Response to Ofcom call for input

Managing the effects of 700MHz clearance on PMSE and DTT viewers

13 May 2016

This response is submitted by Digital UK on behalf of its Members – the BBC, ITV, Channel 4 and Arqiva - the holders of the terrestrial Broadcasting Act and Wireless Telegraphy Act licences.

1. Introduction

1.1 About Digital Terrestrial Television (DTT)

Digital Terrestrial Television (DTT) is the UK's most popular TV platform. At the heart of DTT in the UK is Freeview – a universally available service offering a range of more than a hundred free-to-air TV, radio and text-based services. It is watched in more than 19 million homes, three-quarters of the total. Freeview is the sole television platform in more than 10 million homes.

Prior to digital switchover (DSO), more than four million UK households could not access Freeview and elsewhere signal strength was variable. Thanks to industry investment in excess of a billion pounds, switchover made Freeview available to 98.5 per cent of homes.

1.2 About Digital UK

Digital UK supports the UK's terrestrial TV service and its viewers.

We are responsible for day-to-day operational management, including the Freeview electronic programme guide, and lead on developing platform strategy, working with our broadcast partners and industry. We also provide viewers with information and advice about terrestrial TV channels, services and reception.

In September 2015 Digital UK and Freeview launched 'Freeview Play', the new connected TV service which seamlessly delivers on-demand content alongside linear broadcast channels.

Digital UK is owned by the BBC, ITV, Channel 4 and Arqiva.

2. Summary response

Digital UK welcomes the opportunity to comment on the proposals put forward by Ofcom in this call for input. As Ofcom is aware, we are playing a central role in the technical co-ordination of the 700MHz clearance programme and are able to draw on extensive experience of supporting DTT viewers. We are therefore well placed to understand the potential impact on DTT homes as a result of this policy and recommend effective mitigation measures.

A key consideration in developing policy to support viewers through this change should be the importance not only of DTT but of television as a whole. Despite the plethora of entertainment sources now available, television remains most people's main leisure activity, watched on average for more than three-and-a-half hours every day.[1] In Ofcom's own words, DTT is the 'cornerstone' of the UK television landscape [2]. DTT is watched in nearly 20 million homes and plays a major role in the health of public service broadcasting (PSB) – both commercial and publicly funded. DTT delivers a larger share of BBC viewing than any other platform[3] and a substantial share of commercial PSB TV channel revenues.[4] While we consider the 700MHz clearance programme to be a manageable challenge, it inevitably poses real risks for significant numbers of viewers and for the DTT platform.

Clearance of the 700MHz band differs from digital switchover (DSO) in particular in that there is no direct benefit to either broadcasters or viewers and the potential for some disruption. For the vast majority of viewers this will be modest, but as Ofcom makes clear, for a minority of viewers there is a risk of more significant disruption and potential loss of service.

Digital UK therefore agrees that there needs to be an appropriate viewer support scheme in place that ensures viewers who need help are supported through the process and unnecessary disruption is avoided. We believe this scheme needs to be designed so that it is flexible, targeted, effective and offers value for money. We are also clear that the costs of this scheme must be met by the beneficiaries of clearance, either the Government or by the MNOs which utilise the released spectrum.

We also agree with the estimate that between 140,000 and 270,000 homes may require aerial replacement or re-alignment. We would, however, urge all parties concerned to treat this figure with some caution owing to its theoretical nature and to support flexible plans which can adapt as the programme rolls out and the real-world effects can be measured.

We share Ofcom's view that there will need to be good integration of the different elements of viewer support to ensure efficient and cost-effective delivery. However, it remains unclear at this stage how those elements are to be funded and procured and by whom. We feel clarity in these areas would benefit the planning process.

We would highlight the following points in our response:

I. This programme presents new viewer support challenges and risks

While it is understandable that Ofcom draws comparisons with digital switchover, the subsequent clearance of the 800MHz band and the current 4G mitigation programme, the clearance of the 700MHz band may have a sudden and significant impact on some viewers which needs to be reflected in the viewer support policy. In particular, we are concerned about the risk to viewers who may experience loss of some or even all their DTT channels as a result of clearance and require prompt aerial replacement or re-

[1] BARB Trends in television, 2015
[2] Ofcom: The Future of Free to View TV, 2014
[3] BARB 2016
[4] Ofcom Communications Market report 2015

alignment. This clearance differs significantly from DSO for which householders could readily establish whether they needed to upgrade to digital TV and could do so for significantly less than the cost of a new aerial. It is very difficult for viewers to determine whether they have a grouped or wideband aerial, or to anticipate coverage changes. For these reasons, we would urge Ofcom and Government to agree proposals we have put forward to conduct a pilot clearance event later in 2016. (Question 2)

