



Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30

Consultation on the proposed markets, market power
determinations and remedies

Consultation
Annexes

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Annex 1

Responding to this consultation

How to respond

- A1.1 Ofcom invites written views and comments on the issues raised in this document, to be made **by 5pm on 25 September 2013**.
- A1.2 Ofcom strongly prefers to receive responses using the online web form at <http://stakeholders.ofcom.org.uk/consultations/fixed-access-market-reviews/howtorespond/form> as this helps us to process the responses quickly and efficiently. We would also be grateful if you could assist us by completing a response cover sheet (see Annex 3), to indicate whether or not there are confidentiality issues. This response coversheet is incorporated into the online web form questionnaire.
- A1.3 For larger consultation responses - particularly those with supporting charts, tables or other data - please email wla2014.review@ofcom.org.uk attaching your response in Microsoft Word format, together with a consultation response coversheet.
- A1.4 Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.

Mr David du Parc Braham
 Floor 4
 Riverside House
 2A Southwark Bridge Road
 London SE1 9HA

Fax: 020 7981 3417

- A1.5 Note that we do not need a hard copy in addition to an electronic version. Ofcom will acknowledge receipt of responses if they are submitted using the online web form but not otherwise.
- A1.6 It would be helpful if your response could include direct answers to the questions asked in this document, which are listed together at Annex X. It would also help if you can explain why you hold your views and how Ofcom's proposals would impact on you.

Further information

- A1.7 If you want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact David du Parc Braham on 020 7981 3856.

Confidentiality

- A1.8 We believe it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all responses on our website, www.ofcom.org.uk, ideally on receipt. If you think your

response should be kept confidential, can you please specify what part or whether all of your response should be kept confidential, and specify why. Please also place such parts in a separate annex.

- A1.9 If someone asks us to keep part or all of a response confidential, we will treat this request seriously and will try to respect this. But sometimes we will need to publish all responses, including those that are marked as confidential, in order to meet legal obligations.
- A1.10 Please also note that copyright and all other intellectual property in responses will be assumed to be licensed to Ofcom to use. Ofcom's approach on intellectual property rights is explained further on its website at <http://www.ofcom.org.uk/about/account/disclaimer/>

Next steps

- A1.11 Following the end of the consultation period, Ofcom intends to publish a statement in March 2014.
- A1.12 Please note that you can register to receive free mail Updates alerting you to the publications of relevant Ofcom documents. For more details please see: http://www.ofcom.org.uk/static/subscribe/select_list.htm

Ofcom's consultation processes

- A1.13 Ofcom seeks to ensure that responding to a consultation is easy as possible. For more information please see our consultation principles in Annex 2.
- A1.14 If you have any comments or suggestions on how Ofcom conducts its consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at consult@ofcom.org.uk . We would particularly welcome thoughts on how Ofcom could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumers, who are less likely to give their opinions through a formal consultation.
- A1.15 If you would like to discuss these issues or Ofcom's consultation processes more generally you can alternatively contact Graham Howell, Secretary to the Corporation, who is Ofcom's consultation champion:

Graham Howell
Ofcom
Riverside House
2a Southwark Bridge Road
London SE1 9HA

Tel: 020 7981 3601

Email Graham.Howell@ofcom.org.uk

Annex 2

Ofcom's consultation principles

A2.1 Ofcom has published the following seven principles that it will follow for each public written consultation:

Before the consultation

A2.2 Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

During the consultation

A2.3 We will be clear about who we are consulting, why, on what questions and for how long.

A2.4 We will make the consultation document as short and simple as possible with a summary of no more than two pages. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened Plain English Guide for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.

A2.5 We will consult for up to 10 weeks depending on the potential impact of our proposals.

A2.6 A person within Ofcom will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organisations interested in the outcome of our decisions. Ofcom's 'Consultation Champion' will also be the main person to contact with views on the way we run our consultations.

A2.7 If we are not able to follow one of these principles, we will explain why.

After the consultation

A2.8 We think it is important for everyone interested in an issue to see the views of others during a consultation. We would usually publish all the responses we have received on our website. In our statement, we will give reasons for our decisions and will give an account of how the views of those concerned helped shape those decisions.

