

BBC high definition television channel:

Public Value Test final conclusions

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1. Introduction

- 1.1 This document sets out the BBC Trust's decision to approve the launch by the BBC Executive of a high definition (HD) television channel.
- 1.2 The Trust is drawing final conclusions in its Public Value Test (PVT) of the BBC Executive's HD proposal having conducted a public consultation on its provisional conclusions. The provisional conclusions were published on 25 September 2007. Further details on the PVT process are contained in Annex I.
- 1.3 The consultation closed on 23 October 2007. We received 921 submissions, overwhelmingly from members of the public. We are publishing a summary of these individual responses alongside this document. We also received a number of submissions from industry stakeholders – such as other broadcasters, equipment manufacturers, trade unions, the BBC audience councils and the BBC Executive. Except where the respondents requested confidentiality, we are publishing these responses in full.
- 1.4 In addition to considering consultation submissions, we conducted a series of interviews with industry stakeholders. We also commissioned audience research. Given this broad range of evidence collected, we consider that there has been a meaningful consultation.¹
- 1.5 In this document, we provide our view of the main issues arising from the public consultation and outline where we have consequently modified our provisional conclusions to ensure that the public interest is best served.
- 1.6 The main points of our final conclusions are that: launch of the channel is approved; it should be provided on cable and satellite as soon as the service licence is issued and on Freeview as soon as feasible. Launch on Freeview will be subject to a review of

¹ One stakeholder, the BBC Audience Council for England, had queried whether the public would have been able to understand fully the technical nature of the published documents.

options, envisaged next Spring. But we are ruling out any early launch of an interim service until the technical protocols for providing HD on digital terrestrial television (DTT) in the UK are established.

- 1.7 In the next section we present a summary of the process to date. Section 3 explains our consideration of the consultation responses and evidence and the detail of our final conclusions. Section 4 sets out our formal approval.

Notes on technical terms

HDTV

High definition television transmits more picture information and better quality sound than traditional standard definition television. This enables picture quality to be sharper and more immersive and the sound can be surround sound.

SD

Standard definition refers to the conventional television pictures which do not deploy the HD format.

720p and 1080i

Standard definition television pictures are made up of 576 horizontal lines refreshed at a rate of 25 times per second. The increased amount of picture information transmitted for HDTV means pictures are made up of more lines – i.e. there is a greater level of picture resolution. The accepted standards for HD picture resolution are currently 720p (720 progressive – 720 lines refreshed at 50 times per second) or 1080i (1080 interlaced – 1080 lines refreshed at 25 times per second). The BBC Executive's application proposes to use both these standards. 1080p is also becoming available (1080 lines refreshed at 50 times per second).

DTT

Digital terrestrial television is the form of digital television which viewers can receive through their normal television aerials. The platform comprises six multiplexes broadcasting both free-to-view and pay-television channels.

Freeview

Freeview refers to the bundle of free-to-view channels on DTT collectively marketed under the Freeview brand.

Multiplex

A multiplex is a fixed 8MHz block of UHF spectrum which carries a bundle of digital television channels. One digital multiplex occupies the same amount of spectrum as a single analogue television channel.

IPTV

Internet protocol television is a form of digital television delivered over a broadband network using internet protocol.

MPEG-2 and MPEG-4

Compression is used to encode a television channel for digital transmission. To reduce the volume of data that needs to be transmitted, and thereby fit more channels onto a multiplex, compression reduces the amount of information that needs to be sent from one second to the next. Information that is constant – e.g. a plain coloured background – can be reduced so that the capacity can be concentrated on changing information. The process by which this has been done hitherto is called MPEG-2. A new, more efficient process called MPEG-4 will be applied to HDTV services on satellite and DTT. Channels encoded in MPEG-2 and MPEG-4 can be transmitted on the same multiplex. But current Freeview set-top boxes are capable of decoding only MPEG-2 services, so consumers would need to upgrade their receiving equipment in order to receive HD channels in MPEG-4 alongside standard MPEG-2 services.

DVB-T and DVB-T2

The technology by which a digital television signal is transmitted is referred to as modulation. The current standard is called DVB-T. A replacement, DVB-T2, is in development. This will allow more efficient use of spectrum capacity. DVB-T and DVB-T2 cannot be mixed on the same multiplex. Current Freeview set-top boxes are compatible only with DVB-T, so consumers would need to upgrade their receiving equipment in order to view channels transmitted using DVB-T2. DVB-T2 equipment is expected to be available to consumers by late 2009.

16 QAM and 64 QAM

Digital multiplex transmission is subject to trade-offs between coverage, capacity and resilience to interference. This is referred to as the mode. At present, digital television is transmitted in the spectrum gaps between analogue television channels. So the BBC makes a cautious trade-off – at 16 QAM mode – between coverage, capacity and interference in order to ensure consumers receive a robust signal. As digital switchover proceeds, and interference from analogue channels ceases to be an issue, the BBC will convert its multiplexes to 64 QAM mode – enabling more channels to be carried in its capacity.

