

EPG Accessibility

Proposed improvements for people with visual impairments

CONSULTATION:

Publication Date: 4 December 2017

Closing Date for Responses: 6 February 2018

About this document

This consultation document outlines Ofcom's proposals to amend the Code of Practice for electronic programme guides ('EPGs') to enable people with visual impairments to make better use of them.

Ofcom previously published an initial consultation in 2015 and has taken into account the responses to that consultation, together with other relevant factors, in developing the proposals outlined in this document.

As with most other published Ofcom documents, this consultation is available on Ofcom's website in a version (Portable Document Format) which is compatible with most screen-readers.

We invite stakeholders to respond to this consultation by **5pm on Tuesday 6 February 2018**.

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1. Summary

Introduction

- 1.1 This consultation document seeks views on Ofcom’s proposed changes to the Code of Practice on electronic programme guides (on-screen TV guides otherwise known as ‘EPGs’) to make EPGs easier to use for the growing number of people with visual impairments.¹
- 1.2 Our consultation has been informed by responses to a call for inputs (‘CFI’) that we published in 2014², a previous consultation that we published in 2015³ (the ‘**2015 consultation**’), as well as discussions with various stakeholders in the time since. We would like to thank respondents for their contributions to both the CFI, the 2015 consultation and recent communications, which helped to shed light on the issues we were examining.

What is the problem?

- 1.3 There are an estimated two million people in the UK with visual impairments, who watch about as much TV as other people. However, unlike other people, they face considerable difficulties in using EPGs. Their choice of viewing can be unnecessarily restricted, because they find using on-screen TV programme guides time-consuming at best, and impossible at worst.
- 1.4 In recent years, some EPGs have begun to include accessibility features that enable people with visual impairments to make better use of them. Examples include high contrast displays, the ability to search for programmes with audio description, the scope to magnify parts of the display or to increase text size and the option to have text in the EPG (such as channel numbers and programme descriptions) read out.
- 1.5 These features help people with a very wide range of visual impairments, ranging from those with blurred or restricted vision, to those without any useful sight. Unfortunately, very few EPGs include all these tools, and sometimes the tools need improvement to optimise the benefits to users.

What is the proposed solution?

- 1.6 We are proposing to amend the EPG Code so that visually impaired people could benefit in the future from additional accessibility features that would help them use EPGs as they are used by those without such disabilities.

¹ In this document, we use the term ‘visually impaired’ to refer both to those with partial sight loss, and those who are completely blind.

² *Speaking TV programme guides: would they help people with visual impairments, and are they feasible?* (CFI), Ofcom, July 2014 available [here](#)

³ *What’s on the telly? Proposed improvements to EPG accessibility for people with visual impairments*, Ofcom, July 2016, available [here](#)

- 1.7 Specifically, the proposed changes to the EPG Code would require EPG providers to use reasonable endeavours to secure so far as practicable that their EPGs (as accessed via consumer TV receivers) incorporate the options for users to:
- a) render text needed for EPG navigation and the provision of information on channels and programmes included in the EPG as speech (**‘text-to-speech’** functionality or **‘TTS’**);
 - b) highlight or list separately programmes with audio description, and with signing (**‘filtering or highlighting’** functionality);
 - c) adjust the display of EPG information so that it can be magnified, or the text enlarged (**‘magnification’** functionality); and
 - d) switch between the default and ‘high contrast’ displays⁴ (**‘high contrast displays’**).
- 1.8 The proposed changes to the EPG Code would apply to EPGs made available via all TV receivers commencing development from when the proposed changes to the EPG Code are implemented, and any subsequent models
- 1.9 The proposed changes would be supported by robust reporting requirements. Annual reporting on the accessibility of EPGs will ensure that the implementation of accessibility features is effectively monitored, and give the relevant consumers comprehensive information on the accessibility of EPGs.

Why are we re-consulting?

- 1.10 We are publishing a second consultation in this area so that our proposals can take into account:
- a) responses to the 2015 consultation;
 - b) technological and market developments since 2015;
 - c) developments in consumer habits and preferences; and
 - d) global regulatory and legal developments.

Next steps

- 1.11 This document explains our reasoning, and the changes we propose to make to the EPG Code. We would welcome views on these proposals by **5pm on Tuesday 6 February 2018**. We will consider all responses and other relevant information before making a decision.
- 1.12 Subject to responses to our consultation, we aim to publish a final decision by Spring 2018.

Publication in alternative formats

- 1.13 We will consider all reasonable requests for publication of this consultation document in alternative formats or other languages. If you would like to make a request, you can call

⁴ Displays with a contrast ratio of no less than 7:1, as set out in guideline 1.46 of Web Content Accessibility Guidance 2.0, available [here](#)

our Advisory Team from Monday to Friday between 09:00 and 17:00 on 020 7981 3040 or 0300 123 3333. If you are deaf or speech-impaired, you can use our textphone numbers, which are 020 7981 3043 or 0300 123 2024.

2. Background

Introduction

- 2.1 In this section, we:
- a) describe the nature of electronic programme guides ('EPGs');
 - b) describe the number and circumstances of people with visual impairments, and of older people, who account for the majority of those with visual impairments;
 - c) summarise the legislation and statutory provisions relevant to the accessibility of EPGs;
 - d) summarise our previous work in this area and explain why we are re-consulting; and
 - e) summarise the accessibility features currently available with many of the most widely used EPGs.

Electronic Programme Guides ('EPGs')

- 2.2 EPGs consist of the listing or promotion (or both) of television programmes together with a facility for obtaining access to those programmes.
- 2.3 Access to EPGs and to the programmes promoted or listed in EPGs is dependent on the data made available by EPG providers, which is transmitted as a broadcast signal, as well as the hardware and software of TV receivers (TV sets and set-top boxes).
- 2.4 EPG providers (currently Sky, Virgin, YouView, Freesat, Digital UK for Freeview, BT, EE and TalkTalk) are licensed by Ofcom and are required to ensure that the rules set out in Ofcom's Code on EPGs (the 'EPG Code') are observed in the provision of EPGs.

People with visual impairments

- 2.5 It was estimated in 2015 that 2 million people had partial sight or blindness, with one in five people aged 75 and older living with sight loss. The total of those with partial sight and blindness in the UK is expected to grow to over 2,250,000 by 2020, and to nearly 4 million by 2050⁵.
- 2.6 Much of this growth is expected to arise from the ageing of the population, leading to an increase in the number of people with age-related macular degeneration and cataracts. Other main causes of visual impairment include diabetes retinopathy, glaucoma and refractive error.
- 2.7 Many programmes can be understood and enjoyed without perfect vision. Some television programmes (e.g. news, documentaries) rely heavily on speech, and some others are accompanied by audio description. Most people with visual impairments will have watched television regularly before their sight was impaired, and will not want to give up a familiar

⁵ Source: [RNIB statistics](#)

and enjoyable pastime. Indeed, as many are retired, they are likely to have more leisure time, and less money and physical ability to engage in other activities. Television also helps people to cope with social isolation, to which older people are prone.

- 2.8 These reasons help to explain why people with visual impairments watch about the same amount of TV as everybody else. A survey commissioned by Ofcom in 2006 found that blind and visually-impaired people watched rather more television than those without sight impairments. At a time when, on average, UK residents were watching around 3.46 hours a day, those with visual impairments were watching 3.8 hours of television a day⁶.
- 2.9 However, Ofcom research among disabled consumers⁷, using the British Population Survey 2016, found that 81% of visually impaired consumers personally used a television (compared with 91% of non-disabled consumers) and of these, 21% said that their use of TV was limited by their disability. People with visual impairments face considerable difficulties in using EPGs to explore the wide range of content available to all viewers. Even those with mild visual impairments face considerable difficulties when using a conventional EPG. In effect, they must work much harder than viewers without sight impairments to decipher and use on-screen information. Depending on the amount and type of vision they have, they may have to:
- a) sit very close to the screen and use magnification to be able to read information in an EPG;
 - b) spend longer scanning the screen because of their limited field of vision; and
 - c) concentrate much harder to work out what they need to know, based on the limited amount of information they can glean.
- 2.10 It is clear that the difficulties encountered by some people with partial sight are enough to discourage some people from attempting to use conventional EPGs. A study in 2002 on how blind and partially-sighted viewers used EPGs found that most participants relied on family or friends to tell them what was on TV, or on their memory of when their favourite programmes were on TV⁸. However, some blind or visually-impaired people must cope by themselves. A 2014 survey found that visually-impaired consumers were more likely to live alone than non-disabled consumers (25% vs 16%), which may reflect the older age profile⁹.
- 2.11 A 2017 study by the Communications Consumer Panel¹⁰ found that many consumers with sight impairment relied on printed guides to plan what they view. Many participants found it physically challenging to use equipment such as TVs, set top boxes and remotes, and to find and navigate access services on them. Coping mechanisms¹¹ identified included limiting the content viewed, adjusting the viewing environment, using additional technology, and relying on family and friends to help out. One participant with a visual impairment explained how their family left the television on a certain channel before they

⁶ *Provision of access services: research study conducted for Ofcom*, Ofcom, March 2006, available [here](#)

⁷ [Access and Inclusion report](#)

⁸ RNIB AVIO (Access for Visually Impaired and Old) - Review of current Electronic Programme Guides (EPGs) use by target audience, Rob Porteous, Sensory Design Services, May 2002.

⁹ Source: British Population Survey (BPS), 1 August - 20 November 2014. Base: Non-disabled: 15,859, Visually impaired: 319

¹⁰ For more information about the research see ["Access to broadcast and on-demand content: Time to catch up!"](#)

¹¹ See the full report [here](#)

switch it off, from where the participant had memorized the number of clicks to each channel they routinely view.

- 2.12 The impact of visual impairment will also vary according to the personal circumstances of each person. Some people who find using a conventional EPG difficult or impossible may be able to make use of TV guide apps on text to speech (TTS)-enabled mobile devices (e.g. tablets and smartphones).
- 2.13 However, as described in our 2015 report on disabled consumers' use of communications services¹², while visually impaired people have increasing access to smartphones (48%) this is still significantly lower than the levels of access for non-disabled people (66%). Visually impaired consumers are more likely to be older than non-disabled consumers, and, can face additional barriers to using mobile devices to access television programming. These may include a lack of money or reluctance to buy mobile devices, a lack of confidence in their ability to use these devices, or the obstacles that often accompany ageing, such as a decline in visual and auditory perception, attention span, memory, motor functions and touch sensitivity.
- 2.14 The overall result is likely to be that many viewers with visual impairments face a restricted choice of viewing. Indeed, a survey carried out in 2008¹³ found that people with visual impairments who could not see the EPG tended to watch a more limited repertoire of channels than others. They relied heavily on memorising channel numbers, and had to relearn them when channels were re-ordered.
- 2.15 For more information on these issues, please see Annex 2 of our 2015 consultation.¹⁴

Ofcom's previous work in this area

- 2.16 When we adopted the EPG Code (in 2004), we recognised that there was 'limited scope to reconfigure EPGs so as to facilitate their use by people with disabilities affecting their sight or hearing'.
- 2.17 However, in recent years, technical and market developments have resulted in some TV receivers offering features which help people with visual impairments to use them more easily (see paragraphs 2.44-2.45 below for a summary of the current situation). Therefore, in 2012 we began discussions with TV service providers about the possibility that they might do more to improve the usability of their EPGs. In particular, we sought to assess the potential for speaking EPGs that could render EPG text as speech, as this appeared to have good potential to help people with visual impairments.
- 2.18 In April 2014, we convened a roundtable with blind and visually-impaired people, with the aim of improving our understanding of their experience with using EPGs and other sources of information about TV programmes, and sharing this understanding with TV service

¹² 2015 report available [here](#)

¹³ People with visual impairments and communications services, July 2008, Ofcom, available [here](#)

¹⁴ What's on the telly? Proposed improvements to EPG accessibility for people with visual impairments, July 2015, Ofcom, available [here](#)

providers. The roundtable was also attended by the major EPG providers – Sky, Virgin, YouView, Freesat and Digital UK (which manages the Freeview EPG) – and by groups representing the interests of blind and visually-impaired people – the RNIB, the Macular Society and the Royal Blind / Scottish War Blinded charity.

- 2.19 We decided to gather more information on the feasibility of implementing text-to-speech ('TTS') capabilities in EPGs, and in July 2014 published a 'call for inputs' (CFI) seeking views on the following propositions:
- a) including TTS capability in EPGs might make it much easier for people with visual impairments to use EPGs for more of the same purposes as sighted people;
 - b) it may now be practicable for providers to incorporate TTS in future versions of their EPGs, though they may not be sufficiently incentivised to do this of their own volition; and
 - c) ancillary devices and apps for mobile devices that some EPG providers offered are likely to be helpful to some visually-impaired TV viewers, but may be difficult to use and expensive to afford for many visually-impaired viewers, so may not be adequate substitutes for TTS-enabled EPGs.
- 2.20 In July 2015, we consulted on proposed amendments to the EPG Code with the aim of improving EPG accessibility for people with visual impairments. That consultation document¹⁵ included a detailed summary of responses to the CFI above.
- 2.21 Responses to the 2015 consultation are summarised in Section 3 below. Having taken into account the responses to the June 2015 Consultation, we have decided to re-consult on revised proposals. Re-consulting also allows us to take into account technological and market developments since 2015 as outlined below, as well as broader legislative developments, such as the mandating of TTS functionality by the FCC¹⁶ in the United States, and the progress of the European Accessibility Act¹⁷.

Accessibility features currently available

- 2.22 In March 2017, we invited respondents from the 2015 consultation to provide an update to the accessibility features that are currently available within their products and services. This was complemented by further research of the market and what is currently available to visually impaired consumers. Panasonic and Samsung have incorporated TTS in their televisions over recent years and provide access to most EPG functionality and content. Their accessibility features enable menus to be read out, helping visually-impaired users to use TTS as an aid to navigate the EPG. The table in Figure 1 below sets out Ofcom's understanding of the accessibility features available with EPGs offered by current EPG providers.