II. Viewers will expect appropriate support

While recognising that use of public funding must be efficient, targeted and proportionate, an effective viewer support scheme encompassing the provision of information and practical help will be vital if Government and Ofcom are to achieve their clearance programme objective of minimising disruption. As the body providing day-to-day support to DTT viewers, we are concerned that there is provision to ensure appropriate measures so everyone affected understands what is happening and viewers' expectations for appropriate support are met. We agree that provision of information and financial assistance are the key elements of viewer support and that policy in this area is ultimately a matter for Government. (Question 3)

III. Beneficiaries of clearance should fund viewer support, not broadcasters

Public funding has already been set aside to support viewers so we do not agree with Ofcom that broadcasters – who like viewers, gain no benefit from clearance – could 'in principle' be asked to fund a viewer information campaign. Ofcom and Government committed to carrying out 700MHz clearance so that spectrum could be auctioned for mobile broadband uses and the proceeds will be returned to Government. It is right that beneficiaries of the auction fund any viewer support. Broadcasters have a legitimate expectation to be left in the same position they would have been in without clearance taking place – a principle which underpins the existing arrangements to reimburse the full costs they are incurring for making changes to DTT infrastructure. For viewers, the situation is no different to other state infrastructure projects in which a minority suffer for the sake of the public good. DTT viewers who suffer significant disruption will expect appropriate support to be provided. Any attempt to require broadcasters to fund aspects of viewer support could also lead to negative consequences such as delays to 700MHz clearance and to realising the full benefits. (Question 9)

IV. Additional viewer information will be required in some areas

Ofcom suggests that on-screen messages and online information will be sufficient to inform viewers. We suggest that additional measures, including pre-clearance test signals and local advertising, would be beneficial on a targeted basis in areas where post-clearance reception issues are most likely to occur. (Question 10)

V. Viewer support will need to be targeted where possible

We agree with Ofcom that a multi-layered triage process could effectively differentiate between pre-existing reception issues and those directly attributable to 700MHz clearance. We recognise that a publicly funded scheme must effectively distinguish between these groups and focus only on those affected by clearance. (Questions 12 and 13)

Finally, we would like to emphasise our general support for the objectives set out in the call for input. The clearance of the 700MHz band is a major infrastructure project in the national interest and we consider it to be important that the programme runs smoothly. We note Ofcom's decision to make a small but significant change in this regard, replacing the previously stated aim: 'To minimise disruption to DTT viewers'[5] with a more qualified objective: 'To avoid *undue* disruption to DTT viewers' (our italics).

While some disruption is inevitable when making changes of this type and on this scale, we hope both Ofcom and Government remain fully committed to minimising disruption and ensuring that viewers are provided with the appropriate levels of support they will reasonably expect.

[5] The most recent example of this wording appeared in Ofcom's consultation document 'Maximising the benefits of 700 MHz clearance', 11 March 2016, para 2.2.

2 Responses to questions

Question 1: Do you agree with our assessment of the number of viewers that will need to retune?

We agree with the high level estimate that between 14 million and 20 million homes will need to retune. Following our most recent analysis of the technical plans, we believe that the number of homes affected is towards the top end of that range.

This figure includes homes required to retune in order to maintain access to the two DVB-T2 multiplexes currently broadcast in the 600MHz band. Coupled with the potential use of test signals in some areas, up to three retunes may be required for some households. On each occasion at least a basic level of viewer communication and advice will be required.

Planning for retune events on this scale will also involve extensive liaison with all the operators on the DTT platform including Freeview, YouView, BT, TalkTalk and EE. It will be essential that co-ordination is put in place to ensure viewers receive consistent information from these and other DTT stakeholders, including housing providers, retailers, installers and channel providers.

Question 2: Do you have any comments on how viewers will find the retuning process and whether there are particular groups of viewers which will require greater consideration/assistance with the process? What help might they need?

With targeted communications and support we agree that retuning is now a manageable process for most DTT viewers. Ahead of any major platform change, the provision of timely, accurate information is essential to avoiding viewer confusion which can lead to disruption and higher costs elsewhere, for example by increasing contact centre call volumes and complaints.

This clearance event is different to 800MHz clearance where generally only one or two multiplexes changed frequency. With this more severe impact at 700MHz clearance we expect viewers to react more rapidly and in larger numbers than in previous cases.

We also agree that some viewers will require additional assistance to manage a retune. Less technically confident viewers may require phone or online assistance or in some cases will seek help via a local retailer or installer. In areas of overlapping signals, viewers may need to conduct a ‘manual retune’ to select the frequencies for their desired TV region. In these situations, the process may take longer and require a higher level of support from a contact centre or website.