2. Summary of the PVT process to date

- 2.1 The BBC Executive has proposed to launch an HD television channel on all major TV platforms, drawing on programming from across the portfolio of channels. The aim ultimately is to provide a nine-hour schedule. Until there is capacity to provide this on Freeview, the BBC Executive proposed to offer a four-hour, overnight service – which would require the withdrawal of some existing BBC services on Freeview between 0200 and 0600.
- 2.2 We drew provisional conclusions, having considered a Public Value Assessment (prepared by the BBC Trust) and a Market Impact Assessment (prepared by Ofcom).

The Public Value Assessment

- 2.3 The Public Value Assessment (PVA) concluded that high definition television was likely to become a significant broadcast standard in the medium to long term and that the provision of a BBC HD service would create public value. The service would significantly promote the BBC public purpose of 'helping to deliver to the public the benefit of emerging communications and services' (the digital purpose). The PVA assessed the proposals against the four drivers of public value: reach, quality, impact and value for money. In terms of impact, in addition to promoting the BBC's digital purpose, the service would appeal to a significant minority who have upgraded or would be prepared to upgrade to HD receiving equipment. It would also provide value for money: the channel would be expected to reach 22 per cent of TV households by 2012, which compares favourably with other digital channels, and would do so at reasonable cost. The proposition would help drive up quality, through the introduction of the improved HD standard, and it would be distinctive in being subscription-free and without advertising.
- 2.4 The nine-hour service on Freeview would be expected to deliver higher public value than the four-hour service on Freeview or the nine-hour service on cable and satellite. This is because the channel would have a higher impact on improving the platform's value proposition than on cable and satellite, which already offer HD and considerably more SD channels. The platform also delivers higher reach for the BBC and it is through consumption of BBC content that its public value is realised.
- 2.5 The provision of an overnight, four-hour service on Freeview (prior to the availability of the full nine-hour service on the platform) would necessitate the withdrawal during the transmission hours of 0200 to 0600 of four BBC services. These are BBC Four, BBC Parliament, two BBCi video streams and the BBCi video news loops. We concluded that the public value foregone would be minimal and outweighed by the public value created.
- 2.6 In the event of the Trust approving the launch of the service, the PVA recommended conditions in the following areas:

Timing

- Launch should proceed on Sky and digital cable once a service licence becomes effective, and on Freesat from the launch of the platform.
- Launch should proceed on Freeview as soon as possible – but, given uncertainties about possible multiplex reorganisation, provision on Freeview should not happen before a further review of options by the Trust in early 2008. Parity with cable and satellite should be achieved at the earliest opportunity, in order to ensure universality. This could be effected by providing the nine-hour service within the

BBC's existing capacity, if compression standards allow, or using capacity allocated through a platform reorganisation should that prove viable.

- Since analysis published by Ofcom, independently of its Market Impact Assessment (MIA) on the BBC Executive's proposal, suggested the possible use of the DVB-T2 transmission protocol for HDTV, it called into question the appropriateness of the early provision of a four-hour overnight service on Freeview using the existing DVB-T protocol. This is because the move from DVB-T to DVB-T2 would require consumers to upgrade their equipment. So this should also be postponed pending the review of options in early 2008.

Content

- The nine-hour service should not aim simply to replicate the BBC One schedule in HD but should simulcast content from other BBC channels that best utilises the quality gains that the format provides.
- Changes to the provision of BBC Parliament on Freeview should be compliant with the channel's service licence, and the commitments given by the BBC to Parliament.

Service review

- The service should be reviewed following completion in 2012 of digital switchover of terrestrial television.

The Market Impact Assessment

- 2.7 Ofcom looked at five categories of products and services that could be affected by launch of the BBC HD channel: TV platform services and network services; broadcast services; provision of content; hardware and software; and on-demand services. It found that the most significant market impact were in the first two categories.
- 2.8 Regarding TV platforms, the MIA said that a BBC HD channel could encourage consumer take-up of HD across the major TV platforms, including DTT, satellite and cable and also encourage take-up of the new PSB Freesat. For DTT, the provision of HD by the BBC (and consequently other PSBs) would help maintain the platform in the long term. But in the short term, the platform might be disadvantaged in the period when a nine-hour BBC service was available on other platforms but not on DTT. Internet protocol television (IPTV) platform operators, which face capacity constraints, might suffer if there were significant consumer demand for HD services which they may not be able to meet.