¹⁵ See Annex 3 [here](#)

¹⁶ See [here](#) for the FCC rules

¹⁷ Information about the proposal can be found [here](#)

Figure 1: accessibility features currently available in licensed EPGs

EPG Provider	Device via which EPG made available	Accessibility features currently available				
		Text to speech	High contrast displays	Magnification / larger text options	Filtering / highlighting by access service	TTS companion app
BT	BT YouView set top boxes	✗	✓	✓	✗	✓ (YouView+ Ultra HD box only)
Digital UK (Freeview EPG)	Freeview set top boxes	✗	✗	✗	✗	✗
	Smart TVs	Samsung ✓ Panasonic ✓	Samsung ✓ Panasonic ✗	Samsung ✓ Panasonic ✗	Samsung ✗ Panasonic ✗	N/A
EE	EE set top box	✓ Voice activation via Amazon Echo	✗	✗	✗	✗
Freesat	Freesat set top boxes	✗	✗	✗	✗	✗
	Smart TVs	Samsung ✓ Panasonic ✓	Samsung ✓ Panasonic ✗	Samsung ✓ Panasonic ✗	Samsung ✗ Panasonic ✗	N/A
Sky	Sky set top boxes	✗	✓	✓ On homepage	✓	✓
TalkTalk	TalkTalk YouView set top boxes	✗	✓	✓	✗	✗
Virgin Media	Virgin set top boxes	✗	✓	✓	✓	✓
YouView	YouView set top boxes	✗	✓	✓	✗	✓
	Sony Android TV	✓ Via Google Text to Speech engine	✓	✓	✓	✓

- 2.23 We also note the following:
- a) some respondents award their trademark licence only to devices which comply with specific requirements on accessibility including audio description;
 - b) improvements have been made in some set-top boxes in providing a specific location to access for programmes with audio description;
 - c) EPG providers who develop their own set-top boxes have committed to increasing accessibility feature within recently launched products, e.g. Sky's new Sky Q set top box and Virgin Media's V6 set top box;
 - d) several respondents highlighted the developments they have made with second screen and companion devices that allow consumers to often access accessibility features through the use of a tablet or a mobile phone that is linked to their set-top box and sometimes, online cloud-based services; and
 - e) Digital UK manages the Freeview electronic programme guide, available via a wide range of set top boxes and smart televisions. Ofcom's research suggests that information about the accessibility features supported by these devices is not readily available.

Impact assessment

- 2.24 The analysis presented in this document, together with Annex 6, constitutes an impact assessment as defined in section 7 of the Act. Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making.

Equality impact assessment

- 2.25 Annex 7 contains our Equality Impact Assessment ('EIA') for the proposals set out in this consultation document. Ofcom is required by statute to assess the potential impact of all our functions, policies, projects and practices on the following equality groups: age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief and sexual orientation. EIAs also assist us in making sure that we are meeting our principal duty of furthering the interests of citizens and consumers regardless of their background or identity.
- 2.26 We envisage that our proposals, if implemented, would have a positive impact on people with disabilities, and that they would not be to the detriment of any particular group of society. Nor have we seen the need to carry out separate EIAs in relation to the additional equality groups in Northern Ireland: religious belief, political opinion and dependants. This is because we anticipate that our proposals will not have a differential impact in Northern Ireland compared to consumers in general.

3. Legal framework

The Communications Act 2003

- 3.1 In considering the issues addressed in this consultation, we must take account of our statutory duties, as set out in the Communications Act 2003 (the 'Act').
- 3.2 Ofcom's principal duty, set out in section 3(1) of the Act, is to further the interests of:
- a) citizens in relation to communications matters, and
 - b) consumers in relevant markets, where appropriate by promoting competition.
- 3.3 In carrying our statutory duties, we are required by section 3 of the Act to have regard in all cases to a variety of factors, including:
- a) the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed; and
 - b) any other principles appearing to us to represent the best regulatory practice.
- 3.4 In addition, section 3(2) of the Act requires Ofcom to secure certain things in carrying out its statutory functions, including the availability throughout the United Kingdom of a wide range of television and radio services which (taken as a whole) are both of high quality and calculated to appeal to a variety of tastes and interests.
- 3.5 In carrying out our duties, we must also have regard to certain matters listed in section 3(4) of the Act, as appear to us to be relevant in the circumstances. These matters include, in particular, the needs of persons with disabilities, of the elderly and of those on low incomes (section 3(4)(i)).
- 3.6 In performing our duty to further the interests of consumers, we are also required to have regard in particular to the interests of those consumers in respect of choice, price, quality of service and value for money.
- 3.7 We are also required to:
- a) keep the carrying out of Ofcom's functions under review to ensure that regulation does not involve the imposition of burdens which are unnecessary or the maintenance of burdens which have become unnecessary (section 6); and
 - b) take such steps and to enter into such arrangements as appear to us calculated to encourage others to secure that domestic electronic communications apparatus is developed which is capable of being used with ease, and without modification, by the widest possible range of individuals (including those with disabilities); and such apparatus is as widely available as possible for acquisition by those wishing to use it (section 10).
- 3.8 Ofcom has also certain duties which specifically relate to the accessibility of EPGs, set out in section 310 of the Act. In particular, these are to draw up, and from time to time review

and revise, a code giving guidance as to the practices to be followed in the provision of electronic programme guides (section 310(1)).

- 3.9 Section 310(2) of the Act provides that the practices to be required by the code must include the incorporation of such features in EPGs as Ofcom consider appropriate for securing that persons with disabilities affecting their sight or hearing or both:
- a) are able, so far as practicable, to make use of such guides for all the same purposes as persons without such disabilities; and
 - b) are informed about, and are able to make use of, whatever assistance for disabled people is provided in relation to the programmes listed or promoted.

Ofcom's Code on Electronic Programme Guides¹⁸

- 3.10 Under the Broadcasting Act, Ofcom licenses providers of EPGs that are 'made available for reception by members of the public' and consist of the listing or promotion (or both) of television programmes together with a facility for obtaining access to those programmes (the '**EPG licensees**' or '**EPG providers**'). EPG licensees are required to ensure that the rules set out in Ofcom's EPG Code are observed in the provision of EPGs.
- 3.11 Ofcom's EPG Code was adopted in 2004 and amended in March 2005. Paragraphs 5 to 13 of the EPG Code concern the requirements that EPG providers should meet in relation to assistance to people with hearing and/or visual disabilities.
- 3.12 Specifically, paragraph 6 of Ofcom's EPG Code sets out general principles with which EPG providers must comply. Amongst these is a requirement, in particular, to make such adjustments to their EPGs as are practicable to secure that they can be used by people with disabilities affecting their sight or hearing for all the same purposes as they are used by other people (paragraph 6(a)).
- 3.13 Paragraph 7 of the EPG Code says that 'Ofcom expects EPG providers to consult disability groups about the way they meet their obligations under the code'.
- 3.14 Paragraph 8 of the EPG Code notes that 'much of the functionality of EPGs is dependent upon set top box hardware and software, as well as the data made available by broadcasters', but makes clear that 'Ofcom expects the needs of people with disabilities affecting their sight or hearing to be an integral part of planning for the future development of EPGs'.
- 3.15 Paragraph 9 of the EPG Code requires EPG providers to produce annual statements of the steps they have taken and plan to take to facilitate the use of their EPGs by disabled people. In paragraphs 2.44-2.45, we discuss the accessibility features that are already incorporated in EPGs, including some with text-to-speech functionality.

¹⁸ The EPG Code is available [here](#)

- 3.16 Paragraph 11 of the EPG Code requires that EPG providers ensure that programme information denotes whether access services are provided, using standard acronyms: S (subtitling), SL (sign language) and AD (audio description).
- 3.17 Paragraph 12 of the EPG Code requires EPG providers to provide information for people with disabilities about assistance in relation to programmes (e.g. how to use the EPG).
- 3.18 Paragraph 13 of the EPG Code requires EPG providers to work with broadcasters, platform providers and disability groups to publicise the information and facilities available on EPGs to assist disabled people.
- 3.19 Paragraph 10 of the EPG Code reminds EPG providers of their obligations under the Disability Discrimination Act 1995, now replaced by the Equality Act 2010, to make reasonable adjustments in the provision of facilities and the delivery of services so as to make these accessible to disabled people.

The ‘Audiovisual Media Services Directive’

- 3.20 Directive 2010/13/EU (the ‘**AVMS Directive**’),¹⁹ which is currently under review,²⁰ governs EU-wide coordination of national legislation on all audiovisual media services, including electronic programme guides.
- 3.21 Article 7 of the AVMS Directive requires Member States to “*encourage media service providers under their jurisdiction to ensure that their services are gradually made accessible to people with a visual or hearing disability*”. Ofcom’s proposals on EPG accessibility are in line with this EU requirement.

The ‘European Accessibility Act’

- 3.22 Since we published the 2015 consultation, the European Commission has proposed a set of common accessibility requirements at EU level for a number of products which would be set out in a Directive of the European Parliament and of the Council (the ‘**European Accessibility Act**’).²¹ These initial proposals also include accessibility requirements for audiovisual media services such as television broadcast, and related consumer equipment.²² Specifically, the proposed accessibility requirements for these services (and related consumer equipment) include, among other requirements, alternatives to speech for communication, and flexible magnification and contrast.
- 3.23 The European Accessibility Act is still going through its legislative process.²³ The Council (of EU Member States) has not yet outlined its position, but has noted that “for the

¹⁹ See the Directive [here](#)

²⁰ Information on the review can be found [here](#)

²¹ The [European Commission proposal](#) for a Directive of the European Parliament and of the Council on the approximation of the laws, regulations and administrative provisions of the Member States as regards the accessibility requirements for products and services of 2 December 2015 (COM/2015/0615 final);

²² See Article 3(5) of the European Commission proposal.

²³ See [here](#)

audiovisual sector, it would be important to clarify which aspects should be included in the Audiovisual Media Services Directive (AVMS) and which ones in the EAA”,²⁴ and it has separately proposed to ‘reinforce’ the requirements to ensure accessibility for disabled persons in Article 7 of the AVMS Directive.²⁵ On 14 September 2017, the European Parliament adopted some amendments²⁶ to the Commission’s proposals on the European Accessibility Act, which will be subject to negotiations with EU Member States. If these amendments were agreed, the accessibility requirements concerning audiovisual media services, including EPGs, would remain in the AVMS Directive.

²⁴ See page 2 of the [Progress Report](#) from the Permanent Representatives Committee to the Council of 1 June 2017;

²⁵ See pages 4 and 27 of the [Note](#) from the General Secretariat of the Council to the Council of 16 May 2017, concerning the AVMS Directive

²⁶ See [here](#)

4. Proposed changes to the EPG Code

The 2015 consultation: responses and proposed changes

4.1 In paragraphs 3.6-3.34, we summarise stakeholder's responses to the questions posed in the 2015 consultation. With the exception of submissions that are confidential in whole or part, all the responses are available on our website.²⁷

Ofcom's initial proposals

4.2 In the 2015 consultation, we proposed that EPG licensees that provide or intend to provide EPGs suitable for multi-functional TV receivers should use their best endeavours to secure that those TV receivers incorporate the options for users to:

- a) render text needed for EPG navigation and the provision of information on channels and programmes included in the EPG as speech;
- b) highlight or list separately programmes with audio description, and with signing;
- c) adjust the display of EPG information so that it can be magnified, or the text enlarged; and
- d) select a 'high-contrast' display, defined as having a minimum contrast ratio of 7:1.

4.3 We proposed to remove the existing requirement that EPG licensees report annually on the accessibility of their EPG.

4.4 We invited comments from stakeholders. In particular, we asked whether respondents agreed with the benefits of the features proposed, and whether respondents could provide information that would help to quantify the additional costs that EPG providers and TV receiver manufacturers would face in providing these features.

Respondents to the 2015 consultation

4.5 Respondents to the 2015 consultation included:

- a) EPG providers, including BT, Digital UK (DUK, which holds the Freeview EPG licence, on behalf of Arqiva, the BBC, Channel 4 and ITV), EE TV, Freesat, Sky, TalkTalk, Virgin Media, Vodafone, and YouView (the EPG provider for BT and TalkTalk);
- b) TV receiver manufacturers, including LG and Panasonic, as well as the trade body for TV receiver manufacturers selling in the UK – techUK (which also represents manufacturers of many other consumer products);
- c) groups and bodies representing the interests of people using television access services – the Macular Society (MS), the Royal National Institute for Blind People (RNIB), Scottish War Blinded (SWB), Sense, and the Voice of the Listener and Viewer (VLV). There was also a joint submission from the Communications Consumer Panel (CCP) and the Advisory Committee on Older People (ACOD);

²⁷ See [2015 consultation responses](#)

- d) individual respondents – people with visual impairments and others; and
- e) the International Telecommunications Union, which did not comment on the consultation questions, but drew attention to its work in the area of EPG accessibility.²⁸

Responses to the 2015 consultation

- 4.6 We note that the following comments reflect stakeholder submissions to the 2015 consultation and that positions may have changed in the intervening period.

Stakeholders' general comments

- 4.7 All stakeholders who responded to the 2015 consultation indicated that they were committed to increase accessibility to EPGs to people with visual impairments.
- 4.8 Respondents representing the interests of people with visual impairments agreed that the proposed features (and particularly TTS) would benefit hugely TV viewers with visual impairments (CCP, MS, RNIB, Sense, VLV, several individuals). Some (MS and RNIB) pointed to the growing number of people with sight loss; two also suggested that other groups might benefit, such as non-native speakers of English (RNIB) or people with dyslexia (Sense).
- 4.9 Industry respondents also strongly supported the aims of the proposals. However, a number of these industry respondents raised general objections to Ofcom's approach. Several EPG providers said that Ofcom should take a broader view of accessibility rather than specifying a limited set of features. In their view, such features serve only some accessibility needs (BT, Sky) and the profile of each company and its product offering needs to be taken into account (Sky, Virgin) in order to prioritise resources to achieve maximum impact for customers with accessibility requirements (Sky) rather than diverting resources to these particular features (Sky, Virgin).
- 4.10 These respondents also suggested that limiting the scope of requirements to EPG guides to linear services missed the importance of on demand / catch-up programming (TalkTalk, Virgin).
- 4.11 Industry respondents also suggested that Ofcom had not taken into account the range of existing options available to consumers, including companion apps (Sky), and that at a time when standards for such innovative accessibility solutions are in development, it is too early to mandate particular requirements (confidential respondent). Virgin suggested that as at the time of writing in 2015, those preferring a TTS enabled device currently had the option to use Samsung or Panasonic smart TVs.
- 4.12 Several industry respondents argued that they were less well placed than other EPG providers to secure the proposed accessibility features, suggesting that they lacked leverage to secure that features are implemented by their partner manufacturers, and could not recoup costs via subscriptions.

²⁸ See 12 of Module 4 of ITU's [report](#) on *Model ICT Accessibility Policy*, International Telecommunications Union

- 4.13 Providers also pointed to the significant disparity in size, resources and budgets of EPG providers (two confidential respondents).
- 4.14 Responses varied on the need for regulatory intervention in this area. Consumer charities and individuals agreed that progress was not likely without intervention, as evidenced by the current lack of accessible EPGs on the market. EPG providers suggested that regulation could inadvertently quash innovative accessibility developments. While some EPG providers supported an amended requirement, others were opposed to regulation in this area (confidential respondent, Vodafone). Some EPG providers suggested that dialogue and co-operation with industry would be more fruitful, with solutions proposed on a case-by-case basis (Sky). TechUK recommended research into currently available solutions and user preferences, and industry collaboration on the standardisation of current solutions.