In some cases, viewers will find retuning does not restore their channels due to aerial issues or coverage changes resulting from clearance. These viewers are likely to require a higher level of advice and support to restore their service.

The impact on Multi-Dwelling Units (MDUs) will also be a consideration, as was the case for DSO. Advance notification will be required to social housing landlords and care homes and others who may have communal aerial systems that may need retuning, channelised components replaced or the aerial adjusted.

Question 3: Do you have any information to suggest that our estimate for the number of households that will need to replace their aerials should be different?

In the absence of evidence from actual clearance events in the 700MHz band, we agree with the range estimated between 100,000 and 160,000 households. Other detailed technical

analysis of Ofcom's Manchester Aerial Performance Survey by Digital UK and the BBC has produced predictions within Ofcom's range.

Given the complexities of predicting the number of aerial replacements required, we would urge Government and Ofcom to support our proposals to run a pilot event later in 2016. A pilot clearance event would enable the following to be tested:

- The effectiveness of test signals to pre-identify 'at risk' homes using grouped aerials
- The scale and nature of viewer impacts in areas where grouped aerials are in use
- The effectiveness of viewer communications
- The triage process and referral to a help scheme
- The operation of a help scheme

We believe the use of pre-clearance test signals in the largest urban areas could be a vital way of de-risking one of the programme's major challenges – namely how to manage sudden, large-scale loss of popular channels such as BBC One, ITV and Channel 4 and potentially unmanageable levels of demand for aerial replacement and realignment. A pilot and evidence from the first phase of actual clearance events will provide important real-world evidence to support effective and cost-efficient approaches to this issue for the remainder of the roll out.

While the overall proportion of households forecast to be adversely affected is relatively small, these impacts will be concentrated in particular areas. For example, if Ofcom's forecast is applied to the Winter Hill transmitter group in North West England, between 35,000 and 60,000 DTT main set households could require a replacement aerial following clearance. Even smaller transmitter groups such as Oxford could see between 5,000 and 9,000 DTT main set households adversely affected if Ofcom's forecasts are correct.

Without such preparation and planning, we believe this scenario poses a serious risk of significant viewer disruption, blank screens and reputational damage to the DTT platform and all the parties involved in clearance. The ability to pilot the use of pre-clearance test signals could prove vital to the delivery of a smooth transition in larger urban centres by phasing demand for a limited pool of aerial installers over an eight-week period during which viewers would retain access to all channels.

We note that Ofcom has highlighted the 11 main areas affected by Group C/D aerial issues among the top 50 transmitters. We would note there are at least a further 14 sites where Group C/D aerials are likely to be in use. While inclusion of these sites does not affect Ofcom's overall forecasts, they should be included in programme planning (see Appendix A).

Separately, we welcome Ofcom's recent work to encourage aerial installers to fit wideband rather than grouped aerials. In addition to a pilot, we recommend Ofcom conducts an evaluation of these efforts and establishes the level of any ongoing grouped aerial installation, particularly in forthcoming clearance areas.

Question 4: Do you have any information relevant to our assessment of the average cost of an aerial replacement?

We agree with the £150 estimate for a typical aerial replacement. This is consistent with reports we have received from the Confederation of Aerial Industries (CAI) and other industry sources. We have also been advised by the CAI that there can be significant regional variations in the cost of aerial work and that more complex installations may cost significantly more than £150.

Question 5: Do you have any evidence as to what proportion of viewers may struggle to bear the cost of an aerial replacement?

It is important to note that this cost of aerial replacement is considerably more than was faced by viewers at switchover to convert to digital TV, which could cost £30 or less and provided a significant increase in channel choice.[6] Replacing an aerial costs significantly more and yields no tangible benefit to the viewer.

As we make clear in our response to Question 9 below, we believe viewers will not expect to have to fund aerial a replacement required as a result of spectrum changes which they have neither asked for nor caused and which deliver them no benefit as viewers. Being forced to pay to restore their DTT service would inevitably have a significant impact on the finances of many households, especially those on low incomes.

Affordability issues linked to aerial replacement is likely to be two-fold:

I. **The high cost -** £150 is a considerable sum of money to find for many households, particularly those on low incomes. The Department of Work and Pensions estimates that 21 per cent of the general population and 27 per cent of disabled people live on low incomes.[7]

II. **The abrupt impact -** in most cases, viewers will not know in advance that they will lose access to their TV service. In such instances many, even those on average incomes, may struggle to find the necessary funds at short notice.

These issues of affordability in the context of changes from which viewers derive no benefit may also cause disruption to the smooth delivery of clearance in the form of public complaints leading to media and political pressures on the programme.