- 2.9 For broadcast services, the MIA said there may be some negative impact on the viewing shares of commercial broadcasters through channel substitution and as a result of platform substitution. Ofcom said these would be unlikely to be significant since channel viewing is determined more by content than picture quality, and in the medium to long term commercial broadcasters would be offering HD propositions alongside the BBC's. Greater negative impact might arise if the BBC moved away from a mixed-genre proposition for the channel (to prioritise, for example, sport and movies). Another impact is that the other PSBs would be likely to accelerate their HD plans – which would happen at a slower rate in the absence of the BBC's lead and of a clear commercial model for free-to-air HD services.
- 2.10 Ofcom identified some small potential market impacts in other areas. Launch of a BBC HD channel could accelerate the transition to HD production, and spread the skills needed for content production in the HD environment. In due course, this is likely to help reduce the cost differential between HD and SD production, benefiting the industry as a whole. There could also be a positive impact on the take-up of HD equipment – such as set-top boxes and satellite dishes. Provision of HD content on the BBC iPlayer could lead to increased costs on internet service providers (ISPs) who may have to invest in extra capacity to carry the large data volumes.
- 2.11 The MIA did not propose any modifications to the service, but made some recommendations to the Trust should the proposal be approved:
- The HD channel should be launched in such a way that it does not impede the delivery of a critical mass of HD services on the DTT platform.
 - The BBC should engage with relevant industry stakeholders about the provision of the HD channel on IPTV platforms, with the objective of launching the service on IPTV as soon as technically feasible.
 - The BBC Trust should take into account the costs that may be imposed on ISPs, as a result of the delivery of HD content via internet on-demand services
 - Any move to shift from the 720p or 1080i picture resolution standards to 1080p should be considered carefully by the Trust in order to protect consumers.
 - The mixed-genre service proposed by the BBC Executive should be clearly specified in the service licence.
 - The Executive's activities in bidding for events rights should be monitored to ensure compliance with the service description.

Summary of our provisional conclusions

2.12 The Trust considered the PVA and the MIA and drew provisional conclusions, published on 25 September 2007. In particular, we concluded (with consideration to our duties under clause 26(6) of the Framework Agreement) that any likely adverse market impact would be justified by the public value that a BBC HD channel would create. The provisional conclusions said that, subject to consultation, we were minded to approve launch of the BBC HD channel subject to certain conditions. These were as follows:

- The channel should be supplied on Sky and cable from the date of the service licence and on Freesat from launch of that platform.
- Launch should proceed on Freeview as soon as possible, but not until a review of options in early 2008.
- Pending launch of the full channel proposition on Freeview, a four-hour interim service might be possible. Considerations regarding the launch of this were to be postponed until the review of options on Freeview in 2008.
- Provision of the service on IPTV should proceed as soon as technically feasible, subject to other considerations such as value for money.
- Provision of HD programmes from the channel should be provided for catch-up viewing on demand over the internet subject to capacity constraints. We would not expect the whole schedule, or even large parts of it, to be offered until there is judged to be sufficient audience demand, it is technically feasible and the BBC Executive has judged the cost and value for money implications to be appropriate.
- Prime-time scheduling, while aiming largely to simulcast the prime-time schedule of BBC One, should take account of what represents the best use of HD capacity. The prime-time schedule should not be guided solely by the motivation to simulcast BBC One.
- The channel should hold to a mixed-genre proposition and should not become a head-on competitor to sports and movie channels.
- Any move from the currently proposed HD standards on picture resolution should not disadvantage consumers who invest in HD equipment which meets the current standards.
- A number of current services, including BBC Parliament, would have to be withdrawn from Freeview between 0200 and 0600 in order to release capacity for the four-hour interim service overnight. However, in the event of the House of

Commons sitting overnight, provision of BBC Parliament should take precedence over the HD channel if capacity to broadcast both services were not available.

- The service should be reviewed no later than 2013.

2.13 Our provisional conclusions were the subject of public consultation for a period of 28 days. The consultation closed on 23 October 2007. We set out our view of the responses and evidence received in the following section.

3. Considerations arising from the public consultation

- 3.1 In consulting on our provisional conclusions, we invited members of the public to submit comments. We supplemented this with audience research to test in more detail consumers' views on the value of providing the four-hour overnight service on DTT in the context of uncertainty over the eventual upgrade path to receive HDTV. We also held interviews with stakeholders – including other broadcasters, consumer electronics manufacturers, and others. Given that respondents to our public consultation were a self-selecting sample, we refer to the rough proportions of respondents expressing a given view in order to avoid implying an unwarranted degree of statistical accuracy. Our commissioned audience research surveyed a representative sample of the UK population and accordingly we use percentages in referring to this data.
- 3.2 There was overwhelming support for the Trust's decision to approve launch of the BBC HD channel. The vast majority of respondents to our consultation (about nine tenths) agreed with this decision as did all the industry stakeholders who submitted responses. A similarly large proportion of respondents also agreed that it was a priority for the BBC to invest in this area, rather than other possible areas for licence fee investment.
- 3.3 While there were high levels of support for the overarching decision on launching an HD channel, there were reservations on specific issues. We explore these below and explain how we have taken account of them in reaching our final conclusions.

Launch on cable and satellite

- 3.4 Most of our respondents, about nine tenths, considered it important that a BBC HD channel should be available on all of the main television platforms. Some stressed the importance of availability on Freeview in due course, but many respondents also said it was important to begin providing the channel straight away on the platforms on which it was already technically feasible to do so – i.e. cable and satellite. This was the view

we reached in our provisional conclusions and we found broad agreement for this position among industry stakeholders. One broadcaster raised with us the risk that provision of the channel on cable and satellite before it is available on Freeview might encourage consumers to switch platforms, if the BBC was to promote the channel very heavily in this early stage. If such switching were to occur, it might damage the revenues of the commercial public service broadcasters. However, we note the conclusion by Ofcom in its MIA that the level of platform switching is not expected to be material. We also don't expect this to be a serious issue, since heavy cross-promotion of the channel ahead of its provision on Freeview could alienate licence-fee payers who do not have access to the channel, which means there is a disincentive for the BBC to promote the channel heavily before it is universally available.