Stakeholders' comments on costs

- 4.15 Industry respondents made comments more directly relating to the commercial impact of introducing the proposed requirements, which can be summarised as follows:
- a) the proposed requirements would deny the opportunity to offer accessibility features as a unique selling point (Vodafone);
 - b) UK-specific technology standards and platform specifications would not engage economies of scale and would drive up costs (Tech UK, confidential respondent), slow technology adoption and delay the development and production of new models (TechUK);
 - c) enforced provision of TTS in entry-level devices might result in some manufacturers avoiding the UK market (Tech UK, confidential respondent), if some of the costs are passed on to manufacturing partners (confidential respondent).
- 4.16 Ofcom asked whether respondents had any information that would help quantify the additional costs that EPG providers and TV receiver manufacturers would face in providing each of the proposed accessibility features.
- 4.17 The RNIB explained that it had been involved in integrating a speech engine with an existing set-top box for about £80k and creating a talking set top box from scratch for around £300k (excluding TTS engine licensing costs). Noting that these were pioneering projects, the RNIB suggested that the costs now for equivalent elements would be much lower – for example, an accessibility software developers' kit is now available for TVs using the Android operating system.
- 4.18 Industry respondents argued that the proposals would result in higher costs for EPG providers and receiver manufacturers (confidential respondent, Panasonic, Sky). In their view, introducing these features into all products could drive up costs which would be borne by all consumers (Sky) and could drive product prices to levels out of reach of the average consumer (confidential respondent). Some respondents expressed concern about the possible need for conformity testing in relation to these features, which would also increase costs.

- 4.19 In terms of actual costs, four respondents gave high-level cost estimates but without a detailed breakdown. Other respondents said that they could not quantify the additional costs that EPG providers and TV receiver manufacturers might face (BT, two confidential respondents, Panasonic, Sky, techUK, YouView), though some itemised the main cost elements. Several respondents argued that enabling TTS would be significantly more expensive than other accessibility features. A confidential respondent said that it understood from preliminary discussions with the manufacturing community that the costs might be very significant. The filtering of programmes by access service was thought least costly (confidential respondent). A fuller assessment of costs can be found in our Impact Assessment (Annex A6).

Stakeholders' comments on 'best endeavours'

- 4.20 Some visually-impaired people and representative groups argued that the requirement for 'best endeavours' was insufficient, and that there should be an absolute requirement on EPG providers to ensure the provision of the proposed accessibility features (RNIB, some individuals). Some called for clarity on the meaning of 'best endeavours' and for Ofcom to set out timescales for compliance (CCP).
- 4.21 EPG providers disagreed with the proposed requirement for best endeavours and suggested either that there should be no obligation, or that the obligation should be to use "reasonable endeavours". These providers felt that a strong requirement did not take into account operational and cost disparities as outlined above, resulting in an unreasonable and disproportionate requirement (confidential respondent, YouView) which would dictate certain features at the expense of more innovative functions (BT, YouView).
- 4.22 Some EPG providers added that a 'best endeavours' duty would remove their leverage in negotiations with third party equipment manufacturers (BT, YouView). Many favoured a 'reasonable endeavours' duty (BT, confidential respondent, YouView), which they felt would allow some EPG licensees to prioritise other accessibility features that would address a wider market (BT, confidential respondent, YouView). Other industry respondents (TalkTalk, Virgin) suggested that the requirements as framed would not help the most vulnerable in society who were likely to use Freeview or Freesat

Stakeholders' comments on text-to-speech ('TTS')

- 4.23 Implementation of TTS functionality was clearly viewed as the key proposal at issue in the 2015 consultation, in relation to both benefits and costs (see above).
- 4.24 In this context, respondents also focussed on whether or not alternatives such as companion device apps are a suitable substitute for TTS built into receivers. Most respondents supported this functionality in principle, although some suggested that TTS via TV receivers could disrupt the experience of other users in the room (BT).
- 4.25 Others pointed to their customers' use of their TTS-enabled apps (Sky, Virgin). Sky said that it had invested in accessibility functionality based on the profile of the Sky user (80% of whom have an internet connection and a smart phone or tablet, so could use Sky's TV

guide app) and its customers' accessibility priorities. Sky asserted that visually-impaired people had been making increasing use of such devices, and that they offered a better solution to the accessibility needs of the visually-impaired, without the requirement for regulation.

- 4.26 However, those representing people with visual impairments, and individual respondents, suggested that those with visual impairment (who are more likely to be in an older demographic) cannot use smartphone apps easily – indeed some respondents suggested that the current setup of TTS-enabled TV receivers was also difficult to use for many of the relevant consumers (SWB).

Stakeholders' comments on other accessibility features (highlighting / magnification / high contrast displays)

- 4.27 Most respondents agreed that these additional features would be desirable for those with visual impairment, who cannot always find the increasing number of programmes available with audio description (RNIB). Industry respondents generally agreed that it would be feasible to implement highlighting (two confidential respondents, Sky) and/or magnification (YouView, BT, TalkTalk). Others said that Ofcom should not prescribe this particular solution as there are other ways of achieving the same end, e.g. an alternative EPG layout or tailored listing policy (Vodafone).
- 4.28 While a confidential respondent felt that the filtering of programmes by access service was likely to be least costly, other respondents said that high contrast displays would be the easiest of the features to provide (EE). Respondents agreed that a ratio of 7:1 would ensure a good contrast level for people with colour blindness (RNIB, Sky, YouView, BT).

Stakeholders' comments on the application to multi-functional TV receivers only

- 4.29 Some groups representing the interests of visually-impaired people (RNIB, Sense) argued that people with visual impairments who were less affluent should not be disadvantaged, and that vendors should not require people with visual and/or hearing impairments to pay more for accessible TVs. They considered that the requirements should apply to all TV receivers, not simply to higher priced multi-functional receivers.
- 4.30 Some industry respondents suggested that where basic set top boxes are typically cheap with high margins, multi-functional boxes are expensive with low margins (confidential respondent). TalkTalk suggested that the proposals would distort competition and increase price differentials. Virgin suggested that the proposals were at odds with the European Parliament's principle of technology neutrality as set out in Directive 2002/21/EC which sets out that regulators should be neutral in their approach to regulating technology.
- 4.31 However, other industry respondents said that it was not cost effective or possible from an engineering perspective to enable all the proposed features on entry and mid-level models (Tech UK, Panasonic).

Stakeholders' comments on other proposed amendments to the EPG Code

- 4.32 Ofcom proposed certain additional changes to the Code. Many of these were editorial, but Ofcom also proposed to remove the requirements for an annual report by EPG providers on the accessibility of their EPGs.
- 4.33 Respondents generally did not comment specifically on these additional amendments.
- 4.34 Some respondents believed that the annual reporting requirements should not be removed (RNIB, CCP). Specifically, RNIB believed that EPG providers had not taken the reporting requirements seriously, and that Ofcom's monitoring of the requirement was insufficient.
- 4.35 Some EPG providers agreed with the proposed amendments (BT, YouView).

Ofcom's revised proposals

Summary

- 4.36 In light of the responses to the 2015 consultation, we have revised our initial proposals as follows:
- a) in the 2015 consultation, we proposed that EPG licensees should use their 'best endeavours' to secure the adoption of certain accessibility features. We are now proposing that EPG licensees should use 'reasonable endeavours to secure so far as practicable' the adoption of these accessibility features;
 - b) in the 2015 consultation, we proposed that EPG licensees should comply with the proposed new requirement only in respect of 'multi-functional TV receivers': i.e. those that provide both access to on-demand programming and the facility to record programmes. We are now proposing that EPG licensees should comply with the proposed new requirement (as revised) in respect of any TV receiver, including those which are not multi-functional; and
 - c) in the 2015 consultation, we proposed to remove from the EPG Code the current requirement for EPG providers to make an annual statement of the steps they have taken to facilitate the use of their EPGs by people with disabilities.²⁹ We are now proposing to retain this requirement, and add a specific requirement to detail steps taken to implement the required accessibility features.
- 4.37 Therefore, we are now proposing that EPG providers should use reasonable endeavours to secure so far as practicable that their EPGs incorporate accessibility features that enable users to:

²⁹ Paragraph 9 of the current EPG Code.

- a) render text as speech for EPG navigation and the provision of information on channels and programmes included in the EPG, to make it easier for people with limited or no useful vision to use the EPGs. We refer to this as **‘text to speech’** or **‘TTS’**;
- b) highlight or list separately programmes with audio description (and with signing), to make such programmes easier to find (**‘filtering or highlighting’** functionality);
- c) magnify parts of the EPG display, or increase the size of text, to make it easier to read (**‘magnification’** functionality); and
- d) switch between the default and ‘high contrast’ displays³⁰ (**‘high contrast’** displays).

4.38 The changes that we are proposing to make to the EPG Code are shown in Annex A5.

4.39 We propose that the changes to the EPG Code will come into force when we publish the final statement.

4.40 We explain below the reasons why, in light of consultation responses, we consider that:

- a) each of the proposed accessibility features would contribute to helping people with visual impairments, so far as practicable, to make use of EPGs for all the same purposes as persons without such disabilities, in line with section 310(3)(a) of the Act;
- b) EPG licensees should be required to use ‘reasonable endeavours’ to secure so far as practicable the incorporation of the accessibility features in TV receivers for which their EPGs are suitable;
- c) EPG licensees should continue to submit an annual report on the extent to which they have met these requirements; and
- d) in the absence of changes to the Code, it is unlikely that self-regulation would deliver similar benefits.

Proposed accessibility features

Text to speech (‘TTS’)

4.41 For the following reasons, we consider that TTS in EPGs would help make it easier for blind and visually-impaired people to use them for the same purposes as other people:

- a) both blind and visually-impaired people have told us that they find TTS a very helpful feature. At a roundtable convened by Ofcom in April 2014, blind and visually-impaired people talked about their experience of using (or not using) EPGs to find out about TV programmes, as well as other means of finding out what was on TV. All found using conventional EPGs either difficult or impossible, but a few used TTS-enabled EPGs, and those who had not encountered them hoped that they could become more generally available;

³⁰ Displays with a contrast ratio of no less than 7:1, as set out in guideline 1.46 of Web Content Accessibility Guidance 2.0. See [here](#)

- b) several respondents to Ofcom's CFI in 2014 said that they would find speaking EPGs very helpful. Some people with visual impairments told us that they live on their own, and cannot rely upon help from sighted people to navigate the TV;
- c) the RNIB, which seeks to assist blind people and promote their interests, believes that TTS would be very helpful. Indeed, it has been seeking for several years to persuade EPG providers and manufacturers of TV receivers to enable TTS for their EPGs. As part of this effort, it has worked with industry partners to develop and demonstrate TTS capability in TV receivers; and
- d) research suggests that the difficulty or inability that many visually-impaired viewers find in using EPGs places restrictions on the range of channels that they are able to use³¹.

4.42 We have also considered whether there would be technological barriers that would prevent the incorporation of speaking EPGs in TV receivers. In relation to this, we note that:

- a) the ability to render EPG text as speech was made available in set-top boxes sold by TVOnics and Harvard International several years ago, and more recently in televisions made by Panasonic, Samsung and Sony. TTS in these televisions now provides access to most EPG functionality and content. For example, it enables menus to be read out, helping visually-impaired users to use TTS as an aid to navigating the EPG; and
- b) there was little disagreement on the part of TV service providers responding to the 2014 CFI or respondents to the 2015 consultation that TTS would be feasible from a technical perspective.

4.43 We therefore consider that it may be technically feasible to provide TTS for EPGs.

4.44 We also considered whether TV guide apps made available for use with TTS-enabled mobile devices would be adequate substitutes for a TTS-enabled EPG.

4.45 In their responses to the CFI and 2015 consultation, most TV service providers argued that TV guide apps were a sufficient substitute for TTS-enabled EPGs. By contrast, most individual respondents and advocacy groups argued that, while useful to more tech-savvy people, TV guide apps were less accessible, less useful, less reliable and more expensive to consumers than TTS-enabled EPGs.

4.46 Having considered responses to the 2014 CFI, the 2015 consultation and further discussions with stakeholders since, we take note of:

- f) the developments made with TV guide apps;
- g) research which shows that older people are increasingly using smart phones and tablet devices³²; and

³¹ [People with visual impairments and communications services](#), July 2008, Ofcom

³² Finding from Ofcom's Adults' Media Use and Attitudes [report](#)

- h) the argument that each EPG provider should consider its customer profile and provide accessibility options accordingly.
- 4.47 However, we do not think that the EPG customer profile necessarily reflects the profile of disabled customers requiring accessibility features. These customers are more likely to be older (33% are over 65, compared with 18% of non-disabled consumers), sometimes with multiple impairments, and TV receivers still stand as the dominant device for viewing television within this demographic. Our 2015 report on disabled consumers' use of communications services³³ found 13% of visually impaired consumers said their use of a mobile phone was limited or prevented by their disability. Use of mobile phones in general (68%) was therefore significantly lower than access to them (83%). The same was true for use of tablets (24%) compared with access to them (33%) among visually impaired people.
- 4.48 We are therefore not persuaded that companion apps are currently a sufficient substitute for speaking EPGs, as the apps require users to:
- a) have a suitable mobile device, which many do not.
 - b) pay the costs of such a device and the continuing expense of connection to a broadband network. As three-quarters of visually-impaired people are aged 65 or over, many may be on a restricted income, and may find it difficult to meet these costs; and
 - c) possess the dexterity and cognitive abilities to use a touch-screen device they cannot see well or at all. Many (though not all) older people experience a decline in these abilities, so would find using a touch-screen device difficult or impossible.
- 4.49 We considered whether it was sufficient that those consumers who preferred to use TTS embedded within a device (rather than using a companion app) had the option to use smart TVs. However, we do not believe that this is an adequate substitute for the choice of services available to non-disabled consumers. We believe it would lead to a significant number of those requiring TTS having their choice of service limited to those available via specific smart TVs. In addition, these consumers would be required to invest in the television set itself and the broadband connection.
- 4.50 We have considered whether mandating the adoption of TTS would impose any disproportionate costs on industry, noting that some respondents to the 2015 consultation suggested that it would do so (see paragraphs 4.18 and 4.20). As discussed below (paragraph 3.73), we are now proposing to require EPG licensees to use "*reasonable endeavours to secure so far as practicable*" the adoption of the additional accessibility features rather than requiring them to use their "best endeavours" to secure the adoption of such features (as proposed in the 2015 consultation). Our provisional view is that the revised approach which we are now proposing would ensure that no disproportionate burden is imposed on industry, since we would consider on a case-by-case basis what is reasonably practicable for each individual EPG licensee.