Annex 3

Consultation response cover sheet

- A3.1 In the interests of transparency and good regulatory practice, we will publish all consultation responses in full on our website, www.ofcom.org.uk.
- A3.2 We have produced a coversheet for responses (see below) and would be very grateful if you could send one with your response (this is incorporated into the online web form if you respond in this way). This will speed up our processing of responses, and help to maintain confidentiality where appropriate.
- A3.3 The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore Ofcom would encourage respondents to complete their coversheet in a way that allows Ofcom to publish their responses upon receipt, rather than waiting until the consultation period has ended.
- A3.4 We strongly prefer to receive responses via the online web form which incorporates the coversheet. If you are responding via email, post or fax you can download an electronic copy of this coversheet in Word or RTF format from the 'Consultations' section of our website at www.ofcom.org.uk/consult/.
- A3.5 Please put any parts of your response you consider should be kept confidential in a separate annex to your response and include your reasons why this part of your response should not be published. This can include information such as your personal background and experience. If you want your name, address, other contact details, or job title to remain confidential, please provide them in your cover sheet only, so that we don't have to edit your response.

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

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

Nothing

☐

Name/contact details/job title

☐

Whole response

☐

Organisation

☐

Part of the response

☐

If there is no separate annex, which parts?

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

DECLARATION

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

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

☐

Name

Signed (if hard copy)

Annex 4

Consultation questions

Market definition and SMP analysis: WFAEL

- 3.1 Do you agree with our provisional view that, during the period covered by this market review, BT and KCOM will have SMP in the WFAEL markets we define above? Please provide reasons in support of your views.

Market definition and SMP analysis: ISDN30

- 4.1 Do you agree with our provisional view that, during the period covered by this market review, BT and KCOM will have SMP in the wholesale ISDN30 markets we define above? Please provide reasons in support of your views.

Market definition and SMP analysis: ISDN2

- 5.1 Do you agree with our provisional view that, during the period covered by this market review, BT and KCOM will have SMP in the wholesale ISDN2 markets we define above? Please provide reasons in support of your views.
- 5.2 Do you agree with our provisional view that, during the period covered by this market review, BT does not possess SMP in the retail ISDN2 market we define above? Please provide reasons in support of your views.

Market definition and SMP analysis: Retail markets in the Hull Area

- 6.1 Do you agree with our provisional view that, during the period covered by this market review, it is not appropriate to impose retail regulation in the RFAEL markets in the Hull Area that we define above? Please provide reasons in support of your views.
- 6.2 Do you agree with our provisional view that, during the period covered by this market review, it is not appropriate to impose retail regulation in the retail ISDN30 market in the Hull Area that we define above? Please provide reasons in support of your views.
- 6.3 Do you agree with our provisional view that, during the period covered by this market review, it is not appropriate to impose retail regulation in the retail ISDN2 market in the Hull Area that we define above? Please provide reasons in support of your views.

Market definition and SMP analysis: WLA

- 7.1 Do you agree with our provisional view that, during the period covered by this market review, BT and KCOM will have SMP in the WLA markets we define above? Please provide reasons in support of your views.

Remedies: General Remedies for wholesale fixed access markets

- 10.1 Do you agree with our proposals regarding requirements on BT and KCOM to provide network access on reasonable request? Please provide reasons in support of your views.
- 10.2 Do you agree with our conclusion not to seek to modify SLAs or SLGs as a mechanism for quality of service improvement? If not, how would you modify the SLAs and or SLGs and on what basis and how would you ensure that such changes did not have unintended incentive consequences? Specifically do you consider that the existing SLA for provisioning appointments (12 days from next year) is adequate? Please provide reasons in support of your views.
- 10.3 Do you agree with our proposals regarding requirements on BT and KCOM in relation to handling requests for new network access? Please provide reasons in support of your views.
- 10.4 Do you agree with our proposals regarding requirements on BT and KCOM in relation to remedying discriminatory conduct? Please provide reasons in support of your views.
- 10.5 Do you agree with our proposals regarding requirements on BT and KCOM in relation to accounting separation? Please provide reasons in support of your views.
- 10.6 Do you agree with our proposals regarding requirements on BT and KCOM to publish a reference offer? Please provide reasons in support of your views.
- 10.7 Do you agree with the proposal to specify the services for which BT is to provide SLA/SLGs? Also do you consider that we have identified all appropriate services that should be subject to an SLA/SLG requirement at this time? If not, please set out what services should be included and provide reasons in support of your views.
- 10.8 What are your views on whether you consider a need for Ofcom to require BT to offer an SLA in relation to GEA appointment availability? Please provide reasons in support of your views.
- 10.9 What are your views on the principles for negotiations on SLA/SLGs? Please provide reasons in support of your views.
- 10.10 Do you agree with our proposals regarding requirements on BT and KCOM to notify changes to charges? Please provide reasons in support of your views.
- 10.11 Do you agree with our proposals regarding requirements on BT and KCOM to notify technical information? Please provide reasons in support of your views.