- 3.5 We are therefore confirming our provisional conclusion that the channel should be provided without delay on cable and satellite. With respect to Sky and cable, we would expect provision to commence as soon as the service licence is effective.² With respect to Freesat, the channel should be available from the launch of that platform next year.

Launch on Freeview (nine-hour schedule)

- 3.6 There was significant feeling among respondents to our consultation that Freeview was the most important platform on which to provide the channel. This was seen as key to ensuring universal availability of the channel. This was a view that we noted ourselves in the PVA. The Trust's consistent view throughout this PVT has been that provision of the HD channel on Freeview is key to realising the full public value offered by the service.
- 3.7 As we said in our provisional conclusions, the route to providing the channel on Freeview is currently subject to considerable uncertainty. However, the options are somewhat clearer now. Some form of multiplex reorganisation could make room for up to four HD services from the public service broadcasters (PSBs), using a new modulation protocol, DVB-T2. We heard from stakeholders in the consumer electronics industry that there is considerable scepticism among some manufacturers that use of this technology is feasible or prudent in a short timescale. However, this view is not universally held in the electronics industry. We consider that there is now considerable momentum behind the idea of some form of multiplex reorganisation and view this as the most likely route to bringing HD to Freeview (both the BBC channel and channels from other PSBs). Ofcom has said it will begin its consultation soon on

² The precise date for this is dependent on final confirmation from the Department of Culture, Media and Sport that the Secretary of State will not use his procedural veto under Clause 33 of the Charter and Agreement.

proposals on how the DTT platform might be reorganised to enable the introduction of new, more efficient technologies.

- 3.8 In our provisional conclusions, we also identified an alternative route to offering the channel on Freeview, if multiplex reorganisation fails. This would be through the BBC providing the channel unilaterally in its own capacity from around 2012.
- 3.9 Some stakeholders, mainly in the consumer electronics industry, suggest that additional capacity on the DTT platform should be reserved for HD services (in the form of a new multiplex). We see no prospect of this happening. Ofcom and the Government have both ruled out this option, the PSBs are no longer lobbying for it, and some stakeholders have told us they would be firmly opposed to additional capacity being allocated to the BBC or the other PSBs for the provision of HD.
- 3.10 We view some form of multiplex reorganisation as the best option for bringing HD channels to Freeview, provided it does not compromise the BBC's ability to deliver its digital purpose. The most likely scenario for reorganisation is that it would be PSB3, one of the multiplexes operated by the BBC, that would be cleared and converted to DVB-T2. In the absence of multiplex reorganisation, it would also be this multiplex on which the BBC could find capacity to launch the HD channel.
- 3.11 The clearing of PSB3 would represent a significant loss of DTT spectrum capacity for the BBC. As we noted in the PVA, a significant loss of capacity could compromise the ability of the BBC to offer HD across its key channels in the long term and to respond with relevant propositions to emerging technologies and changing audience needs. However, if some form of multiplex reorganisation can be made to work, it would facilitate the provision within two or three years of not only a BBC HD channel, but also offerings from the other PSBs. This would ensure a critical mass of HD services on Freeview, which we consider to be an important objective if Freeview is to continue to be a competitive television platform.
- 3.12 We can be firmer, then, than we were in our provisional conclusions, and say that the BBC should provide the full nine-hour HD service on Freeview in its capacity on PSB3 – and that it should work with the industry and Ofcom to facilitate the provision of other PSB channels on the multiplex as this is, in our view, the optimal solution.
- 3.13 In our discussions with stakeholders, we found considerable support among the PSBs for some form of multiplex reorganisation. Without it, the BBC could still provide its HD channel but it is unlikely that the other PSBs could find capacity. For this reason, these stakeholders are looking to the BBC to support multiplex reorganisation and would have concerns about the BBC forging ahead with HD alone. We are sensitive to this concern. But if there was insufficient capacity for other PSBs to provide HDTV on Freeview, public value would be best served by allowing the BBC to proceed in the capacity it has available. This would provide at least some HD on the platform – helping to mitigate the risk of platform substitution if Freeview were to offer no HD at

all.³ Such a move might cause some risk of channel substitution. But evidence we considered in the PVA suggests that channel choice will be informed by content rather than format for some considerable time, and we note that the MIA did not expect channel substitution to occur at material levels. So we would consider this risk to be small.