³³ See [here](#)

Ability to highlight or list separately programmes with audio description

- 4.51 In recent years, awareness of the availability of programmes with audio description has grown³⁴. In response to the 2014 CFI, Ofcom was told by some blind and visually-impaired respondents that they only watched programmes with audio description. The choice of audio-described programmes is now better than ever, as more channels than ever are providing audio description³⁵, statutory requirements are at their maximum 10% for those channels that have been operating for five years or more, and most major broadcasters have undertaken to audio-describe more content³⁶.
- 4.52 However, the majority of programmes broadcast do not include audio description. As a result, without the ability to list audio-described programmes separately, finding them can involve looking at the information for individual programmes, a very time-consuming process, even for those with some vision (the majority of those with visual impairments, such as those with macular degeneration).
- 4.53 We note that some EPGs can be configured to highlight programmes with audio description, and to give an audible ‘beep’ when a user scrolling through the grid reaches a programme with audio description. Our understanding is that:
- a) programmes with audio description can be identified by using the meta tags that accompany programmes, and which indicate (amongst other things) whether a programme is accompanied by audio description, signing or subtitling. We note that all the major broadcasters are party to the Digital Production Partnership, which requires that content producers include this information with all new programmes;
 - b) although in some cases the ability to highlight or search for content with audio description or signing would require software changes, we understand that these are unlikely to be particularly complex or expensive, as many devices already include the ability to search for content by reference to characteristics recorded in meta tags, such as programme genre;
 - c) many TV receivers are likely to include the necessary processing power for the purposes of searching for or highlighting programmes with audio description or signing. Indeed, we note that some multi-functional receivers already include these capabilities, such as set-top boxes offered by Sky, Virgin Media and BT.
- 4.54 We consider that the ability for users to highlight programmes with audio description would make it easier for blind and visually-impaired people to use EPGs, particularly when coupled with the ability to have these results read out using text to speech. We note that respondents to the 2015 consultation generally agreed that this functionality is both feasible and helpful. We therefore propose that EPG providers should use reasonable

³⁴ [Research into the awareness of Audio Description](#), Ofcom, June 2013

³⁵ 84 channels will be required to do so in 2018, up from 82 in 2016. See [here](#)

³⁶ BC, ITV, Channel 4 and Sky (except on Sky Sports channels) have committed to audio-describing 20% of their content, and in several cases have exceeded this. Other broadcasters such as UKTV and Disney have achieved similar results. See the latest full year report [here](#)

endeavours to ensure so far as practicable that EPGs are made available with the ability to search for programmes with audio description, or to have these highlighted in the grid.

- 4.55 By the same token, as there are relatively few programmes presented in or interpreted into sign language, we consider that it would help sign language users to use EPGs to find accessible programming if the EPG also included this search functionality. Our initial view is that there would be much less value in requiring subtitling users to be able to search for programmes that are subtitled, as most of the 80 or so channels required to provide subtitling already subtitle 80% or more of their content.
- 4.56 As outlined in paragraph 3.47 above, we do not consider that this proposal would impose a disproportionate burden on industry, since we would consider on a case-by-case basis what is reasonably practicable for each individual EPG licensee.

Ability to adjust the display of EPG information so that it can be magnified or the text enlarged ('magnification')

- 4.57 Many people with sight impairments find it easier to read enlarged text, whether through large print books, regular text with magnifiers, or text on computer monitors that has been enlarged using accessibility settings available in most operating systems.
- 4.58 The RNIB worked with Harvard International to develop a STB which included the facility to enlarge the display of EPG text. It also worked with the YouView consortium on the design of its EPG, which includes the ability to magnify parts of the EPG to make it easier to read.
- 4.59 Respondent to the 2014 CFI and 2015 consultation told us that they found this feature extremely useful and would like to be able to enlarge EPG text or magnify portions of the screen.
- 4.60 We therefore consider that the ability to enlarge text or magnify portions of the EPG would help many visually-impaired people to use EPGs more easily, particularly given that the majority of the estimated two million people with visual impairments have some useful vision. We consider that the implementation of magnification functionality in several existing EPGs shows that it is technically feasible to provide this feature. Our understanding is that:
- a) the ability to enlarge text or magnify portions of the EPG would require software changes for those EPGs that do not already provide this facility. As the software to enlarge text and magnify screen-based displays has been widely used in computers for many years, our understanding is that this would not be particularly complex or expensive;
 - b) many TV receivers are likely to include the necessary processing power for the purposes of enlarging text or magnifying portions of the EPG. As noted above, multi-functional receivers using the YouView EPG already offer the possibility to magnify portions of the EPG; and
 - c) the majority of the estimated two million people with visual impairments have some useful vision, so could benefit from these facilities.

- 4.61 We note that respondents to the 2015 consultation generally agreed that this functionality is both feasible and helpful. We therefore propose that EPG providers should use reasonable endeavours to ensure so far as practicable that EPGs are made available with the ability to adjust the display of EPG information so that it can be magnified or the text enlarged.
- 4.62 As in relation to our assessment of the impact of mandating the adoption of TTS (see paragraph 3.47 above), we do not consider that this proposal would impose a disproportionate burden on industry, since we would also consider on a case-by-case basis what is reasonably practicable in this area for each individual EPG licensee.

High contrast displays

- 4.63 Some of the most common visual impairments (e.g. age-related macular degeneration and cataracts) reduce the sharpness of vision, to the point where it can become difficult to distinguish text from background. Even people – indeed most people – who do not self-identify as visually impaired are likely to experience a loss of contrast sensitivity (i.e. the ability of the visual system to distinguish between an object and its background) as they age³⁷. For this reason, the ability to view EPG displays in high contrast is an important accessibility feature, not just for people with recognised visual impairments, but for older people in general.
- 4.64 According to Ofcom’s (current) EPG Code, we expect EPG providers to consult disability groups about the way they meet their obligations under the Code (paragraph 7) and to work with disability groups, broadcasters and set top box manufacturers on ways of improving usability (paragraph 8). We are aware that the RNIB has advised EPG providers on features that people with visual impairments consider helpful, including the provision of high contrast displays. We welcome the RNIB’s guidance on best practice, which underlines the importance both of high contrast displays and of magnification, as accessibility features that help people with vision impairments, and provides helpful advice to EPG designers.
- 4.65 We are pleased to note that several EPG providers have recognised the benefits of high contrast displays to people with visual impairments with many now providing an alternative display designed explicitly for people with visual impairments.
- 4.66 We understand that the level of contrast is one of the most important determinants of the legibility of text in EPGs for people with low vision. A standard approach to measuring visual acuity is to describe it as a ratio of what a person with normal vision may see, compared to the perception of a person with low vision. Thus, a person with 20/70 vision who is 20 feet from an eye chart sees what a person with unimpaired (or 20/20) vision can see from 70 feet away³⁸. A person with relatively low visual acuity will have less contrast

³⁷ See, for example Cynthia Owsley’s [review](#) of research since 1985, *Aging and Vision*, 23 October 2010, [Contrast sensitivity and aging](#), Vision Sciences Research Corporation, and [Age related changes in visual acuity](#), Gittings, NS and Fozard, JL (1986). *Experimental Gerontology*, 21(4-5), 423-433.

³⁸ [Low Vision and Legal Blindness](#) Terms and Descriptions, VisionAware, American Foundation for the Blind

sensitivity than someone with normal vision. Increasing the contrast (or luminance) ratio of images can help to compensate for this. So, a person with low vision will require a higher contrast ratio to make text legible, compared to someone with normal vision³⁹.

- 4.67 For this reason, we consider that it is important that EPG designers are made aware of the appropriate minimum contrast ratio. Without clarity about what ‘high contrast’ means, there is a risk that the levels of contrast delivered by EPG providers would fall short of that which is appropriate to meet the needs of people with low vision, and that there would be no regulatory remedy.
- 4.68 Therefore, prior to the 2015 consultation, we asked RNIB for its view of what an appropriate contrast ratio would be for information contained in EPG displays. It suggested a contrast ratio of 7:1, as recommended by Worldwide Web Consortium (W3C) for screen-based text meeting its ‘AAA’ success criterion. The RNIB considers that this level of tonal contrast would also ensure a reasonable level of colour contrast for the benefit of people with colour blindness.
- 4.69 W3C is a standards-setting organisation, with a broad global membership, which seeks to enhance the accessibility of web content⁴⁰. It suggests different minimum contrast ratios, depending on the intended users. For example, for a person with 20/40 vision (reported to be the typical visual acuity of people of about 80), the contrast ratio recommended by the W3C is 4.5:1. For people with moderately low visual acuity, congenital or acquired colour deficiencies, or the loss of contrast sensitivity that typically accompanies aging, W3C recommends a higher contrast ratio of 7:1 for regular text, and 4.5:1⁴¹ for larger text.
- 4.70 We note that the 7:1 contrast ratio for regular text has been adopted by a wide variety of professional and governmental bodies. In addition to being recommended by W3C, it has been incorporated into an American National Standards Institute (ANSI) standard, for the purpose of ensuring that that projected images offer sufficient contrast⁴², and by the UK Department of Transport and the US Federal Highways Administration in guidance on signage⁴³. It is also widely cited in guidance on human factor design and guidance on enhancing web accessibility.
- 4.71 We therefore consider that:
- a) contrast ratios geared to the needs of people with low contrast sensitivity would make it easier for them to use EPGs;

³⁹ [Influences of Contrast Sensitivity on Text Readability in the Context of a Graphical User Interface](#), (1998), Benjamin A. Parker, Dr. Lauren F. V. Scharff, Stephen F., Austin State University

⁴⁰ W3C is a consortium comprising a wide range of members, including academics (including several British universities), telecommunications companies (including BT), government agencies (including HMG), manufacturers of electronic equipment (LG Electronics, Panasonic, Samsung), broadcasters (BBC, NHK, Walt Disney) and advocacy groups (RNIB, Media Access Australia, Vision Australia), amongst others.

⁴¹ Available [here](#)

⁴² ANSI/INFOCOMM 3M-2011 Projected Image System Contrast Ratio Standard. As an ANSI Accredited Standards Developer Organization (ASD), InfoComm promulgates standards for the audio-visual industries.

⁴³ Department of Transport Circular 2/93, [Street name plates and the numbering of premises](#), 15 December 1993; [General guidelines](#) for advanced traveller information system (ATIS) displays, Federal Highway Administration

- b) specifying a minimum contrast ratio would provide clarity to EPG providers and TV receiver manufacturers in designing EPGs and the equipment that displays them, and help in ensuring compliance;
- c) a standard developed for screen-based displays of web content would also be apt for screen-based displays of EPG content; and
- d) while EPG providers may not wish their primary display mode to be built around the needs of visually-impaired viewers, there would be scope for them to offer an accessible high contrast alternative, as YouView and Sky have done.

4.72 Our understanding is that:

- a) the software changes needed to deliver high contrast displays are unlikely to be complex or expensive, as many EPG providers already offer this choice. In some cases, adjustments may be needed in EPGs for use in next-generation multi-functional TV receivers to provide a contrast ratio of 7:1, but as this standard has been in existence in the world wide web environment for some years, it seems unlikely that the necessary modifications would be complex or expensive;
- b) no significant changes would be required to hardware, as modern TV receivers are capable of displaying content with a wide range of contrast ratios.

4.73 We note that respondents to the 2015 consultation generally agreed that this functionality is both feasible and helpful, with some considering that this would be the easiest of the proposed features to implement. We therefore propose that EPG providers should use reasonable endeavours to ensure so far as practicable that EPGs are made available with the ability to switch between the default and ‘high contrast’ displays⁴⁴.

4.74 As outlined in paragraph 3.47 above, we do not consider that this proposal would impose a disproportionate burden on industry, since we would consider on a case-by-case basis what is reasonably practicable for each individual EPG licensee.

‘Reasonable endeavours’

4.75 In the 2015 consultation, we proposed that EPG licensees should use their ‘best endeavours’ to secure the adoption of the additional accessibility features. A number of respondents disagreed with this approach on the basis that it would be disproportionate, and some respondents (BT⁴⁵, YouView⁴⁶, confidential respondent⁴⁷) suggested that a requirement to use “reasonable endeavours” would be more appropriate.

⁴⁴ Displays with a contrast ratio of no less than 7:1, as set out in guideline 1.46 of Web Content Accessibility Guidance 2.0. See [here](#)

⁴⁵ BT said that “‘reasonable endeavours’ would allow EPG providers to enter into genuine and reasonable negotiations with manufacturers” (BT’s response, page 1. See also BT’s responses to questions Q3 and Q5).

⁴⁶ YouView said that: “It is YouView’s view that if Ofcom is committed to mandating a requirement, then it should be a commitment to meet reasonable endeavours” (YouView’s response, §2.13).

⁴⁷ This confidential respondent suggested that we should adopt an approach similar to the Equality Act 2010, which requires service providers to make “reasonable adjustments” to ensure a disabled person receives the same services, as far as this is possible, as someone who is not disabled.

- 4.76 In light of consultation responses, we are now proposing that the EPG Code should be amended to require EPG licensees to use *'reasonable endeavours to secure so far as practicable'* the adoption of the additional accessibility features.
- 4.77 We recognise that EPG licensees do not necessarily have total control over all the elements needed to deliver the accessibility features we propose, which includes the software and hardware in TV receivers, both of which are essential to the delivery of the EPG. Nonetheless, we note that EPG licensees do normally have a degree of influence over the specification of many TV receivers which are either provided by EPG licensees to their subscribers or marketed by TV receivers manufacturers which have been granted a trademark licence by EPG licensees. The nature and extent of this influence may vary.
- 4.78 For example, our understanding is that Sky and Virgin have effective control of the features of set-top boxes made for them by contract manufacturers. By contrast, TalkTalk and BT, which use YouView-based boxes, might have to negotiate with other YouView consortium members (BBC, ITV, Channel 4, Channel 5, Arqiva) to secure agreement on a common specification and the sharing of development costs.
- 4.79 Freesat and Freeview, which offer trademark licences to manufacturers of TV receivers, each devise core common specifications for those products, and require manufacturers to commit to those specifications. Sometimes these are designed to ensure that customers obtain the same core functionality and a consistent look and feel, whether their STBs are made by Humax, Huawei or Vestel.
- 4.80 Similarly, our understanding is that the YouView specification is quite detailed, and mandates several accessibility features, some of them of particular benefit to viewers with visual impairments, including high contrast displays and the ability to magnify portions of the screen.
- 4.81 In principle, we understand that the less detailed the core specification, and the more scope given to manufacturers to differentiate their products, the more likely it is that they will take out trademark licences from licensors such as Freeview, Youview or Freesat. This in turn helps the licensors to achieve their primary objective, which is to compete successfully for market share with pay TV operators.
- 4.82 We note that manufacturers of TVs as distinct from set top boxes may only use basic EPG data from Freeview, and so Freeview's ability to influence them may be limited. However, as noted above (see Figure 1), some smart TV manufacturers already offer some of the proposed accessibility features in their TV sets, including TTS.

Question 1 (Accessibility features)

Q1(a) - Do you agree that EPG providers should use reasonable endeavours to secure so far as practicable that their EPGs⁴⁸ include options for users to use all or as many as possible of the following accessibility features: (a) 'text-to-speech', (b) 'filtering or highlighting', (c) 'magnification' and (d) 'high contrast' displays (i.e. with a contrast ratio of no less than 7:1)? If not, please explain why you do not agree giving reasons.

Q1(b) – Do you agree with the changes to the EPG Code that we propose to make to implement these proposals? If not, please explain why you do not agree giving reasons.