Question 6: Do you have any information to suggest that our estimate of the number of viewers that may need to repoint their aerials should be different?

We broadly agree with Ofcom's estimate that current modelling suggests between 40,000 and 110,000 households may need to have their aerials re-aligned to restore their DTT services following clearance.

We would, however, caution that this area is the subject of on-going analysis to assess the impact at an individual transmitter level and could change as a result.

We would also recommend that Ofcom considers options to reduce this impact by the introduction of network mitigation measures, such as the construction of small relay transmitters to restore coverage. We think it is important that these options and their potential to reduce costs elsewhere in the programme, notably in relation to viewer support, should be fully explored.

Question 7: Do you have any information relevant to our estimate of the cost of aerial repoints or platform changes?

Our discussions with industry suggest that a straightforward aerial repoint is likely to be charged as a service fee of around £50. As set out in our answer to Question 4, the CAI has informed us that considerable regional variations in price exist. We have also been advised by the CAI that, in some cases, corrosion of fixings and brackets requires an aerial to be

[6] Your guide to the digital switchover, Digital UK, 2010.
[7]. Households Below Average Income, DWP.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/437246/households-below-average-income-1994-95-to-2013-14.pdf

replaced. The cost of restoring DTT service for households that require repointing will therefore be above £50 in some cases.

Question 8: Do you have any evidence as to what proportion of viewers may struggle to bear the cost of an aerial repoint or platform change*?*

As with our answer to Question 5, we believe viewers will not expect to have to fund aerial changes required as a result of spectrum changes which they have neither asked for nor caused and which deliver them no benefit.

While aerial repointing costs may be less on average than those for aerial replacement, the lowest income households may still struggle to meet an unexpected bill of this size at short notice. In cases where clearance removes a household's DTT coverage altogether and a platform change costing on average £220 is required, we believe a significant proportion of households would struggle to meet this cost.

Question 9: Are there any other matters the viewer support scheme should cover?

For the reasons set out above, an effective viewer support scheme will be vital to achieving the objective of minimising disruption during delivery of these clearance events. As the lead body providing day-to-day advice to DTT viewers, we are concerned to ensure appropriate measures are in place, that viewers understand what is happening and that they are able to access the support they need.

We agree that provision of information and financial assistance are the key elements of viewer support and that policy decisions in this area are ultimately a matter for Government.

However, we disagree with Ofcom's suggestion that a viewer information campaign 'could in principle be funded by either broadcasters or the Government'. We do not agree that broadcasters should be asked to fund aspects of viewer support for an imposed change of this kind. Broadcasters have a legitimate expectation to be left in the same position they would have been without clearance taking place – a principle which underpins the existing arrangements to reimburse the full costs they are incurring for making changes to DTT infrastructure.

Any suggestion that broadcasters could be required to fund aspects of 700MHz clearance goes against the principles of the programme. The 2015 Budget statement was clear that the £600m[8] allocated for 700MHz clearance programme included 'supporting consumers'.

Like broadcasters, DTT viewers gain no benefit from this change. Those who suffer significant disruption will expect appropriate support to be provided. This is especially true because some viewers will be disproportionately affected by 700MHz clearance.[9]

Providing help for viewers would be no different to other state infrastructure projects in which a minority suffer for the sake of the public good. For example, home-owners forced to vacate their properties to make way for new roads or rail lines are eligible for compensation. Ofcom and Government committed to carrying out 700MHz clearance so that spectrum could be auctioned for mobile broadband users and the proceeds will be returned to Government. It is right that beneficiaries of the auction fund any viewer support which will help ensure a smooth clearance and timely auction for mobile.

[8] This figure was reduced to £550m in the 2015 Autumn Statement largely due to reductions infrastructure cost forecasts.

[9] Ofcom have recognised that the benefits of clearance will flow to mobile users and 'some categories of DTT viewers are less likely to use these services.' Ofcom. 'Consultation on future use of the 700 MHz band' 28 May 2014. (paragraph 3.18)

Without adequate funding to support consumers there is potential for additional governance, planning and delivery complexity in the programme which in turn risks inefficiency and higher costs. Work has continued to date with an assumption that there will be funding from Government for both infrastructure costs and an appropriate viewer support scheme. If Government decided not to fund an appropriate help scheme this would create complexity in agreeing implementation decisions with a potential impact on both infrastructure costs and levels of viewer disruption. For example, to minimise viewer disruption the programme could be planned over a longer timescale and involve a higher infrastructure spend. Incentives would be changed in the discussions on how to re-plan the 1,000+ transmitters, each of which has the potential to delay the project plan.