10.12 Do you agree with our proposal to impose conditions on BT for the provision of information for quality of service purposes in each of the WLA, WFAEL, ISDN30 and ISDN2 markets excluding the Hull Area? Please provide reasons in support of your views.

10.13 Do you agree with our proposal to extend the direction for specific KPIs to LLU and GEA services? Please provide reasons in support of your views.

10.14 Do you agree that it is appropriate to include a common core set of KPIs across WLR analogue, LLU and GEA given the competition between these services? Please provide reasons in support of your views.

10.15 Do you agree with our proposals to include a record of the number of services affected by MBORC in the KPIs? Please provide reasons in support of your views.

10.16 Do you agree that it is appropriate to require Openreach to prepare some of these KPIs for presentation in the public domain? Do you consider that there are any issues with this publication that we should be aware of? Do you agree that the OTA2 website is the best location for such publication? Please provide reasons in support of your views.

10.17 Do you agree that it is appropriate to set minimum standards for Openreach services? Please provide reasons in support of your views.

10.18 Do you agree that the minimum standards should only be applied to WLR and MPF provisioning appointment and fault repair? If not what else should be included and why? Please provide reasons in support of your views.

10.19 Do you agree that we should incorporate force majeure affected services in the standards? Please provide reasons in support of your views.

10.20 How should we determine the appropriate standard? How would you assess the trade off of service level and charge increase?

10.21 Do you agree with the structure of the standard – yearly, forecast region targets? Please provide reasons in support of your views.

10.22 Do you agree with our proposals regarding requirements on BT in relation to cost accounting and not to impose cost accounting requirements on KCOM? Please provide reasons in support of your views.

Remedies: WLA next generation access

11.1 Do you agree with our proposal to require BT to offer VULA and with the five key characteristics identified? Please provide reasons in support of your views, including, if you think alternative or additional characteristics are required, evidence of how you would use them to offer services to your customers.

11.2 Do you agree that BT should continue to be allowed general pricing flexibility on VULA, subject to a fair and reasonable charges obligation? Please provide reasons in support of your views.

- 11.3 Do you agree that the charge for a GEA migration should be subject to a charge control at some point in the range of £10 to £15? If so, please indicate where in that range the charge should be, supported by evidence. If not, please state the reasons why.
- 11.4 Do you agree with our proposal that BT offer a minimum contract term of no more than one month following a GEA migration? Please provide reasons in support of your views.
- 11.5 Do you agree with our proposed approach to regulating the margin between the VULA price and BT's downstream prices? In particular:
- (a) Do you agree that our objective should be to ensure that BT sets a VULA margin that allows an operator with slightly higher costs than BT (or some other slight commercial drawback relative to BT) to profitably match BT's retail superfast broadband prices?
 - (b) Do you agree that we should achieve this objective by requiring BT to set fair and reasonable terms, conditions and charges and setting out guidance on how we would interpret this requirement?
 - (c) Do you agree with our draft guidance? In particular, do you agree with our benchmark operator and the ways in which such an operator differs from BT?
- Please provide reasons in support of your views.
- 11.6 Do you agree that we should continue to require SLU and that it should be offered subject to a Basis of charges requirement? Please provide reasons in support of your views.
- 11.7 Do you agree with our proposed approach on the issue of SLU and vectoring? Please provide reasons in support of your views, including, if you disagree with our approach, evidence as to why an alternative approach is more appropriate (e.g. in the form of business plans).
- 11.8 Do you agree that we should continue to require PIA and that it should be offered subject to a Basis of charges requirement? Please provide reasons in support of your views.
- 11.9 Do you agree that PIA should continue on the same bases as it is currently applied? Please provide reasons in support of your views, including, if you disagree with our approach, evidence of specific business plans or intentions to invest in deploying NGA networks that are currently unviable, but would become viable with your suggested changes.
- 11.10 Do you agree that we should not require BT to offer any other Please provide reasons in support of your views provide reasons to support your views, including, if you disagree with our approach, evidence of your likely demand (e.g. in the form of business cases or specific intention to invest) for any suggested alternative forms of network access.