Rolling out to TV receivers

- 4.83 As mentioned above (paragraph 3.35), in the 2015 consultation we proposed that EPG licensees should comply with the proposed new requirement only in respect of “multi-functional TV receivers”: i.e. those that provide both access to on-demand programming and the facility to record programmes.
- 4.84 We agree with respondents to the 2015 consultation who expressed concerns that this proposal risked improving accessibility only for those able to purchase higher-end products. In light of our current proposal to require EPG licensees to use “*reasonable endeavours to secure so far as practicable*” the adoption of the additional accessibility features, we are now proposing that EPG licensees should comply with the proposed new requirement (as revised) in respect of any TV receiver, including those which are not multi-functional.
- 4.85 We acknowledge the responses to the 2015 consultation which suggested that it may not be possible from a cost or engineering perspective to enable all the proposed features on entry level models (see paragraph 4.30). However, our revised approach will allow us to take a more nuanced approach when taking a view on whether reasonable endeavours have been taken, so far as practicable, to secure the additional accessibility features, in a given case. The revised approach which we are now proposing has the advantage of not disregarding a group of TV receivers out of hand, but rather judging each case on its own merits. We also note that this approach addresses concerns about technology neutrality, by applying a consistent approach to all TV receivers.
- 4.86 Over time, we would expect the cost of providing the accessibility features to fall due to the economies of scale, and the use of the necessary components in TV receivers to become more widespread.
- 4.87 We understand that many TV receivers may already be in advanced stages of their product development cycle. We do not wish to interrupt those current advanced TV receivers but believe manufacturers should use reasonable endeavours so far as practicable for those TV

⁴⁸ When accessed on new models of TV receivers commencing development from the date when changes to the code enter into force, and any subsequent models

receivers being developed from when the proposed changes to the EPG Code are implemented to incorporate the proposed accessibility features.

- 4.88 Therefore, the proposed changes to the EPG Code would apply to the next generation of all TV receivers, including integrated TV sets. However, where some of the changes simply require a software update, we would expect EPG licensees to use their commercial influence to get the new accessibility features included in TV receivers that have already been supplied to consumers.

Question 2 (Rolling out to all TV receivers) - Do you agree that the proposed features should be rolled out on all new models of TV receivers commencing development from when the changes to the EPG Code that we are proposing enter into force, and any subsequent models (using reasonable endeavours, so far as practicable)? If not, please explain why you do not agree giving reasons.

Monitoring/reporting requirements

- 4.89 The existing EPG Code (paragraph 9) requires EPG licensees to produce an annual statement of the steps they have taken and plan to take to facilitate the use of their EPGs by disabled people. In the 2015 consultation, we proposed that this reporting requirement is removed, in lieu of requiring particular accessibility features.
- 4.90 Since we are now proposing a more flexible requirement for EPG licensees to use 'reasonable endeavours to secure so far as practicable' the adoption of the additional accessibility features (see paragraph 3.73), we believe that the annual monitoring of progress remains important. To make this more effective, we propose to amend the EPG Code to make clear that if an EPG licensee has been unable to secure all or any of the prescribed accessibility features, the annual statement should outline the alternative steps the EPG provider has taken to increase accessibility (see paragraph 3.95 below).
- 4.91 We will assess the adequacy of these statements in the light of the particular circumstances of each EPG provider and publish an annual report.

Question 3 (Reporting requirement) - Do you agree with our revised proposal to retain and amend paragraph 10 of the current EPG Code, which requires EPG licensees to produce an annual statement regarding accessibility? If not, please explain why you do not agree giving reasons.

Is regulation required?

- 4.92 We note that Ofcom is required to review and revise the EPG Code from time to time, and that the practices required by the Code must include the incorporation of such features in EPGs as Ofcom considers appropriate for securing that people with visual impairments can

use EPGs for all the same purposes as other people, so far as practicable. Our current view, subject to consultation, is that the full suite of proposed accessibility features would be appropriate for this purpose. We are therefore proposing to amend the EPG Code so that it would require EPG providers to adopt the proposed accessibility features in the future.

- 4.93 We have carefully considered whether self-regulation might further or secure the same objectives. Specifically, we have considered whether the proposed accessibility features are likely to be made available for EPGs in TV receivers without regulation.
- 4.94 In their responses to Ofcom’s 2014 CFI, none of the TV service providers committed to incorporating text to speech in future EPGs. We also note that the lead time for developing EPGs for TV receivers can be a few years, so that a decision by EPG providers not to use reasonable endeavours to secure so far as practicable the additional accessibility features feature could defer the prospect of a more accessible EPG for visually-impaired viewers for several years.
- 4.95 We also note that since the 2014 CFI and 2015 consultation there has been little progress in introducing the features proposed in that consultation, and only one additional EPG provider is able to support TTS (YouView via Sony smart TVs).
- 4.96 We note furthermore that international developments in this area also support the need for intervention. The FCC in the United States has mandated the use of TTS to render EPGs more accessible⁴⁹.
- 4.97 For these reasons, we are not persuaded that, absent regulation, TTS-enabled EPGs would be widely adopted by many of the most popular pay and free-to-air providers of TV services for the foreseeable future. As regards other proposed accessibility features, such as high contrast displays or filtering/highlighting, we note that some EPG providers have provided some of these, but none has provided all. It is possible that, over time, these features might be provided in due course. However, there is no guarantee this would be the case.

How we propose to implement these changes in the EPG Code

- 4.98 In order to implement the changes discussed above, we propose to amend the EPG Code as follows:
- a) replace paragraph 8 of the current Code⁵⁰ with the proposed paragraph 8 set out below;
 - b) add the proposed paragraph 9 set out below between the proposed paragraph 8 and the current paragraph 9; and
 - c) amend the current paragraph 9 (to be re-numbered as paragraph 10) as shown below (the words underlined are those that we propose to insert, the words struck through are those that we propose to delete).

⁴⁹ The FCC rules can be found [here](#)

⁵⁰ The current EPG Code is available [here](#)

Proposed changes to the EPG Code (proposed paragraphs 8-10)

8. EPG providers should use reasonable endeavours to secure so far as practicable that their EPGs⁵¹ include options for users to do all or as many as possible of the following:
- a. render text needed for EPG navigation and the provision of information on channels and programmes included in the EPG as speech;
 - b. highlight or list separately programmes with audio description, and with signing;
 - c. adjust the display of EPG information so that it can be magnified, or the text enlarged; and
 - d. select a 'high contrast' display.⁵²

9. Ofcom recognises that the process of securing the accessibility features listed in paragraph 8 is likely to include development work and associated expenditure on the part of EPG providers and their manufacturing partners. We also recognise that the timeframe for such development work will depend on international product development cycles. However, given that each accessibility feature has already been provided in some TV receivers, Ofcom would normally expect EPG providers to work with the manufacturers of TV receivers to make all of these accessibility features available in new models of TV receivers commencing development from [DATE WHEN CHANGES TO CODE ENTER INTO FORCE] and any subsequent models, unless the associated estimated costs show that the adoption of any specific accessibility feature would be unduly burdensome.

10. EPG providers are required to produce ~~by 30 November 2004, and thereafter annually~~ an annual statement, by 30 November each year, of the steps they have taken and plan to take to facilitate the use of their EPGs by disabled people, specifying which steps they have taken to comply with paragraph 8 above. If an EPG provider has been unable to secure all or any of the objectives set out in paragraph 8 on the grounds of practicability, this annual statement should outline the alternative steps they have taken to increase the accessibility of their EPGs. Ofcom will assess the adequacy of these statements in the light of the particular circumstances of each EPG

4.99 The proposed changes to the EPG Code are shown also in Annex A5.

⁵¹ When accessed on new models of TV receivers commencing development from the date when changes to the code enter into force, and any subsequent models.

⁵² A display with a contrast ratio of no less than 7:1.

Other proposed changes to the EPG Code

4.100 In line with the 2015 consultation, in addition to the changes to the EPG Code discussed above (which are summarised in paragraph 3.36 and 3.95), we propose these additional changes to simplify the Code:

- a) **paragraph 7** of the current EPG Code sets out Ofcom’s expectation that EPG providers “consult disability groups about the way they meet their obligations under the code” and paragraph 8 of the current EPG Code sets out Ofcom’s expectation that “EPG providers work with disability groups, broadcasters and set top box manufacturers on ways of improving usability”, so that the need of people with disabilities affecting their sight or hearing are an integral part of planning for the future development of EPGs. In order to simplify the Code, we propose to combine these expectations into a single paragraph. Specifically, we propose to amend paragraph 7 as follows (the words underlined are those that we propose to insert, the words struck through are those that we propose to delete):

7. Ofcom expects ~~EPG providers~~ the needs of people with disabilities affecting their sight or hearing to be an integral part of planning for the future development of EPGs. To this end, Ofcom expects EPG providers to consult disability groups about they way they meet their obligations under the code, which are set out below and to work with disability groups, broadcasters and set top manufacturers on ways of improving usability.

- b) **paragraph 11** of the current EPG Code (to be re-numbered as paragraph 12) requires EPG providers to ensure that EPGs indicate which programmes are accompanied by access services using the standard acronyms (i.e. ‘S’, ‘SL’ and ‘AD’)⁵³, where practicable. In addition, this paragraph also requires EPG providers to explain the standard acronyms in an appropriate part of the EPG. We propose to simplify these rules as follows:
- i) we propose to remove the caveat ‘where practicable’ in relation to the requirement for EPGs providers to ensure that EPGs indicate which programmes are accompanied by access services using the standard acronyms. This is because EPG providers have complied with this requirement, and none has suggested that it is not practicable to do so; and
 - ii) we propose to remove the requirement to explain the standard acronyms (i.e. ‘S’, ‘SL’ and ‘AD’) in an appropriate part of the EPG. These acronyms have been widely used in EPGs and TV listings for over a decade, so their meaning should normally be familiar to people;
- c) **paragraph 13** of the current EPG Code (to be re-numbered as paragraph 14) requires EPG providers to work with broadcasters, platform providers and disability groups to publicise the information and facilities available on EPGs to assist disabled people, and

⁵³ ‘S’ for subtitling, ‘SL’ for signing and ‘AD’ for audio description.

specifies that “this should include information targeted at publications used by disabled people, and periodic publicity featured prominently on EPGs”. We propose to remove this latter specification on the basis that it is not necessary;

- d) we are proposing some further changes to clarify or update the Code:
 - iii) insert reference to the Communications Act 2003 where the Code mentions it (i.e. in paragraphs 2 and 5 of the EPG Code);
 - iv) replace reference to the ‘Disability Discrimination Act 1995’ in paragraph 10 of the current EPG Code (to be re-numbered as paragraph 11) with reference to the ‘Equality Act 2010’; and
- e) we are proposing to re-number paragraphs 14, 15, 16, 17 and 18 as paragraphs 15, 16, 17, 18 and 19 respectively.

4.101 All the changes that we are proposing to make to the current EPG Code are shown in Annex A5.

Question 4 (Further changes) - Do you agree with the changes that we propose to make to paragraphs 7, 11 and 13 of the current EPG Code to simplify the Code? If not, please explain why you do not agree giving reasons.

A1. Responding to this consultation

How to respond

A1.1 Ofcom would like to receive views and comments on the issues raised in this document, by 5pm on Tuesday 6th February 2018.

A1.2 You can download a response form from <https://www.ofcom.org.uk/consultations-and-statements/XXX>. You can return this by email or post to the address provided in the response form.

A1.3 If your response is a large file, or has supporting charts, tables or other data, please email it to egpaccessibility@ofcom.org.uk, as an attachment in Microsoft Word format, together with the cover sheet (<https://www.ofcom.org.uk/consultations-and-statements/consultation-response-coversheet>). This email address is for this consultation only.

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

Cathy Taylor

EPG Accessibility Consultation

Ofcom

Riverside House

2A Southwark Bridge Road

London SE1 9HA

A1.5 We welcome responses in formats other than print, for example an audio recording or a British Sign Language video. To respond in BSL:

- Send us a recording of you signing your response. This should be no longer than 5 minutes. Suitable file formats are DVDs, wmv or QuickTime files. Or
- Upload a video of you signing your response directly to YouTube (or another hosting site) and send us the link.

A1.6 We will publish a transcript of any audio or video responses we receive (unless your response is confidential)

A1.7 We do not need a paper copy of your response as well as an electronic version. We will acknowledge receipt if your response is submitted via the online web form, but not otherwise.

A1.8 You do not have to answer all the questions in the consultation if you do not have a view; a short response on just one point is fine. We also welcome joint responses.

A1.9 It would be helpful if your response could include direct answers to the questions asked in the consultation document. The questions are listed at Annex 4. It would also help if you

could explain why you hold your views, and what you think the effect of Ofcom's proposals would be.

- A1.10 If you want to discuss the issues and questions raised in this consultation, please contact Cathy Taylor on 020 7981 3000, or by email to epgaccessibility@ofcom.org.uk.

Confidentiality

- A1.11 Consultations are more effective if we publish the responses before the consultation period closes. In particular, this can help people and organisations with limited resources or familiarity with the issues to respond in a more informed way. So, in the interests of transparency and good regulatory practice, and because we believe it is important that everyone who is interested in an issue can see other respondents' views, we usually publish all responses on our website, www.ofcom.org.uk, as soon as we receive them.
- A1.12 If you think your response should be kept confidential, please specify which part(s) this applies to, and explain why. Please send any confidential sections as a separate annex. If you want your name, address, other contact details or job title to remain confidential, please provide them only in the cover sheet, so that we don't have to edit your response.
- A1.13 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and try to respect it. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.
- A1.14 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's intellectual property rights are explained further at <https://www.ofcom.org.uk/about-ofcom/website/terms-of-use>.

Next steps

- A1.15 Following this consultation period, Ofcom plans to publish a statement in Spring 2018.
- A1.16 If you wish, you can register to receive mail updates alerting you to new Ofcom publications; for more details please see <https://www.ofcom.org.uk/about-ofcom/latest/email-updates>

Ofcom's consultation processes

- A1.17 Ofcom aims to make responding to a consultation as easy as possible. For more information, please see our consultation principles in Annex x.
- A1.18 If you have any comments or suggestions on how we manage our consultations, please email us at consult@ofcom.org.uk. We particularly welcome ideas on how Ofcom could more effectively seek the views of groups or individuals, such as small businesses and residential consumers, who are less likely to give their opinions through a formal consultation.
- A1.19 If you would like to discuss these issues, or Ofcom's consultation processes more generally, please contact Steve Gettings, Ofcom's consultation champion:

Steve Gettings
Ofcom
Riverside House
2a Southwark Bridge Road
London SE1 9HA
Email: corporationsecretary@ofcom.org.uk

A2. Ofcom's consultation principles

Ofcom has seven principles that it follows for every public written consultation:

Before the consultation

- A1.1 Wherever possible, we will hold informal talks with people and organisations before announcing a big consultation, to find out whether we are thinking along the right lines. If we do not have enough time to do this, we will hold an open meeting to explain our proposals, shortly after announcing the consultation.

During the consultation

- A1.2 We will be clear about whom we are consulting, why, on what questions and for how long.
- A1.3 We will make the consultation document as short and simple as possible, with a summary of no more than two pages. We will try to make it as easy as possible for people to give us a written response. If the consultation is complicated, we may provide a short Plain English / Cymraeg Clir guide, to help smaller organisations or individuals who would not otherwise be able to spare the time to share their views.
- A1.4 We will consult for up to ten weeks, depending on the potential impact of our proposals.
- A1.5 A person within Ofcom will be in charge of making sure we follow our own guidelines and aim to reach the largest possible number of people and organisations who may be interested in the outcome of our decisions. Ofcom's Consultation Champion is the main person to contact if you have views on the way we run our consultations.
- A1.6 If we are not able to follow any of these seven principles, we will explain why.