Equally, if government were to require funding from broadcasters it could have a detrimental impact on viewers if funds were diverted from broadcasters' programme investment.

Ofcom notes (paragraph 3.3) that for DSO most viewers were expected to fund equipment changes themselves. We do not consider this an appropriate comparison. DSO was a major infrastructure programme in the national interest but unlike 700MHz clearance in that viewers and broadcasters benefitted along with Government and the mobile sector. Viewer benefits included up to 40 channels as well as additional features and functionality available in some areas for the first time as a result of switchover.

We would expect that viewer support would be subject to value for money testing and targeted wherever possible only to those viewers directly affected by 700MHz clearance (See Q10 and Q12).

Question 10: Are there any other elements a viewer information campaign would need to include? Do you have any comments on or further evidence to inform the above estimates of the cost of providing information and advice to viewers? Please provide supporting evidence for any adjustments that you think may be relevant.

This clearance differs from DSO, the subsequent clearance of two channels of 800MHz spectrum and the recent 4G mitigation programme. The information campaign for the 700MHz clearance needs to be tailored to address its specific impact.

The case for tailored communications

The central objective for a successful communications campaign is to ensure adequate consumer awareness that changes are taking place and to clearly signpost help for those who may need it.

Unlike previous programmes, viewers will have markedly different experiences depending on where they live and the kind of aerial they are using:

- Most viewers will only be required to perform a basic retune after which their DTT service will return to normal. While a minority of viewers may struggle with this process, our experience suggests that as long as adequate support is available, it is a manageable issue.

- A minority of viewers may experience post clearance reception problems. This could range from a complete loss of reception through to occasional picture break-up.

Based on these different experiences we consider a tailored and targeted approach to communications is more appropriate rather than the 'one size fits all' model as put forward by Ofcom.

A core information campaign

A campaign similar to that put forward by Ofcom would be appropriate for most areas where no significant problems are anticipated. However, it takes no account of additional communications to the housing, retail or installer sectors (see Q2). It also does not address any communications with the local media and stakeholders, including elected representatives. As Ofcom will be aware from its dealings in areas such as Thanet in Kent, television coverage problems can prompt public complaints and campaigns which are often taken up by MPs and the local media. Taking pre-emptive steps to ensure information about what is happening and sources of help is available to these and other groups could be an important measure to help manage problems should they occur.

Ofcom's cost estimates also omit research. Consumer research would provide valuable insights as to the effectiveness of the information campaign and create the potential to make efficiencies.

Ofcom recommended the following communications:

- On-screen messages
- A website offering detailed information and a postcode checker
- An advice line
- Charity engagement

In addition, Ofcom should consider the potential of the following measures to reduce viewer disruption and deliver further efficiencies:

- Housing/retail/installer sectors information
- Local media and stakeholder information
- Research to ensure effectiveness and value for money

This basic combination of communications and research was used successfully for 800MHz clearance events, typically generating awareness of the need to retune of 70-80%.[10] On-screen messages generated the greatest awareness followed by editorial sources such as local TV news or newspaper coverage.

An upweighted campaign model for some areas

Ofcom should consider the benefits of adjusting a core campaign in areas where reception problems are anticipated or test signals are used to identify homes likely to need to replace their aerials. In particular, we would recommend ensuring that 'at risk' households are provided with an alternative source of information to on-screen messages. We do not believe reliance on TV messages is appropriate for those who may be left with a blank screen and therefore unable to access the information after clearance has taken place.

In line with the overall programme objective of minimising disruption to viewers[11], we would recommend a targeted approach which focuses additional information as far as possible to households most likely to experience problems. While most grouped aerials are expected continue working after clearance, technical modelling currently underway is likely to show particular postcode areas where clearance-related problems are forecast.

This approach would differ from that currently being used to warn viewers about potential 4G interference. The 4G roll out has required widespread multiple mailings to viewers without certainty of when new mobile services are being switched on. In the case of clearance, it would

[10] Ipsos MORI research for Digital UK, 2013

be possible to target to information to postcodes served by particular transmitters and time the delivery accurately to the changes taking place. This approach would prevent over-communication to households unlikely to experience reception issues and ensure a more efficient use of resources. Local advertising, direct mail and charity engagement should all be considered as effective methods of targeting particular areas and could be tested as part of any pilot clearance event.

Question 11: Do you have any comments on information which is relevant to our assessment of the potential costs of administering a help scheme?

It is difficult to comment on the estimate of £1m to £4m for administrative costs of a help scheme without a confirmed Government policy in this area.

We do agree with Ofcom's emphasis on the importance of good co-ordination between the parties involved in delivering viewer support and in the interests of simplicity and efficiency would recommend a single point of contact for all viewers, including those requiring aerial replacement.