- 3.14 However, since there remains considerable uncertainty, we still think it appropriate to review options for launch on Freeview early next year. This will be a check point to ascertain the feasibility and likelihood of multiplex reorganisation – and either confirm the preferable route of using DVB-T2 to provide capacity for the other PSBs to offer HD on Freeview, or opt for the fallback of the BBC pressing ahead alone. It will be important to know the outcome of the Ofcom consultation on the matter, and to have more certainty about the standardisation of DVB-T2. We envisage that these conditions should be in place early next year, which would enable us to conduct our review in the Spring.
- 3.15 For clarity, we view these final conclusions as completing the PVT process. The review will be a consideration of the spectrum capacity issues relating to the launch of the channel on Freeview, and the most appropriate means of ensuring that the channel is offered on that platform. Provided there are no additional costs connected with the allocation of spectrum capacity to the HD channel, our PVT assessment will not be affected by the review; all relevant matters, including market impact, having already been taken into account. We have taken into account the view of one stakeholder that the Trust should consult further when it considers DTT options. We will consider whether this is appropriate at the time.
- 3.16 Under either option, provision of the channel would be dependent on capacity gains which could be obtained following digital switchover. Our earlier view was that, in the absence of multiplex reorganisation, provision of the nine-hour channel would be possible on Freeview by around 2012 subject to improvements in compression capability. We now understand that it may be feasible to provide the full channel proposition in regions which have still to switch over to digital TV once a critical mass of other regions have already switched over. This introduces the possibility of the full channel being available on Freeview from around 2010, an option we will consider as part of our review early next year.

³ Ofcom's MIA also noted certain secondary benefits, for example that the number of homes equipped with MPEG-4-capable DTT set-top boxes would increase faster than if there were no BBC HD service

Launch on Freeview (four-hour overnight schedule)

- 3.17 In our provisional conclusions, we noted that the arguments for launching the four-hour interim service on Freeview were complex, given the uncertainty about multiplex reorganisation. The BBC could make available capacity overnight to offer a reduced schedule, previewing the following day's programming on the full HD channel. This would be provided ahead of capacity becoming available following digital switchover and would involve consumers upgrading their receiving equipment to receive HDTV using MPEG-4 and DVB-T technology. If DVB-T2 were subsequently adopted as the modulation protocol for HD on Freeview, consumers who had bought equipment to receive the interim service would need to upgrade again.
- 3.18 We recognised that there were considerable risks of confusing consumers, and of undermining confidence in the launch of HD on Freeview. But we also recognised that many consumers might appreciate the opportunity to gain early access to HD programming on Freeview, even at the cost of investing in equipment which could become obsolete. We sought views on this in our consultation and commissioned additional research by BMRB (a market research organisation).
- 3.19 The evidence we collected suggests there is considerable public scepticism about the value of providing the interim service before the eventual standards for HD on Freeview are clear. About half the respondents to our consultation could see value in the interim service per se, and a similar proportion wanted the BBC to press ahead with launching such a service in the short term even if there was a risk of consumers having to buy two set-top boxes within a short period. We made a special effort to gather responses to this question and there was a marked difference in attitude between respondents who answered all the consultation questions and those who answered just this one.⁴ Among those who answered only this question, about two thirds wanted the BBC to provide the interim service despite uncertainty about set-top box standards. Among those who answered the whole consultation, the proportion in favour fell to rather more than a third. But scepticism about providing the interim service came through strongly in our BMRB survey among a statistically representative sample of the UK population. Only 21 per cent of these expressed support for the BBC launching the interim service in the short term, and 65 per cent

⁴ Question 7 in our consultation was as follows: A number of technological developments relating to the provision of HD on Freeview are expected in the next two to three years. If the four-hour, overnight service on Freeview were offered from next year, the set-top boxes viewers would need to buy to receive this service may not be able to receive potential future HD services on Freeview. Would you prefer the BBC to launch the four-hour interim service next year anyway, even if that meant having to buy two set-top boxes within a very short period of time? See the analysis of the Trust's HD public consultation by Dipsticks, published alongside this report.

said it would be better for the BBC to hold back. Two of the BBC's audience councils – those for England and Northern Ireland – also expressed reservations about confusing consumers, while the council for Scotland saw value in providing the interim service straight away.

- 3.20 Broadcast stakeholders expressed strong reservations about providing the overnight service using current technology. They told us that the upgrade path to HD should be kept as simple as possible, if consumers' confidence and enthusiasm were to be maintained. They suggested that what was needed was a clear, credible and unequivocal signal about the PSBs' commitment to HD on Freeview and the means by which it would be delivered. They argued that public value would be better served by waiting to provide HD in a coherent and comprehensible manner than by trying to provide early access to HD programming using legacy technology.
- 3.21 There was some support for pressing ahead with the interim service on DVB-T. Some respondents thought consumers increasingly accept the need for frequent upgrades to technology and should be given the choice to access HD on Freeview using receiving equipment which could quickly become obsolete. This view was also expressed by industry stakeholders including the National Union of Journalists, and some consumer electronics manufacturers. BT expressed enthusiasm for the overnight service as a means to test the value of time-shifted TV consumption but preferred that the BBC should wait until DVB-T2 was available before providing it. There was concern from some in the consumer electronics industry, notably Sony, about relying on DVB-T2 too early.
- 3.22 We agree with those who suggest the risk is too high of confusing consumers through the early provision of the four-hour overnight service using DVB-T. We also agree with stakeholders who suggested that we should provide as much clarity as possible now, rather than wait until our review next year of options for launch on Freeview. On the assumption that HD is most likely to be provided in the UK using the DVB-T2 modulation scheme, we are now ruling out any early move to offer the interim, overnight service using DVB-T. If multiplex reorganisation goes ahead, there may still be value in offering the overnight service in pre-switchover regions once dual-capability DVB-T/DVB-T2 receivers are available to consumers. This would enable viewers in regions which are last in the queue for digital switchover to gain some access to HD programming. However, as discussed above, we understand that the BBC Executive is reconsidering how it might find capacity to offer HD to these regions (for example, by providing the full channel proposition) and it could be that the four-hour overnight service becomes unnecessary.
- 3.23 We note however that the proposal to provide a four-hour HD service overnight on Freeview pointed to the possibility of using the BBC's overnight spectrum capacity to better effect than current uses of the capacity. In the interest of spectrum efficiency, we would encourage the BBC Executive generally and not just in relation to HD to