After the consultation

- A1.7 We think it is important that everyone who is interested in an issue can see other people's views, so we usually publish all the responses on our website as soon as we receive them. After the consultation we will make our decisions and publish a statement explaining what we are going to do, and why, showing how respondents' views helped to shape these decisions.

A3. Consultation coversheet

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

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

Nothing

Name/contact details/job title

Whole response

Organisation

Part of the response

If there is no separate annex, which parts? _____

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

DECLARATION

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

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

Name

Signed (if hard copy)

A4. Consultation questions

A4.1 We invite stakeholders to respond to the following questions:

Question 1 (Accessibility features)

Q1(a) - Do you agree that EPG providers should use reasonable endeavours to secure so far as practicable that their EPGs⁵⁴include options for users to use all or as many as possible of the following accessibility features: (a) 'text-to-speech', (b) 'filtering or highlighting', (c) 'magnification' and (d) 'high contrast' displays (i.e. with a contrast ratio of no less than 7:1)? If not, please explain why you do not agree giving reasons.

Q1(b) – Do you agree with the changes to the EPG Code that we propose to make to implement these proposals? If not, please explain why you do not agree giving reasons.

Question 2 (Rolling out to all TV receivers) - Do you agree that the proposed features should be rolled out on all new models of TV receivers commencing development from when the changes to the EPG Code that we are proposing enter into force, and any subsequent models (using reasonable endeavours, so far as practicable)? If not, please explain why you do not agree giving reasons.

Question 3 (Reporting requirement) - Do you agree with our revised proposal to retain and amend paragraph 10 of the current EPG Code, which requires EPG licensees to produce an annual statement regarding accessibility? If not, please explain why you do not agree giving reasons.

Question 4 (Further changes) - Do you agree that with the changes that we propose to make to paragraphs 7, 11 and 13 of the current EPG Code to simplify the Code? If not, please explain why you do not agree giving reasons.

⁵⁴ When accessed on new models of TV receivers commencing development from [DATE WHEN CHANGES TO CODE ENTER INTO FORCE] and any subsequent models

Question 5 (impact assessment): Do you agree with our assessment of the impact of our proposals, in terms of the benefits and costs associated with these proposals for consumers, EPG providers, and set top box manufacturers? Please explain the reason for your answer, providing supporting evidence on costs and/or benefits where available.

Question 6 (equality impact assessment): Do you agree with our assessment of the impact of our proposals on the relevant equality groups? If not, please explain why you do not agree.

Question 7: Do you have any other comments on our analysis or proposals?

A5. Proposed changes to the EPG Code

A5.1 The proposed modifications to the EPG Code are set out below. The words marked in underlined red text and highlighted (e.g. **example**) indicate the proposed insertions and the words marked in strike-through and highlighted (e.g. ~~example~~) indicate the proposed deletions.

Code of practice on electronic programme guides

Introduction

1. This Code sets out the practices to be followed by EPG providers⁵⁵:
 - a. to give appropriate prominence for public service channels;
 - b. to provide the features and information needed to enable EPGs to be used by people with disabilities affecting their sight or hearing or both; and
 - c. to secure fair and effective competition.

Appropriate prominence

2. Section 310(2) **of the Communications Act 2003 (the 'Act')** requires that Ofcom's EPG code oblige EPG providers to give the degree of prominence that Ofcom considers appropriate to the listing and promotion of public service channels, for members of the intended audience. The Secretary of State may add to, or subtract from, the list of relevant public service broadcasting (PSBs) channels, which comprises the digital versions of BBC services, as well as the digital services of Channels 3, 4 and 5, Teletext and S4C Digital. The Code is also to ensure that members of the intended audience for services provided for a particular area or locality are able use the EPG to select the programmes included in that service.
3. Ofcom considers that 'appropriate prominence' permits a measure of discrimination in favour of PSB channels. However, it does not propose to be prescriptive about what appropriate prominence means, as there are many possible ways in which EPGs could display information about programmes included in PSB services. Accordingly, EPG providers are required to comply with the following general principles:
 - a. EPG providers should ensure that the approach they adopt to the requirement for appropriate prominence is objectively justifiable and should publish a statement setting out their approach;

⁵⁵ The term 'EPG provider' means any organisation providing an electronic programme guide as defined by section 310 of the Communications Act under a Broadcasting Act licence.

- b. Ofcom will have regard to the interests of citizens and the expectations of consumers in considering whether a particular approach to listings public service channels constitutes appropriate prominence; and
 - c. in giving appropriate prominence to PSB channels, EPGs should enable viewers in a region to select the appropriate regional versions of those channels through the primary listings for those channels provided the PSB in question has secured services that enable this.
4. These principles would have broad application. For example, they would justify a decision by an EPG operator using a menu-based approach to position public service channels no more than 'one click' from the home page. They might also justify giving public service channels first refusal on vacant listings higher in the category that they were placed.

Assistance to people with hearing and/or visual disabilities

5. Section 310(3) **of the Act** requires that Ofcom's EPG code obliges EPG providers to incorporate such features in their EPGs as are appropriate to enable, so far as practicable, people with disabilities affecting their sight or hearing to use the EPGs for the same purposes as people without such disabilities. EPGs are also to provide information about assistance in relation to programmes (e.g. how to navigate radio and television listings, and how to operate television access services such as subtitling, signing and audio description), as well as facilities for making use of that assistance. This section sets out the requirements that EPG providers should meet in order to comply with the Code.

General principles

6. EPG providers are required to:
- a. make such adjustments to their EPGs as are practicable to secure that they can be used by people with disabilities affecting their sight or hearing for all the same purposes as they are used by other people; and
 - b. promote awareness of the scope of EPGs to provide information about programmes with access services, in conjunction with broadcasters and representatives of people with disabilities affecting their sight or hearing.
7. Ofcom expects **EPG providers** **the needs of people with disabilities affecting their sight or hearing to be an integral part of planning for the future development of EPGs. To this end, Ofcom expects EPG providers** to consult disability groups about the way they meet their obligations under the code, **which are set out below** **and to work with disability groups, broadcasters and set top manufacturers on ways of improving usability.**

Adjustments to EPGs to facilitate their use by disabled people

8. **At present, there is limited scope to reconfigure EPGs so as to facilitate their use by people with disabilities affecting their sight or hearing. In particular, much of the functionality of EPGs is dependent upon set top box hardware and software, as well as the data made available by broadcasters. However, Ofcom expects the needs of people with disabilities**

affecting their sight or hearing to be an integral part of planning for the future development of EPGs. To this end, Ofcom expects EPG providers to work with disability groups, broadcasters and set top box manufacturers on ways of improving usability.

EPG providers should use reasonable endeavours to secure so far as practicable that their EPGs⁵⁶ include options for users to do all or as many as possible of the following:

- a. render text needed for EPG navigation and the provision of information on channels and programmes included in the EPG as speech;
- b. highlight or list separately programmes with audio description, and with signing;
- c. adjust the display of EPG information so that it can be magnified, or the text enlarged; and
- d. select a 'high contrast' display.⁵⁷

9. Ofcom recognises that the process of securing the accessibility features listed in paragraph 8 is likely to include development work and associated expenditure on the part of EPG providers and their manufacturing partners. We also recognise that the timeframe for such development work will depend on international product development cycles. However, given that each accessibility feature has already been provided in some TV receivers, Ofcom would normally expect EPG providers to work with the manufacturers of TV receivers to make all of these accessibility features available in new models of TV receivers commencing development from [DATE WHEN CHANGES TO CODE ENTER INTO FORCE] and any subsequent models, unless the associated estimated costs show that the adoption of any specific accessibility feature would be unduly burdensome.

9.10. EPG providers are required to produce by 30 November 2004, and thereafter annually an annual statement, by 30 November each year, of the steps they have taken and plan to take to facilitate the use of their EPGs by disabled people, specifying which steps they have taken to comply with paragraph 8 above. If an EPG provider has been unable to secure all or any of the objectives set out in paragraph 8 on the grounds of practicability, this annual statement should outline the alternative steps they have taken to increase the accessibility of their EPGs. Ofcom will assess the adequacy of these statements in the light of the particular circumstances of each EPG.

10.11. EPG providers will need to have regard to their obligations under the Disability Discrimination Act 1995 Equality Act 2010 to make reasonable adjustments in the provision of facilities and the delivery of services so as to make these accessible to disabled people, and should seek their own advice on this.

Provision of information

11.12. EPG providers will be required to ensure that information included in relation to television programmes indicates which programmes are accompanied by television access

⁵⁶ When accessed on new models of TV receivers commencing development from [DATE WHEN CHANGES TO CODE ENTER INTO FORCE] and any subsequent models.

⁵⁷ A display with a contrast ratio of no less than 7:1.

services. A corresponding provision has been included in the Code on Television Access Services requiring broadcasters to make such information available to EPG providers. Where practicable, programme information in the EPG should indicate by means of standard abbreviations the nature of the access service provided. Where applicable, the programme synopsis in the EPG should indicate which programmes are accompanied by television access services, using the following upper-case letters - subtitling (S), signing (SL) and audio description (AD). Where practicable, these abbreviations should be explained in an appropriate part of the EPG. If non-standard terms are used in any part of the EPG, and removal or replacement by the standard abbreviations would require software or hardware updates, this should be done at the next reasonable opportunity.

12.13. EPG providers should provide on an easily accessible part of their EPGs (where practicable) or alternatively in other accessible ways (e.g. on websites or interactive services) information for people with disabilities on:

- a. how to use the EPG;
- b. how to use the access services accompanying the programmes;
- c. what options exist for customising the appearance of the EPG to make it easier to use; and
- d. what additional sources of help and information are available in other places (e.g. on websites, or from telephone / textphone helplines), whether from the EPG operator, or television service providers.

Promotion of awareness

13.14. EPG providers are required to work with broadcasters, platform providers and disability groups to publicise the information and facilities available on EPGs to assist disabled people. This should include information targeted at publications used by disabled people, and periodic publicity featured prominently on EPGs.

Fair, reasonable and non-discriminatory treatment

14.15. Ofcom has concluded that, in order to secure that the providers of EPGs licensed by Ofcom do not enter into or maintain any arrangements or engage in any practice that Ofcom considers would be prejudicial to fair and effective competition in the provision of the licensed radio or television services or of connected services as defined in section 316 of the Act, EPG providers should comply with the provisions set out in this section.

15.16. In particular, EPG licensees are required:

- a. to ensure that any agreement with broadcasters for the provision of an EPG service is made on fair, reasonable and non-discriminatory terms;
- b. to publish and comply with an objectively justifiable method of allocating listings. This does not preclude different methods – for example, objectively justifiable

methods could include 'first come, first served', alphabetical listings, and those based on audience shares;

- c. to refrain from giving undue prominence in any listing or display to a channel to which they are connected, except as required by the appropriate prominence provisions set out at paragraphs 2 to 4 above;
- d. to carry out periodic reviews of their listing policy and of channel listings made in accordance with that policy, in consultation with channel providers;
- e. to ensure that viewers are able to access all television and radio services included in the EPG service on the same basis, provided that the viewers are equipped to use the EPG service and to receive the relevant programme services;
- f. to ensure that free-to-air services are at least as accessible as pay TV services, and that reception does not require additional equipment or commercial agreements over and above those required for the acquisition of the receiving equipment; and
- g. to refrain from imposing any condition in an agreement for EPG services between an EPG operator and a channel provider specifying exclusivity to one EPG for any service or feature, including the ability to brand services and access to interactivity.

16:17. EPG licensees that are channel providers or are connected to a channel provider must ensure that access to and from all television services included in the EPG service is easily available to all viewers equipped to use the EPG service and to receive the relevant programme services.

Code review

17:18. Ofcom intends to review the Code at intervals of no more than two years, or more frequently if circumstances warrant it. As part of the review, it will consult stakeholders, including EPG providers, broadcasters, and disability groups. The issues it will consider may include whether:

- a. the guidance on appropriate prominence is adequate, or needs to be amended;
- b. provisions on information and facilities need to be changed, having regard to technological and market developments, amongst other things; and
- c. ex ante regulation requiring EPG providers to give channels on their EPGs fair, reasonable and non-discriminatory treatment so as to ensure fair and effective competition remains appropriate.

18:19. Where appropriate, Ofcom will consider whether competition would facilitate the achievements of the objectives in the code, and so obviate or reduce the need for regulation, or whether the promotion of competition requires continuing regulation.

A6. Impact Assessment

Introduction

- A6.1 This Annex, together with the broader assessment of our consultation proposals set out in the remainder of this consultation document, constitutes an impact assessment for the purposes of section 7 of the Communications Act 2003 (the 'Act').
- A6.2 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making. This is reflected in Section 7 of the Act, which means that generally Ofcom has to carry out impact assessments where its proposals would be likely to have a significant effect on businesses or the general public, or when there is a major change in Ofcom's activities. However, as a matter of policy Ofcom is committed to carrying out impact assessments in relation to the great majority of its policy decisions. For further information about Ofcom's approach to impact assessments, see the guidelines *Better policy-making: Ofcom's approach to impact assessment*, which are on Ofcom's website.⁵⁸
- A6.3 Below, we discuss two options: first, the option to 'do nothing' (i.e. have no changes to the accessibility requirements set out in the EPG Code); and second, the option to amend the EPG Code so that it would require EPG providers to use reasonable endeavours to secure so far as practicable the adoption of certain additional accessibility features which would help visually impaired people to use EPGs.
- A6.4 Before outlining these options, we summarise the current situation and discuss the practical matters which arise when assessing the levels of benefits and costs to stakeholders under the two scenarios.

Current situation

- A6.5 As set out in Figure 1, EPG providers and their industry partners currently provide a variety of solutions for the visually impaired. These vary by provider but include the option of high contrast displays, the option to magnify portions of the EPG display, and the option of text to speech (TTS) within EPGs, to enable information within the EPG to be read out (currently, only when EPGs are accessed via a TTS-enabled smart television).
- A6.6 In addition, some EPG providers offer the alternative of a TV guide app that can be installed on mobile devices (e.g. smartphones and tablets) and can make use of the TTS facility that they offer.

Policy Objectives

- A6.7 As explained in Section 2, Ofcom has a duty to draw up, and from time to time review and revise, a code giving guidance as to the practices to be followed in the provision of

⁵⁸ [Better policy making](#)

electronic programme guides (the 'EPG Code'). The practices required by the EPG Code must include the incorporation of such features in EPGs as Ofcom considers appropriate for securing that persons with disabilities affecting their sight are able, so far as practicable, to make use of such guides for all the same purposes as persons without such disabilities (section 310(3)(a) of the Act).