Question 12: Do you have any further evidence to further inform our assessment of the likelihood of viewers that suffer from un-related pre-existing reception problems erroneously making claims against a 700MHz help scheme?

We recognise the need to ensure that publicly funded measures to help restore viewers' television services must be effectively targeted and limited to those affected. We believe that while DTT viewers experience occasional reception problems, in common with all TV platforms, it will be possible to differentiate between these everyday issues and those caused by clearance.

The Kantar research carried out for Ofcom suggests that, as with pay platforms, around a third of DTT viewers may experience occasional reception issues. It also indicates that DTT viewers are more likely to tolerate reception issues than those who pay for support via a subscription to providers such as Sky or Virgin. While we would not dispute that such variations exist, we do feel care needs to be taken to reflect the fundamentally different nature of consumer expectations of a horizontal platform like DTT.

Unlike vertically integrated pay operators, the DTT market creates a number of sources of help, including multiple broadcasters, operators on the platform, retailers and manufacturers. Digital UK and Freeview do not have a commercial relationship with DTT viewers but do act as the hub of this network, fostering co-operation among all the parties involved, resolving viewer problems or guiding them to alternative sources of help. Our most recent qualitative research in this area suggests that the range of DTT support options available generally meet, and often exceed, viewer expectations.

We believe there are two key ways to ensure resources are focused on problems arising from clearance. These involve reducing the current pool of DTT viewers living with low-level reception issues and implementing a multi-layered triage process which clearly identifies those households suffering problems directly attributable to 700MHz clearance.

<u>Reducing the current pool of DTT viewers living with low-level reception issues</u>

Digital UK operates as the hub of viewer support for the DTT platform. We are working with a range of partner organisations to boost awareness of sources of help for viewers and encouraging anyone with reception problems to come forward. As a rule, we are able to resolve reception issues for nine-out-of-ten viewers who get in touch.

Measures recently adopted include:

I. A new information page at channel 100 in the Freeview TV Guide promoting the Freeview Advice Line

II. Promotion of the advice line service via the front page of the Freeview website which attracts up to 2m visitors a month

III. 'Leave behind Freeview help cards' issued to:

- Retail field agents employed by Freeview who visit retailers across the country; and
- Installers employed by at800 to provide viewers who have issues not related to 4G interference with details of where to go for help

IV. Developing our consumer support network and building closer working relationships with platform partners and the aerial installer industry.

A multi-layered triage process

We agree that there will need to be an effective multi-layered triage process in place to differentiate between 700MHz issues and those caused by pre-existing problems.

While the precise nature of any support and triage has yet to be decided, it seems likely there will be multiple opportunities to identify those suffering reception problems as a result of clearance.

These include:

Online and advice line triage – a number of tools will be available to help identify viewers with reception issues resulting from clearance. These include the UK DTT coverage checker capable of providing before and after clearance coverage forecasts by postcode and a database of UK addresses previously reporting DTT reception issues in the last three years. Trained contact centre agents and online checklists will be able to help identify clearance-related problems in a number of ways, for example:

- Cross-check postcodes against the transmitter coverage area
- Reference to C/D group postcodes or 'hot spots' coverage forecast
- The time and date when problems were first apparent to the viewer
- The channels affected
- Check against history of issues at this address or in the area
- Aerial type and age (if known)

Test signals – clearance technical plans currently include the option to deploy test signals ahead of clearance in areas serving around five million homes – up to 35 per cent of the programme total. Test signals will trigger definable symptoms (ie the loss of particular channels) and allow those affected to be identified in advance.

In-home assessment – armed with the right advice, tools and training it will be possible for installers employed as part of a help scheme to make an in-home assessment of whether clearance is the likely cause of a reception issue. Those cases deemed unrelated to clearance could be re-directed to alternative sources of help, for example via 'leave behind cards' currently being used to support referral to the Freeview Advice Line by retail agents and at800 installers (see above).

We don't feel able to comment on the percentage effectiveness scores attributed by Ofcom to different triage methods but believe the combination of phone triage, test signals and in-home diagnosis by installers would collectively provide a highly effective screening process.

Question 13: Do you have any additional information to further inform our cost estimates and assumptions of the effectiveness for the different triage methods?

Are there any other triage methods which should be considered? Please provide supporting evidence for any adjustments you think may be relevant to our current estimates?

The triage process for clearance will inevitably involve multiple partners and require a good understanding of the DTT platform. Given our experience, established role in co-ordinating DTT platform changes and operation of the Freeview Advice Line, Digital UK could potentially act as the central hub for viewer support, working with all the other parties involved.