consider further the possibilities of increasing the public value of its spectrum use overnight.

- 3.24 An issue was raised by the BBC Audience Council for Northern Ireland that an HD service on DTT might be available to viewers in Northern Ireland before one was provided by the BBC. The council says this may lead to poor perceptions of the value of the licence fee. The Trust acknowledges this but regards the issue as an unavoidable consequence of DTT capacity constraints in the UK.
- 3.25 In our consultation, we also asked whether – in the event of provision of the four-hour overnight service on Freeview – it should be offered also on cable and satellite. A large majority thought this would be poor use of licence fee money, since cable and satellite viewers would have access to the full, nine-hour channel. We confirm, therefore, that we are ruling this out.

Launch on IPTV

- 3.26 In our provisional conclusions, we referred to technical obstacles to providing a BBC HD channel through IPTV providers such as BT and Tiscali. There was some enthusiasm from respondents to our consultation for the BBC providing the channel through this means when it becomes feasible – particularly from the Audience Council for Northern Ireland. In its submission to us, BT suggested that very fast broadband access of up to 24 Mbit/s may be possible by 2010, enabling live delivery of HD content, and that catch-up viewing should also be possible.
- 3.27 If this scenario comes to fruition it would facilitate a rich BBC HD proposition on IPTV services. We are therefore confirming our provisional conclusion that the BBC Executive should maintain contact with the relevant providers to ensure that appropriate provision of HD content is made as and when the operators are able to support demand.

Provision of HD content on-demand over the internet

- 3.28 Our provisional conclusions envisaged the provision of BBC HD content on-demand over the internet, through the BBC iPlayer, subject to capacity constraints. Content offered on-demand could also be made available via third parties, under the Trust's syndication policy and the BBC's syndication guidelines. We acknowledged concerns among some ISPs about the impact of BBC activity, but reiterated our view that rich media content from the BBC was a relatively small factor fuelling demand for broadband capacity.

- 3.29 Most respondents to our consultation agreed with this view. Some though were concerned that their experience of broadband access would be adversely affected, with the BBC's provision of large data files fuelling competition between users for capacity and users likely to consume their whole monthly data allowance in one evening's viewing.
- 3.30 Among industry stakeholders, BT agreed that while the current impact of BBC activity was small, the future impact of the BBC offering HD content could be significant and this area needed to be kept under review. Another stakeholder was not concerned about the impact of the BBC on its ISP business, and suggested that the market as a whole would respond with appropriate pricing and access packages.
- 3.31 We have not changed the views expressed in our provisional conclusions. There is public value in the BBC offering HD content over the internet, although we expect the volumes that can be made available to be very small in the short to medium term. Ultimately, we would expect to see both simulcast streaming of the channel and downloads or streams of HD programmes for catch-up viewing on demand. While we don't expect such activity either to distort competition among ISPs or disadvantage consumers in other ways, we will keep this area under review.

Simulcasting parameters

- 3.32 There was considerable support from respondents for our provisional conclusion that the BBC HD channel should aim always to show programmes which most benefit from the HD uplift, rather than simply simulcast BBC One during peak time. We acknowledged in our provisional conclusions that, in practice, many of the BBC One programmes will represent the best use of HD capacity. But simulcasting BBC One at prime time could result in the peak-time transmission on the HD channel of programmes which benefit less from HD than programmes from other BBC channels that might have higher HD value.
- 3.33 The BBC Executive has told us that "where possible, the core peak-time 'spine' of BBC One's high impact, modern, popular content" would be "complemented by high quality HD content from across other channels and the archive." We recognised the need for the channel to offer a coherent schedule comprising a mixture of genres. But we reiterate that the channel should aim to schedule the programmes from across the BBC's portfolio of channels which would play most effectively to the benefits of HD. Prime-time scheduling should not be guided solely by the motivation to simulcast BBC One.