Assessing the impact on stakeholders

- A6.8 In assessing which accessibility features should be incorporated, we consider the impact on stakeholders of the introduction of any additional feature. In this Annex, we examine the likely costs and benefits of our proposals and we quantify them where possible.
- A6.9 In this case, quantifying the benefits of the proposed accessibility features for people with visual impairments is challenging. We have therefore taken a qualitative approach to assessing the likely benefits, that is, to describe the difficulties faced by the visually impaired, and the nature of the benefits to them that the proposed accessibility features might provide.
- A6.10 In assessing costs, we have drawn on the high-level cost estimates provided by stakeholders in response to both the 2014 Call for Inputs and the 2015 consultation, along with the qualitative information on potential costs provided by stakeholders. We also note that, due to technological advances, costs may have decreased in recent years.

Option 1: No changes to accessibility requirements set out in the EPG Code (the 'do nothing' option)

- A6.11 We first consider the 'do nothing' option of making no changes to the current accessibility requirements set out in the EPG Code.
- A6.12 Under this option, it is likely that the current situation will prevail in the short term. In their responses to Ofcom's 2014 CFI, none of the TV service providers committed to incorporating TTS in future EPGs. In a confidential response, one respondent said that it did not see a benefit in diverting resources from other initiatives to focus on incorporating TTS.
- A6.13 We also note that the lead time for developing features for TV receivers can be a few years, so that a decision by EPG providers not to pursue additional accessibility features in the short term could defer the prospect of a more accessible EPG for visually-impaired viewers for several years.
- A6.14 At present, as set out in paragraphs 3.90 to 3.94, we are not persuaded at this stage that, absent regulation, TTS-enabled EPGs would be widely adopted by many of the most popular pay and free-to-air providers of TV services for the foreseeable future.
- A6.15 Some EPG providers currently offer the alternative of a TV guide app that can be installed on mobile devices (e.g. smartphones and tablets) and can make use of the TTS facility that they offer. Using TV guide apps to find out about TV programmes and channels requires both the ownership of and the facility to use a touch screen device. Some people with visual impairments have both, and report that such TV guide apps can be very useful.

- A6.16 However, research suggests that only 48% of people with a visual impairment have access to a smartphone, while only 33% of those with a visual impairment have access to a tablet.⁵⁹
- A6.17 Further, some older visually impaired people may find suitable touch screen devices difficult to use. This may be because they find it hard to see buttons on the screen. Older people are also more likely to suffer from loss of manual dexterity, growing cognitive impairment and unwillingness to contend with 'new' technology.
- A6.18 A third of visually-impaired consumers said their disability limited or prevented their use of communication services and devices. Use of a tablet was most limited by a consumers' visual disability; 7% said they did not use a tablet as factors including their disability prevented this.⁶⁰
- A6.19 Hence, for many people with visual impairments, apps on mobile devices are unlikely to be a solution to the current inaccessibility of EPGs.
- A6.20 As regards other proposed accessibility features, that is, high contrast displays, filtering/highlighting programmes with audio description, and magnifying parts of the EPG, we note that, as set out in Figure 1, some EPG providers have provided some of these, but that provision is patchy.
- A6.21 As such, under this option there will be little impact on consumers or EPG providers and TV/STB receiver manufacturers. As a result, the 'do nothing' option is unlikely to ensure that visually impaired people are able, so far as practicable, to make use of EPGs in the same way as those without such disabilities, and would therefore fail to meet our policy objectives.
- A6.22 It is possible that, in the long term, the market delivers solutions that sufficiently address the current problems faced by visually impaired television viewers. For example, as technological developments encourage providers to offer these features commercially or as apps on second screen devices became a more effective substitute for TTS-enabled EPGs. However, we consider this to be unlikely, especially in the short-to-medium term, given that visually impaired people tend to be slower to adopt new technology and providers appear unlikely to prioritise a feature for partially-sighted customers over features that would address the needs of the whole market.
- A6.23 Against this background, our initial view is that without the proposed amendments to the EPG Code availability of the proposed accessibility features would be patchy and would fail to address the needs of many visually impaired people. Accordingly, our initial view, subject to consultation, is that the 'do nothing' option would not secure that people with visual impairments are able, so far as practicable, to use EPGs and therefore would not allow us to fulfil our statutory duties in relation to these consumers.

⁵⁹ [Disabled consumers' use of communication services](#), October 2015, Ofcom

⁶⁰ As above

Option 2: Improved accessibility features (as proposed in Ofcom's consultation)

- A6.24 We are proposing that EPG providers should use reasonable endeavours to secure so far as practicable that new TV receivers incorporate accessibility features that enable users to:
- a) render text as speech for EPG navigation and the provision of information on channels and programmes included in the EPG, to make it easier for people with limited or no useful vision to use the EPGs. We refer to this as 'text to speech' or 'TTS';
 - b) highlight or list separately programmes with audio description (and with signing), to make such programmes easier to find;
 - c) adjust the display of EPG information so that it can be magnified, or the text enlarged; and
 - d) switch between the default and 'high contrast' displays.⁶¹
- A6.25 As outlined in Section 4, feedback suggests that each of these features is helpful to some people with visual impairments, with each intervention addressing a different aspect of the current inaccessibility of EPGs for people with visual impairments. For example, high contrast displays can help those whose vision is blurred or affected by a loss of contrast sensitivity and, in some cases, may provide sufficient accessibility. The same people may also benefit from the ability to have information displayed in larger text. TTS can benefit both those who have some useful vision, and those who have none. For example, people with restricted fields of vision may be able to see portions of the EPG, but it is likely they would find some programme searches very time-consuming. TTS can make the process of finding programmes much quicker and less demanding.
- A6.26 It is our initial view that each of these features is necessary to achieve our policy objective.

Potential impact on stakeholders

- A6.27 The potential impact of the proposals will depend on what, if any, changes EPG providers make as a result of the change in the EPG Code.
- A6.28 It is uncertain how quickly EPG providers would adopt each of the proposed accessibility features as this will vary depending, in part, on where different providers are in their product life cycle.
- A6.29 In addition, we recognise (as discussed below in paragraphs A6.43-A6.54) that this may also vary by provider given the different business models within the industry, as a result of which, not all EPG licensees necessarily have total control over all the elements needed to deliver the accessibility features we propose.
- A6.30 Nevertheless, for the purposes of this impact assessment, we assume that all EPG providers adopt each of the accessibility features. In our initial view, the impact

⁶¹ A display with a contrast ratio of no less than 7:1.

assessment demonstrates that each proposed feature is proportionate and that their cumulative effect is also proportionate.

A6.31 We now consider how our proposals may affect different stakeholder groups:

- a) consumers;
- b) EPG providers; and
- c) STB/TV receiver manufacturers.

Consumers

A6.32 With around two million people in the UK having poor or no vision⁶², we consider it is likely that a significant number of people, many of whom are older, would benefit from more accessible EPGs.

A6.33 For these people, inaccessible EPGs may prevent them from maximising the benefits of the TV programming available to them. Since digital switchover, almost everybody has access to dozens of TV channels, while those with Freesat or pay TV packages can watch several hundred. All multi-channel services include EPGs designed to help viewers find the channels and programmes they want to watch. EPGs differ by platform in their design and in the allocation of EPG numbers to different channels. There are also relatively frequent changes to EPGs (to account for channel launches, moves etc.).

A6.34 Many visually-impaired people will find it difficult or impossible to see and read the EPG. A survey carried out in 2008 found that they relied heavily on memorising channel numbers, and had to relearn them when channels were re-ordered.⁶³ The larger number of channels and more frequent changes to channel listings will have made this more difficult. The same survey found people who could not see the EPG tended to watch a more limited repertoire of channels than others (see paragraph 2.13).

A6.35 Feedback to Ofcom⁶⁴ suggests that EPGs with better accessibility features and speaking EPGs would provide several benefits to people with a variety of visual impairments:

- a) ability to access a wider choice of programming. EPG features to help viewers identify and select audio-described programmes would make it easier for people with visual impairments to enjoy a greater choice of television programmes, including those with audio description. This is now available on around 85 channels, which are required to audio describe up to 10% of their programming. Many of the most popular channels voluntarily describe 20% or more of their content.⁶⁵ Some respondents to the CFI told Ofcom how much they value audio description (see paragraph 3.48). However, most EPGs offer no easy way for visually-impaired people to find these programmes;

⁶² [The economic impact of partial sight and blindness in the UK adult population](#), July 2009, Access Economics, p. 45)

⁶³ [People with visual impairments and communications services](#), July 2008, Ofcom)

⁶⁴ From the roundtable we held in April 2014, the call for inputs it published in July 2014, from RNIB and from individual blind users.

⁶⁵ [Television channels required to provide television access services in 2018](#), July 2017, Ofcom available [here](#)

- b) greater autonomy, whether living with others or by themselves. Feedback to Ofcom's CFI suggests that visually-impaired viewers are reluctant to continuously seek help from partners and other household members. Respondents who have TVs with speaking EPGs like the opportunity to do more for themselves; and
- c) greater social inclusion, as the visually impaired can find and watch programmes that friends, family, workmates and acquaintances are talking about.

A6.36 We also note that if the proposed accessibility features were made available in the EPGs for different platforms, this could make it easier for people to benefit from platform switching. Indeed, one respondent to the CFI noted that she couldn't use either Freeview or Sky, as she couldn't see information on the content. If all TV services (cable, satellite and DTT) offered accessible EPGs, this would allow people with visual impairments to benefit from a choice between different platform line-ups, features and premium content.

A6.37 As the UK population ages, and the population with visual impairments increases, the benefits of more accessible EPGs are likely to rise over time. However, other factors would also influence the timing and extent of the benefits:

- a) first, our proposals would mainly affect new TV receivers.⁶⁶ Even when they become available, someone with a visual impairment would likely only derive the full benefit when they replace their old receiver with a new one. Initially, many people with visual impairments may be unclear about the benefits offered and reluctant to replace a set-top-box/television which is still working (especially if they have limited incomes). Uptake will increase as costs, and so prices, fall with economies to scale, and as current equipment wears out; and
- b) second, as product development life cycles vary, it is likely that implementation timescales will also vary by platform. Thus, a TV service provider that has just launched a new TV receiver without all of the proposed accessibility features might not offer them in a new TV receiver for some years.

A6.38 Therefore, it is likely to take some years before the benefits of policy begin to be felt, particularly where less affluent people are concerned. However, without an EPG Code change, it is unlikely that all of these features would be provided voluntarily by each EPG provider.

A6.39 Overall our initial view, subject to consultation, is that there are likely to be considerable (non-quantifiable) future benefits to the visually impaired if greater accessibility features were required within EPGs.

A6.40 Viewers without visual impairments may also receive some benefits from the availability of extra accessibility features and speaking EPGs on TV receivers. For example, the increasing popularity of devices such as Amazon Echo and Google Home may suggest that those

⁶⁶ As set out in paragraph 3.85 where some of the changes simply require a software update, we would expect EPG licensees to use their commercial influence to get the new accessibility features included in TV receivers that have already been supplied to consumers.

without visual impairments place some value on TTS functionality, although this is likely to be limited.

A6.41 It is possible that all viewers may face slightly higher prices for TV receivers as the cost of introducing these features is likely to be recovered across all such new devices (whether through the price of the TV or set-top box for free-to-air channels or via increased subscriptions for pay-TV channels). However, we believe that the extent of any potential price rise is likely to be limited, and for those with visual impairments it is likely to be below the extra value that those consumers may receive from enhanced accessibility features. This is because the increased costs are likely to be relatively small (see paragraphs A6.46-A6.69) and will be spread across a large number of TV receivers.⁶⁷ Over time, given that many of the costs are one-off development costs, and as economies of scale are likely to be achieved as the features become standardised across the industry, this should further limit cost and price increases.

EPG providers

A6.42 EPG providers interact with consumers in the UK in three main ways:

- a) free-to-air TV service providers (Freeview, YouView and Freesat) do not provide TV receivers for sale to end-users, but normally license some receiver manufacturers to use their trademarks (including their logos);
- b) pay TV operators such as Virgin Media, Sky, BT and TalkTalk supply set top boxes ('STBs') as part of their service to end-users. These operators usually pay manufacturers to make the set-top-boxes (though Sky also manufactures a proportion itself, having bought Amstrad a few years ago) and recover these costs from their end-users (often over a period of time via a monthly subscription charge); and
- c) free-to-air and pay TV service providers have developed apps for mobile devices that enable all users of their TV services to plan viewing and, in some cases, to remotely programme their PVRs to record programmes. Most have been designed or modified to work with the TTS capabilities of mobile devices.

A6.43 TV guide apps enable EPG providers to externalise some of the costs of providing text to speech (the mobile device manufacturer provides the functionality, and the end-user purchases the device). Even if EPGs become more accessible, operators will probably continue to maintain and develop these apps, as they are intended to benefit all users.

A6.44 Given these different business models, it is likely that different providers may face different challenges and costs in implementing the different accessibility features, with a feature that may be straight-forward and fairly costless for one provider to implement being more challenging for another provider.

Free-to-air service providers

⁶⁷ Because the costs would be spread across a large number of TV receivers/all receivers the potential price rise per unit is likely to be lower than if it was a spread across a smaller number of units targeted only at the visually impaired.

- A6.45 Freeview, YouView, and Freesat require STBs/TV manufacturers, as licensees of their trademarks/intellectual property, to comply with certain technical standards.
- A6.46 Basic boxes have an ‘open licensing’ system i.e. limited requirements for manufacturers who want Freeview/Freesat branding for their boxes.⁶⁸ By contrast, our understanding is that the core specifications for EPGs for use in multi-functional TV receivers (Freetime from Freesat, Freeview Play from Freeview, and Youview) are far more detailed.
- A6.47 Our proposed policy would require these free-to-air service providers to use reasonable endeavours to secure so far as practicable that all future TV receivers include accessibility features for the visually-impaired. We recognise that this will be a bigger change for more basic boxes for which, at present, EPG providers tend to make only limited requirements of their manufacturing partners. However, our provisional view is that our proposed approach would ensure that no disproportionate burden is imposed on industry, since we would consider on a case-by-case basis what is reasonably practicable for each individual EPG licensee.
- A6.48 We consider that this policy would require EPG providers to negotiate and change their licence specifications with their manufacturing partners and anticipate this is likely to involve the EPG providers facing additional administration, legal and compliance costs. Our provisional view is that where this is practicable, these extra costs faced by these EPG providers are unlikely to be significant, given that in many cases these discussions should be able to take place within the context of existing dialogue with their manufacturing partners.
- A6.49 We also recognise that in some cases, the EPG providers develop their own software application for their EPG and make this available to manufacturers. In these cases, the EPG provider would have to incur costs in developing this software to enable the proposed accessibility features to be incorporated.

Pay TV operators

- A6.50 As noted above, Pay TV operators supply their customers with STBs directly as part of their service. The operators themselves source the STBs from manufacturers. As such they will have contractual agreements with these manufacturers, which should include detailed technical requirements for the boxes to be supplied.
- A6.51 Our proposed policy would require the Pay TV operators to use reasonable endeavours to secure so far as practicable that the STBs supplied to them include the various proposed accessibility features. As such, we consider that these operators may face a number of extra costs.
- 4.102 First, they will have to change their contracts with their suppliers. This will involve some negotiation, legal and administration costs. Given that our proposals do not require any

⁶⁸ This allows free-to-air platforms to encourage the manufacture of cheaper boxes, by encouraging manufacturers to take their trademark licences, which in turn helps the them achieve their primary objective of competing successfully for market share with pay TV providers.

changes to equipment already designed and in the market (unless the features can be implemented via a software update), this would allow the Pay TV operators and their suppliers to integrate these changes during the design and testing phases of the next generation of set-top boxes. We therefore consider that these costs are likely to be one-off in nature and unlikely to be material.