We feel our experience in this area may offer potential benefits, including:

- A one-stop shop for all 700MHz enquiries
- Experienced DTT advisors able to effectively triage viewer issues
- Established links with a network of DTT and broadcast industry partners
- Established coverage databases and online resources
- The ability to scale up and down through the clearance programme
- Cost efficiencies from building on existing capability

We recognise that the approach to all viewer support is the subject of Ofcom and Government policy consideration and would welcome an opportunity to discuss how we could contribute to that process.

3 The impact and costs on PMSE users from 700MHz clearance

DTT's use of spectrum facilitates a thriving programme making and special events (PMSE) sector, which underpins the creation of original broadcasting content. Ofcom has long accepted that the PMSE sector (of which Digital UK shareholders are a key constituency) makes a significant contribution to the cultural and social well-being of UK citizens and consumers.

Question 14: Have there been any developments since 2014 which would affect our estimate of the amount of equipment that PMSE users will need to replace as a result of 700 MHz clearance?

Since 2013 there may have been a slight reduction in the total equipment operating in 700MHz, and a slight increase in equipment operating in 600MHz as users seek spectrum that they hope will work post-clearance when making unavoidable replacements for audio equipment.

In the last financial year broadcasters and the hire companies relied on to produce popular programmes will have needed to replace audio equipment operating in UHF spectrum – this was unavoidable for both BBC Radio 1 and BBC Northern Ireland. While decisions were taken on equipment most likely to work into the future (i.e. 600 MHz), it was not possible to say definitively which frequencies would be guaranteed to work post-clearance. We do not believe these changes will materially affect Ofcom's estimates.

It is also worth noting that high demand from general use of Channel 38 spectrum has led to a greater requirement for specific licenced spectrum either for occasional use or an annual

basis. To guarantee availability, some programme makers now almost always require specific licensed frequencies, rather than relying on available Channel 38 frequencies.

Question 15: Are you aware of any developments since the 2014 Statement that would affect our cost estimates?

Ofcom's assessment makes clear that accelerating clearance will result in higher PMSE replacement costs.[12] We do not have evidence that would contradict Ofcom's provisional assessment in respect of the financial cost of bringing forward clearance. We do, however, remain of the view that Ofcom underestimated the cost of replacing equipment operating in interleaved spectrum.[13] The average PMSE equipment prices set out in Table 3 will be lower than the replacement cost for most users. This is because the majority of wireless microphones and in ear monitors (IEMs) will be sold in channel 38. Equipment used by hire companies and broadcasters will be more expensive to reflect the greater need for reliability and resilience required.

Question 16: Do you have any information or evidence of the likely unit cost of new equipment which operates in the 960-1164 MHz band?

Ofcom's work in identifying and making available 960 to 1164MHz for programme makers is welcome. We believe it will be a useful resource. The cost of equipment is one factor that will affect its attractiveness compared to the remaining interleaved spectrum. If 960MHz remains a UK-only solution manufacturers will not be able to take advantage of economies of scale and the expected smaller market size may lead to higher costs. We note other EU member states will be facing similar decisions about future PMSE use and we would urge Ofcom to share its rationale for making 960MHz available to encourage other administrations to do the same where appropriate.

Question 17: Have we correctly identified the main categories of PMSE user that 700 MHz clearance will affect? If not, please provide examples of stakeholders which do not fit broadly into any of the groups mentions

Question 18: Do you have any comments on our assessment of the proportion of equipment the different users types account for

It is not clear where broadcasters fit into Ofcom's categories of users and therefore difficult to comment on the percentages Ofcom sets out.

Digital UK's shareholders are major customers for Outside Broadcast and hire companies. These providers are used to deliver coverage of live events from Glastonbury and the Grand National to Formula 1 racing.

A proportion of some broadcasters' use is direct. The BBC, for example, directly holds 288 licences for operation between 694 and 790 MHz (the 700 MHz band) and 491 licences

[12] Ofcom calculations suggested a "*PMSE equipment replacement cost of between £13m – 21m in 2014 NPV and staff training and recruitment costs of £10m – 13m in 2014 NPV"* for a clearance date in 2022 compared to a £14m-£25m replacement cost with accelerated plan.

[13] Ofcom's calculation of asset life was based on Channel 69 costs. The principal use of wireless microphones in Channel 69 was for products operating at the lower end of the market. In contrast, interleaved spectrum use is skewed towards the higher end professional users. Digital UK, response to Ofcom's Cost Benefit Analysis. htttp://stakeholders.ofcom.org.uk/binaries/consultations/700MHz/responses/Digital_UK_Limited.pdf

between 470 and 694MHz. About 60 per cent of these licences are used for low power microphones/in ear monitors (IEMs) and talkback.