Genre mix and events rights

- 3.34 In our provisional conclusions, we underlined the need for the BBC to hold to its mixed-genre proposition for HD and not let the channel become a head-on competitor to sport or movie channels. We did not ask a specific question on this in our consultation, but many stakeholders indicated that they would value the mixed-genre nature of the proposed BBC HD channel.
- 3.35 One stakeholder questioned the cost allocations behind the draft service budget for the channel of £2.5m, and in particular whether this reflected the true cost to the BBC of acquiring HD rights to events and films. The service budget covers only the direct costs of operating the channel and does not include other costs such as distribution. We assessed the full cost allocations in the value for money analysis in our PVA, and noted there that distribution represents the bulk of the costs for the HD channel. Since the programming is overwhelmingly originated for other BBC channels, the incremental content costs are also very small – covering the HD rights for the programming and the five per cent of output that can be originated for the channel. Hence we regard the £2.5m service budget as realistic. The sum does represent the true cost to the BBC of acquiring HD rights to events and films. Were the BBC to face increased incremental costs for the acquisition of HD rights, this would have to be reflected in the service budget.
- 3.36 It was also put to us that there was an inconsistency in our draft service licence in stating that sport and films would be a minor component of the channel while allowing for up to 20 per cent of the programming to come from these categories. We agree that 20 per cent should not be described as a minor component of the channel and have revised the service licence accordingly. We consider though that 20 per cent is a reasonable volume of sport and film content. It allows the flexibility to provide what we view as an important part of the genre mix for the HD channel. We disagree with a submission that the exception to exceed the 20 per cent volume for major events is not clear. The service description that we published at the start of the process said: “In years when there are big, infrequently occurring international tournaments (including the Olympics or the World Cup but not annual events such as Wimbledon) the 20 per cent threshold may be breached. On average, this could be expected to happen every other year.”
- 3.37 Submissions from the BBC’s audience councils underlined the importance of including content from the nations and regions of the UK. There is no intention to offer national or regional opt-outs on the channel. But, insofar as it draws on content from across the BBC, we would expect the channel to include programming from the UK’s nations and regions.

Picture resolution

- 3.38 We did not receive a significant volume of submissions concerning our provisional conclusion that consumers should not be disadvantaged by any move to a picture resolution standard not currently specified as part of the HD standard. But there were mixed views from respondents on the general question of evolving standards. Some expressed exasperation with the rate of upheaval in standards, while others accepted this as an inevitable part of technology development.
- 3.39 We think it likely that broadcasters may face a variety of pressures, including regulatory, to move towards the 1080p picture resolution – capability for which is not available in current consumer display equipment. But we would expect that future transmission of 1080p pictures would be backwards compatible with current display equipment. So there should not arise an issue of consumer disadvantage. Nonetheless, we would expect the BBC Executive to make any move towards 1080p with sensitivity towards the current choices facing consumers who equip themselves to receive HD.

Respecting commitments regarding BBC Parliament

- 3.40 There was support in our consultation for the removal of some services from Freeview between 0200 and 0600 to release capacity for the four-hour interim service. About two thirds of respondents agreed that the loss of these services would be outweighed by the benefit. Those who had reservations expressed concern mainly about the withdrawal during these hours of the BBC News video loops and BBC Four.
- 3.41 We have ruled out any early launch of the four-hour overnight option making unnecessary the removal of services in the short term to accommodate HD. As discussed above, we also consider that there may not be a need for the four-hour overnight service in the longer term. Even so, we reiterate our view that the BBC's commitments to Parliament – in terms of full, live coverage of the House of Commons, and full, but not necessarily live, coverage of the House of Lords – must take precedence over the BBC HD channel if capacity cannot be found for both. The Audience Council for Wales suggested that a similar commitment should be given regarding any overnight proceedings of the Welsh Assembly. We would not consider this appropriate, since BBC Parliament does not carry a commitment to provide full coverage of the devolved assemblies of the UK.

Service review

- 3.42 In our provisional conclusions, we envisaged undertaking the service review of the channel following completion of digital switchover. The consultation has not raised any issues which would necessitate changing this timescale. So we would expect the service review to occur no later than 2013.

4. Approval

- 4.1 To summarise our decision, we have considered the Public Value Assessment, the Market Impact Assessment and responses to our public consultation. We are now approving launch of the BBC HD channel subject to the service conditions set out below. We consider that any likely adverse market impacts would be justified by the likely public value.
- 4.2 We have considered our requirements under clause 26(6) of the Framework Agreement, our general duties under Article 23 of the Charter and our other legal duties. In our view, approval of the service is consistent with these duties. Particularly, but without limitation, we note that we have:
- represented the interests of licence fee payers in considering the value that would accrue to them (and any that might be forgone) from the proposals;
 - secured the independence of the BBC through the proper application of the PVT process;
 - assessed carefully and appropriately the views of licence fee payers;
 - exercised rigorous stewardship of public money through the value for money analysis we conducted in the PVA;
 - had regard to the competitive impact of the BBC's activities on the wider market through our consideration of Ofcom's MIA; and
 - ensured that the BBC observes high standards of openness and transparency through the publication of these final conclusions and other documents arising from the PVT process.
- 4.3 We have also received and considered privileged legal advice on the proposals' compliance with competition law (including state aid law). We conclude on the basis of this advice that the proposal is compliant.
- 4.4 Acting in the public interest, considering these and all other relevant matters, we conclude that the proposed service should be approved in the form in which it was set out in the BBC Executive's application, subject to the following conditions:
- Launch on Sky and cable should proceed as soon as the service licence is effective. The service should be on PSB Freesat from the launch of that platform.

