parts?

If you want part of your response, your name or your organisation not to be published, can 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 question

- A4.1 Ofcom has proposed making some changes to the Code of Practice on Changes to Existing Transmission and Reception Arrangements. These changes are intended to provide guidance to broadcasters when planning and making changes to their transmitter networks relating to the clearance of the 800MHz band.

Do you have any comments on Ofcom's proposed revisions to the Code of Practice on Changes to Existing Transmission and Reception Arrangements?

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 Act).
- 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 Act, which means that generally we have to carry out impact assessments where our proposals would be likely to have a significant effect on businesses or the general public, or when there is a major change in 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://stakeholders.ofcom.org.uk/binaries/consultations/better-policy-making/Better_Policy_Making.pdf

The citizen and/or consumer interest

- A5.4 Digital switchover will make available a significant amount of UHF spectrum that can be made available for new uses. This is an issue of major interest to citizens and consumers, since the spectrum could be used by a wide range of services offering substantial benefits to UK citizens and consumers, and hence value to society. The UK's decision to align with the emerging European position in clearing the 800MHz band frequencies offers further benefits with the potential for new services using those frequencies to be available in more than one country.
- A5.5 However, the implementation of the digital switchover programme and the clearance of the 800MHz band also have the potential to cause some temporary disruption to the coverage of some television services for some viewers. It is therefore in the viewers' interest that Ofcom provides clear guidance to the broadcasters regarding what reasonable steps should be taken to minimise any such disruption.
- A5.6 The existing Code of Practice has worked well in providing guidance on managing the impact of switchover on UK citizens and consumers. The proposed update to the Code of Practice contained in this consultation is in Ofcom's view an appropriate and proportionate way of managing the potential impact that the phased clearance of the 800MHz frequencies may temporarily have on UK television viewers.

Ofcom's policy objective

- A5.7 Ofcom's objective is to establish a framework which will enable the broadcasters to implement the process of clearing the 800MHz band and enable them to implement

digital switchover to the timetable set out by government, whilst guidance on how viewers' interests should be taken into account by the broadcasters in their implementation of these programmes.

A5.8 Ofcom has considered three different ways by which this process could be managed:

- Option 1: Provide no additional guidance to the broadcasters
- Option 2: Provide an updated Code of Practice to the broadcasters, identifying how best to manage any temporary disruption to services as a result of the work being carried out to implement the 800MHz clearance programme.
- Option 3: Require the broadcasters to ensure that no viewer suffers any disruption to their service as a result of the additional work carried out in order to implement the 800MHz clearance programme.

Analysis of the different options

A5.9 The broadcasters have asked for clarity over the over the level of protection that they are required to afford to viewers while carrying out 800MHz clearance work. Adopting Option 1 would not improve clarity for the broadcasters with the result that their plans would continue to carry a greater degree of uncertainty (and therefore a greater allowance for risk and higher attendant cost) than would otherwise be the case.

A5.10 The adoption of Option 2 represents an approach that is consistent with that adopted for DSO, and which it considers has worked well in practice. This also strikes a balance between allowing some disruption to viewers whilst enabling the broadcasters to carry out works in a timely and cost effective manner.

A5.11 The adoption of Option 3 is likely to significantly increase the costs of the 800MHz clearance work and may well result in delays to the implementation programme. Whilst this may ensure that viewers experience minimal disruption, this is likely to delay the benefits the release of the 800MHz spectrum is expected to yield for the UK economy and UK consumers.

The preferred option

A5.12 Ofcom's strong preference is that it adopts the proposed updated version of the Code and engages with the broadcasters to ensure its effective implementation.