Question 19: In addition to any information provided in response to the survey, do you have any other evidence as to how clearance may financially affect each of the different categories of PMSE equipment owner identified above?

Where broadcasters are directly impacted there will be equipment replacement costs as well as programme management and infrastructure changes.

While users have not fully inventoried their holdings, to illustrate the scale and costs involved, BBC Scotland has made a provisional assessment of the impact of clearance on its 700 MHz equipment assets.

Owned equipment in the 700 MHz range	Estimated replacement cost
10 x radio microphones @ Pacific Quay	c. £37,000
4 x BTR talkback systems @ Pacific Quay	c. £92,000[14]
IEM facilities @ Dumbarton	c. £20,000
Replacing or retuning 600 MHz equipment at Pacific Quay (if required)	TBC

* BBC Scotland's HQ at Pacific Quay sits within the influence of Rosneath transmitters where current TV channels occupying the 700 MHz band will have to be moved. The status of nearby relay transmitters is yet to be finalised. It is likely additional equipment will need to be retuned or replaced as a result of a change in availability of interleaved spectrum.

Without 700MHz clearance broadcasters would replace equipment on a rolling timetable as needed over an expected 15-year period. This would align with planned refurbishments but also include budget allocations where equipment was reaching end of life. For example, over the last 5 years BBC Scotland has spent c£10k-15k per year on PMSE audio equipment replacement. The cost of replacing all 700 MHz equipment (plus additional kit where displaced by DTT replanning) is estimated as c£150,000 for BBC Scotland and approximately £500,000 for BBC News. The need to absorb large equipment costs over a much shorter time period (if Government decided not to provide redress for PMSE users) would likely mean higher costs, either directly imposed on broadcasters or passed on from hire companies, and this would divert money from programme making and planned digital innovations.

But the combined effect of these changes also means a major coordinated programme of works will be required. The project planning and infrastructure changes required (e.g. changes to fixed equipment and internal wiring) was a major project for 800 MHz clearance. While funding was available for replacement of some equipment, clearance still resulted in considerable costs for some users (e.g. in planning and executing a large scale programme of replacement without impacting programming making abilities). For 700 MHz clearance these costs will be higher as a direct result of the short time frame between confirmation of available post-clearance frequencies and the expected clearance date. On that basis and in view of Ofcom's previous statements on redress we would not expect these costs to be imposed on users.

[14] Cost estimated from similar Dect system which assumes equipment is appropriate for the work it is required to carry out (e.g. in respect of latency and reaction time of the system, integration with existing equipment and Pacific Quay) and can operate free from interference from other Dect signals.

Ofcom also seek evidence of stakeholders' ability to fund replacement costs. As PMSE users were given security of tenure assurances[15] and expectations of redress if tenure was broken[16], users will not have expected to shoulder the full cost of equipment replacement. In respect of users' ability to plan, to make replacements and to budget accordingly over the next few years, it is critical to note that uncertainty for PMSE users is still ongoing and there is a decreasing length of time available in which to remediate and spread the cost equipment replacement.

We therefore urge Ofcom to set out a 'transition roadmap' for PMSE users which clearly sets out the availability of interleaved spectrum for PMSE use; the types of use permitted over the longer term; and the timing of PMSE channel clearance.

ENDS.

[15] Ofcom reference these assurances in their 2014 CBA (paragraph 11.11)
http://stakeholders.ofcom.org.uk/binaries/consultations/700MHz/summary/main.pdf
[16] As set out in paragraph 1.8
http://stakeholders.ofcom.org.uk/binaries/consultations/bandmanager09/statement/statement310810.pdf

APPENDIX A

Ofcom has highlighted the 11 main areas affected by Group C/D issues in the top 50 transmitters. We would add an additional eight areas where these kind of aerial issues may occur:

	Transmitter site	No of households served
1.	Brierley Hill	75,000
2.	Malvern	58,000
3.	Keighley	38,000
4.	Salisbury	31,000
5.	Reigate	69,000
6.	Whitehawk Hill	68,000
7.	Oliver's Mount	34,000
8.	Rosneath	48,000

We also have identified a further six areas where Group C/D aerials were used prior to switchover. In all but one case (Heathfield), the PSB multiplexes are still operating in Group C/D range. It is reasonable to assume that at least some of these households have not upgraded their aerials since switchover and are still using the Group C/D aerials. These sites are:

	Transmitter site	No of households served
1.	Waltham	687,000
2.	Tacolneston	371,000
3.	Heathfield	138,000
4.	Beacon Hill	83,000
5.	Llanddona	41,000
6.	Plympton	37,000