- The full service proposition should be provided on Freeview as soon as possible – subject to a review of options in 2008, following agreement of the DVB-T2 standard and clarity being reached on the feasibility and implications of a possible DTT multiplex reorganisation.
 - There should be no provision of an interim service on Freeview before the review of launch options on DTT nor before equipment is available which integrates the long-term modulation and compression standards to be adopted for the provision of HDTV on DTT in the UK. However, approval is given to provide the four-hour overnight service, once such equipment is available, if it is clearly an appropriate way to offer HD on Freeview in regions where late digital switchover means there may not be DTT capacity to provide the full channel proposition.
 - In the event of withdrawal of services from Freeview to provide capacity for an overnight, interim service, live proceedings of the House of Commons should take precedence over the HD channel if capacity is not available for both.
- 4.5 We are also providing the BBC Executive with guidance, short of service conditions, on other matters relevant to our service approval:
- In seeking to provide the full HD channel on Freeview, the BBC Executive should aim to accommodate it in capacity on the BBC's PSB3 multiplex. It should work with Ofcom and the industry to facilitate the provision of other PSB channels on this multiplex.
 - There should be access to the service through IPTV providers and over the open internet – subject to technical feasibility, capacity constraints and value for money considerations. The impact of offering HD content over the internet will be kept under review by the Trust.
 - The channel's purpose to showcase HD content from across the BBC portfolio should take precedence over its aim to simulcast prime-time BBC One. Nonetheless, it should provide a coherent, mixed-genre schedule which can draw on BBC One prime-time programmes.
 - The channel should hold to a mixed-genre proposition and should not become a head-on competitor to sports and movie channels.
 - Any move towards the 1080p picture resolution standard should be undertaken with minimal disadvantage to consumers.
- 4.6 The service licence for the channel is published alongside this document. We intend to undertake a service review by 2013.
- 4.7 Our decision will be implemented once the Secretary of State confirms that the procedural veto allowed by the Framework Agreement will not be exercised. We

expect to receive this confirmation within four weeks. The service licence will be effective immediately thereafter, clearing the way for the immediate provision of the channel on cable and satellite.

Annex I: Information about the Public Value Test process

The BBC's new Royal Charter and Agreement came into effect on 1 January 2007. The Charter makes clear that the BBC should be able to alter its UK public services – for example to respond to changes in technology, culture, market conditions and public expectations. However, any significant service-related proposals for change from the BBC Executive, including proposed new services, must be subject to full and proper scrutiny. The means by which this scrutiny takes place prior to approval is the Public Value Test (PVT).

If the BBC Executive proposes to launch a new UK public service or make significant changes to an existing UK public service, the BBC Trust will consider the proposal and decide whether to launch a PVT. The BBC's UK public services include all the BBC television and radio channels broadcast in the UK and the BBC's online services. They do not include the BBC's overseas services nor its commercial services, such as the publication of magazines or sale of videos by the BBC subsidiary BBC Worldwide. With regard to the HDTV proposal, the Trust took the decision to apply a PVT on 25 April 2007.

Where a PVT is undertaken, the new service or change must not happen until that process is complete. The PVT has several elements. A Public Value Assessment (PVA) is prepared by the BBC Trust to ascertain the likely public value of the proposed change. In making this assessment, the BBC Trust acts in accordance with the requirements of a Framework Agreement concluded between the BBC and the Secretary of State for Culture, Media and Sport (Framework Agreement). It also must comply with all its other legal duties including the general duties in Article 23 of the Charter.

At the same time, the communications regulator Ofcom prepares a Market Impact Assessment (MIA) examining the extent of any likely adverse impact on markets relevant to the proposed change.

The PVA and the MIA of the HDTV proposal were published on 18 September 2007.

Once the two assessments are complete, the BBC Trust considers them and reaches provisional conclusions on the proposed change. In order to conclude that the proposed change should be made, granting approval either with or without conditions, the BBC Trust must be satisfied that any likely adverse impact on the market is justified by the likely public value of the proposed change. It also must be satisfied that approval would be consistent with the BBC Trust's duties under Article 23 of the Charter and its other legal duties. The Trust's provisional conclusions on HDTV were published on 25 September 2007.

The BBC Trust's provisional conclusions are subject to public consultation – which, for the HDTV proposal, closed on 23 October 2007. The BBC Trust reviews and takes account as appropriate of all consultation submissions received before making its final decision on whether or not to approve the proposed change. The final decision on HDTV is the subject

of this document. Where a new service licence will be issued, the PVT will be subject to a procedural review by the Secretary of State, under Clause 33 of the Framework Agreement.