- A6.52 Secondly, pay TV operators may also face higher prices for the STBs from manufacturers (due to the costs of developing and installing these features in their boxes). This could lead to reduced profits and/or increased prices to end-users. We discuss these costs further in paragraphs A6.55-A6.57.
- A6.53 Finally, as direct suppliers to end-users, they will probably face extra ongoing costs. For example, increased call centre costs (to support end-users over the phone should they have any difficulties with these features). Our current view is that these extra costs are unlikely to be material, as pay TV operators are already likely to have functions that can be adapted to deal with these new requirements.

STB/TV receiver manufacturers

- A6.54 There are reasonable grounds for believing that it would be technically feasible for manufacturers of TV receivers to include the proposed accessibility features in future TV receivers, with each of the accessibility features currently being included in some form or other in STBs/TVs.⁶⁹
- A6.55 In this section, we consider the main types of costs manufacturers would face in incorporating each of the proposed accessibility features. Manufacturers may pass some of these costs on as higher retail prices (either directly to consumers or to Pay-TV providers who purchase such boxes) and/or see reduced profits.
- A6.56 We recognise that the actual costs incurred will depend on how much incremental change is required and that this will vary by manufacturer, and that for cheaper, more basic TV receivers the costs may be proportionally greater. However, we consider that this will normally be proportionate and achievable using reasonable endeavours where practicable.

Text to Speech Functionality

- A6.57 It is our understanding that of the proposed accessibility features, incorporating TTS functionality would be the most costly.
- A6.58 In this section, we summarise the main types of cost that are likely to be faced in incorporating speaking EPG features into the next generation of STBs/TV receivers (figure 2) and then set out the high-level cost estimates provided by stakeholders in response to the 2015 consultation. As part of this consultation we would welcome additional information respondents have on the likely costs of incorporating this feature into new STBs/TV receivers.

⁶⁹ See Figure 1

Figure 2: cost categories for provision of Text to Speech (TTS) in next generation set top boxes/TV receivers

	Cost Category	Description
Volume-related costs	Chipset	To support TTS more advanced chipsets are likely to be required. Industry sources told us in 2014 that the premium for suitable chipsets was around 16p. Responses to the 2015 consultation tended to support this assessment. We also understand that for the next generation of TV receivers, chipsets that would be capable of supporting TTS are likely to be used anyway, with or without TTS.
	Memory and processing power	TTS will also require additional memory and processing power. Many next generation TV receivers which are HD-ready will already have sufficient processing power, although some manufacturers noted that new models might need additional memory and/or processing power to cope with the additional functions of TTS.
	Software-based dictionary (used to recognise text and set out pronunciation rules)	A licence fee would be payable to the dictionary provider, which typically depends on the volume of units shipped with dictionaries, with a larger order likely to get a bigger discount. Responses to the 2015 consultation suggested that licence fee would represent a modest increment to the cost of the TV. For example, one confidential respondent provided an estimate of the licence fee of around £0.65 per household.
One-off costs	Speech engine (software capable of rendering text into speech)	To ensure quality, providers would be likely to develop in-house products or source them externally. Speech engines have been available and in use for some years so the basic technology is commoditised.
	Development and testing	Development costs would be incurred in integrating the hardware and software, and in testing the overall solution. However, some of the costs of testing are related to all new features in the set top box, not simply those associated with TTS. Our original impact assessment suggested that that the incremental costs of development and testing of this feature would be modest, although some respondents to the 2015 consultation suggested we were underestimating these costs and that they could be significant.

A6.59 In their response to the 2015 consultation, the RNIB noted that they were involved in some of the pioneering work for talking TV equipment. One such project integrated a speech engine with an existing set-top box for around £80k and another project created a talking

set top box from scratch for around £300k. These figures do not include the TTS engine licensing costs but also represent the costs of integrating a speech engine without the benefit of an operating system with an accessibility SDK (such as Android TV). Since these were pioneering projects, RNIB considers them to be upper bounds and believes that the cost of providing an equivalent level of speech to a similar platform will now be much lower.⁷⁰

- A6.60 However, this is at the lower end of the high-level cost estimates provided by EPG providers in their responses to the 2015 consultation, which ranged from £500k to over £5m:
- a) One confidential respondent estimated total costs to be £500k with £350k of this being the development and integration costs;
 - b) Another confidential respondent estimated that the costs of development would be £0.6m plus £1.3m in licence fees, and that in addition the software release would cost a further £0.75m while they would also incur internal capital and operating costs of between £1.5m and £2.5m. We estimate that this would imply an upper estimate cost per set-top box of around [£2.5m]
- A6.61 In addition, one manufacturer noted in their response to the 2015 consultation that such developments are typically not done exclusively for one country and that the remaining European markets and the multiple languages required for those markets should be taken into consideration.
- A6.62 We also note that the US Federal Communications Commission have introduced accessibility requirements including making the display of channel and programme information audibly accessible to individuals who are blind or visually impaired.⁷¹ These requirements may reduce the cost of introducing similar features in the UK.
- A6.63 Based on the information provided in response to the 2015 consultation, we consider that the cost increases faced by manufacturers as a result of including TTS functionality into new TV receivers could be fairly significant, although they may have fallen slightly since 2015 due to technological developments. However, we expect the majority of the costs to be one-off development costs which are likely to be spread across a large number of TV/STB receivers such that the additional cost per receiver is likely to be fairly modest, and note that the boxes would be expected to last for several years.

Other accessibility features

- A6.64 We have also considered the likely cost impact on manufacturers of the incorporation of each of the other accessibility features into TV receivers. We recognise that the incremental cost of introducing each of these features will vary by provider depending on their existing features and the ease with which these features can be integrated into their receivers. This is reflected in the cost estimates provided in response to the 2015

⁷⁰ RNIB response to 2015 Consultation:

⁷¹ Read more about the FCC requirements [here](#)

consultation with different providers estimating that different features would be more expensive for them to implement. We note that as set out in Figure 1, many of these accessibility features are widely available already. This suggests both that only a few licensees would need to implement this change and that costs of doing so are not likely to be prohibitive.

High contrast displays

A6.65 Our understanding is that all next generation TV receivers are likely to have the necessary hardware to allow alternative displays and therefore the costs of incorporating this feature should be fairly small. We note that one respondent to the 2015 consultation described the costs as ‘justifiable, though not insignificant’ with two others estimating development costs (excluding integration and other costs) to be around £100k.

Ability to search for / highlight programmes with audio description and signing

A6.66 This feature would make use of existing metadata and mature technology, already used by some EPG providers to allow viewers to search by content characteristic. The processing power required for searches is also likely to be available in next generation TV receivers. Given these factors we consider that the incremental software development costs for those providers who do not currently offer this feature should be relatively small, although some providers estimated that the development costs of this feature could be around £350k.

Ability to magnify display / enlarge text

A6.67 The incremental cost of implementing this feature is likely to depend on the existing user interface and the ease with which this feature could be incorporated. We consider that the cost of implementation could be minimised where the feature is deployed as part of a broader set of features. This was the approach taken by Youview.⁷² Cost estimates submitted by providers put the cost of implementing this feature at around £200k.

Ofcom’s provisional assessment

A6.68 Whilst our approach to this impact assessment does not include specific cost estimates, our current view is that the overall costs of requiring the implementation of each of the accessibility features would be unlikely to be disproportionate relative to the likely extent of the benefits. In particular, while the costs are not insignificant, they are mainly one-off up-front costs while we expect the benefits to visually-impaired consumers to accrue over a number of years.

A6.69 As part of this consultation, we would welcome any further relevant data that respondents have on the likely costs of implementing these different features. We would also be interested to hear from stakeholders if they consider there are ways in which the costs of implementing these features could be minimised.

⁷² Youview’s response to the 2015 consultation

Impact on competition

- A6.70 As our proposals would apply equally to all EPG providers, we do not expect them to distort competition. While the provision of accessibility features to the visually impaired could be a dimension of competition upon which EPG providers compete, there is a lack of evidence that this is the case. Furthermore, our proposed approach does not prevent competitive differentiation taking place between providers on the provision of accessibility features to the visually impaired.
- A6.71 We also note that our proposals would enhance competition by providing greater choice for disabled consumers.

Ofcom's provisional conclusions

- A6.72 Having considered the two options described above, our provisional view, subject to consultation, is that:
- a) Option 1 (doing nothing) would not meet the needs of the visually impaired. The current limited provision of accessibility features on EPGs is restricting visually impaired people's programming and platform choice relative to those without such disabilities. We do not consider that the proposed accessibility features will be provided in the short-to-medium term without regulation;
 - b) Option 2 offers the most appropriate means of assisting people with visual impairments to use EPGs for the same purposes as those without visual impairments.
- A6.73 There are a number of reasons for this:
- a) we believe that if the visual accessibility features and text to speech were required of all EPG providers, there could be significant benefits to the visually impaired. These benefits would include more social inclusion, greater autonomy and greater choice (of programmes and potentially platform operators). Whilst non-quantifiable in nature, the benefits could be significant given the numbers of people who are currently visually impaired (and likely to become visually impaired in the near future) and the nature of those people (i.e. the visually impaired tend to be older) and would be likely to accrue over a number of years;
 - b) the proposals are mainly limited to new TV receivers so would not require any material changes to equipment already designed and in the market. This would allow EPG providers and their manufacturing partners the opportunity to integrate accessibility features during the design and testing phases, thereby limiting the potential burden on them. It would mean, for example, that a model of TV receiver that had been designed before the introduction of our proposed changes to the EPG Code could continue to be manufactured and sold until such time as it was updated or replaced;

- c) the proposals, if implemented, would apply to all new TV receivers, including basic receivers, ensuring that the benefits will be more quickly available to a wider range of visually impaired consumers, including those on lower incomes – 53% of visually impaired consumers are within socio-economic group C2DE.⁷³ Given the likely economies of scale, we consider that the incremental cost of including basic receivers in scope will be limited;
- d) we also currently consider that our proposed policy change is unlikely to impose a disproportionate burden on stakeholders. While the costs of TTS are not insignificant, they are mainly one-off up-front costs, while we expect the benefits to visually-impaired consumers to accrue over a number of years. Those who have already incorporated accessibility features in their current EPGs (e.g. high contrast displays) are likely to face little or no incremental cost including them in future EPGs. Those who have not done so are likely to benefit from the fact that each of these features has been included in other consumer equipment, which might suggest that the capabilities have been commoditised, and the underlying technology costs (mostly software-related) may be relatively modest;
- e) we are proposing to require EPG licensees to use ‘reasonable endeavours to secure so far as practicable’ the adoption of the proposed accessibility features. This requirement would not be as stringent as the ‘best endeavours’ requirement that we initially proposed in the 2015 consultation. This should result in the proposed accessibility features being made available to consumers, but prevent any unintended distortions arising in the rare instances where implementing the proposed features would not be practicable. This revised approach would also give EPG licensees a degree of flexibility in developing the features in the most effective way, and would allow us to take account of the fact that, for some EPG providers, implementation may be more complex or involve a lengthier process than for other EPG providers.

A6.74 We recognise that EPG licensees and TV receiver manufacturers would face some increased costs, for example in testing new features, and that this might lead to higher prices for some TV receivers. However, we would expect these costs and any potential price increases to be relatively small.

Consultation question

A6.75 We invite stakeholders to respond to the following question:

⁷³ [Disabled consumers’ use of communication services](#), October 2015, Ofcom

Question 5: Do you agree with our assessment of the impact of our proposals, in terms of the benefits and costs associated with these proposals for consumers, EPG providers, and set top box manufacturers? Please explain the reason for your answer, providing supporting evidence on costs and/or benefits where available.

A7. Equality Impact Assessment

Introduction

- A7.1 Ofcom is required by statute to assess the potential impact of all our functions, policies, projects and practices on the following equality groups: age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief and sexual orientation⁷⁴. We refer to groups of people with these protected characteristics as “equality groups”.
- A7.2 We fulfil these obligations by carrying out an Equality Impact Assessment (‘EIA’), which examines the potential impact our proposed policy is likely to have on people, depending on their personal circumstances. EIAs also assist us in making sure that we are meeting our principal duty of furthering the interests of citizens and consumers, regardless of their background and identity.
- A7.3 We have not considered it necessary to carry out separate EIAs in relation to the additional equality groups in Northern Ireland: political opinion and dependants. This is because we anticipate that our proposals would not have a differential impact in Northern Ireland compared to consumers in general.

Equality impact assessment

- A7.4 We consider that the changes that we are proposing to make to the EPG Code considered in this consultation document would have a positive impact on these equality groups:
- a) people with disabilities;
 - b) people whose age-related conditions may make them vulnerable, who we consider as a sub-category included in the “age” equality group; and
 - c) potentially, people belonging to these or other equality groups to the extent that those people use the proposed accessibility features for reasons other than sight impairments (for example, using TTS technology as a ‘hands-free’ option for convenience).
- A7.5 We consider that all of our proposed amendments to the EPG Code will have a positive impact as above, with the exception of the proposed editorial amendments (references to legislation, amendments for clarity, removal of unnecessary detail) which we anticipate will have a neutral impact on the relevant equality groups.
- A7.6 In particular, we refer to the requirement for EPG licensees to use reasonable endeavours to secure so far as practicable that their EPGs include options for users to use all or as many as possible of the following accessibility features: (a) ‘text-to-speech’, (b) ‘filtering or highlighting’, (c) ‘magnification’ and (d) ‘high contrast’ displays (i.e. with a contrast ratio of no less than 7:1)

⁷⁴ As defined in the Equality Act 2010

- A7.7 As outlined in 2.5 to 2.15 above, available research suggests that these features will greatly increase the ability of people with a range of sight impairments to:
- a) navigate EPG information without having to rely on elaborate compensatory measures or the assistance of others;
 - b) identify the increasing number of programmes available with audio description for the blind and partially sighted;
 - c) exercise choice between channels and programmes available via the EPG; and
 - d) exercise choice with respect to television services rather than being confined to isolated services which offer a particular feature.
- A7.8 Those with sight impairment tend to be older, and conversely older people are more likely to suffer age-related sight impairment (see paragraph 2.5). It may also be the case that older consumers have other sensory or motor impairments which hinder the use of a conventional EPG. Hence we believe that our proposals will have a positive impact for older people.

Provisional conclusions

- A7.9 We consider that our proposals would have a positive impact on people with disabilities, people whose age-related conditions may make them vulnerable, and potentially also on people belonging to other equality groups.
- A7.10 We do not believe that our proposals would have any detrimental impact on any of the relevant equality groups.

Consultation question

- A7.11 We invite stakeholders to respond to the following question:

Question 6: Do you agree with our assessment of the impact of our proposals on the relevant equality groups? If not, please explain why you do not agree.