Remedies: WLA current generation access

12.1 Do you agree with our proposal to continue to require BT to provide LLU? Please provide reasons in support of your views.

12.2 Do you agree with our proposal to continue to apply a charge control on LLU? Please provide reasons in support of your views. (Comments on the specifics of the charge control should be made in response to the forthcoming 2013 LLU WLR Charge Control Consultation.)

12.3 Do you agree with our proposed approach, including on pricing, to LLU TRCs and SFIs? Please provide reasons in support of your views.

12.4 Do you agree with our proposed approach, including on pricing, for electricity? Please provide reasons in support of your views.

12.5 Do you agree with our proposed approach to cost accounting for LLU? Please provide reasons in support of your views.

Remedies: WFAEL

14.1 Do you agree with our proposal to continue to require BT to provide WLR? Please provide reasons in support of your views.

14.2 Do you agree with our proposal to continue to apply a charge control on WLR? Please provide reasons in support of your views. (Comments on the specifics of the charge control should be made in response to the forthcoming 2013 LLU WLR Charge Control Consultation.)

14.3 Do you agree with our proposed approach to pricing for WLR, including our proposals for a Basis of charges obligation on TRCs and for Caller ID? Please provide reasons in support of your views.

14.4 Do you agree with our proposed approach to pricing for WLR calling and network features (including revenues for Caller ID)? Please provide reasons in support of your views.

14.5 Do you agree with our proposed approach to cost accounting for WLR? Please provide reasons in support of your views.

Remedies: ISDN30 and ISDN2

15.1 Do you agree with our proposal to continue to require BT to provide wholesale ISDN30? Please provide reasons in support of your views.

15.2 Do you agree with our charge control proposals for ISDN30? Please provide reasons in support of your views.

15.3 Do you agree with our proposed approach for cost accounting for ISDN30? Please provide reasons in support of your views.

15.4 Do you agree with our proposal to continue to require BT to provide wholesale ISDN2? Please provide reasons in support of your views.

15.5 Do you agree with our charge control proposals for ISDN2? Please provide reasons in support of your views.

15.6 Do you agree with our proposed approach for cost accounting for ISDN2? Please provide reasons in support of your views.

Annex 5

Sources of evidence

Introduction

- A5.1 We have noted throughout the 2013 FAMR Consultation the evidence we have relied upon in relation to our findings and how we have relied upon that evidence. This Annex lists the main sources of evidence used. We also list all respondents to our consultations and to our various section 135 requests.
- A5.2 Whilst the Annex lists the main evidence we have relied upon, the list is for convenience only and is not intended to be exhaustive.

List of respondents to the call for inputs

- A5.3 We published a Call for Inputs (CFI) on 9 November 2012 setting out our proposed approach to this market review and seeking stakeholder input. This can be found at the following link:

Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 – Call for Inputs, 9 November 2012,
www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/summary/condoc.pdf

- A5.4 21 stakeholders provided written responses to the CFI:

- Axis Telecommunications Ltd;
- Birmingham City Council;
- British Sky Broadcasting Group plc;
- British Telecommunications plc;
- Cable and Wireless Worldwide plc/Vodafone;
- Colt Technology Services;
- Cumbria County Council;
- [X]
- Derby City Council;
- Everything Everywhere Limited;
- The Federation of Communication Services;
- KCOM Group plc;
- Manchester City Council;

- Modern Communications Ltd;
- [X];
- SSE plc;
- TalkTalk Telecom Group plc;
- Tesco Broadband;
- The Bit Commons Ltd;
- Verizon UK Limited; and
- Virgin Media Limited

A5.5 We have published the non-confidential versions of the responses from all the stakeholders listed above. These can be found on our website:
www.stakeholders.ofcom.org.uk/consultations/fixed-access-markets/?showResponses=true

Information-gathering using statutory powers (s135)

A5.6 During this market review, we have issued a series of notices under section 135 of the CA03 requiring various CPs to provide specified information as set out in the notice. These information requests are listed below:

- 5.6.1 Information request of 26 November 2012 regarding forecasts for use of MPF; capital investment in NGA networks; standard and superfast broadband customer numbers; upgrade and switching information; GEA migration costs; superfast broadband strategy; superfast broadband demand forecasts; competitor analyses for superfast broadband; marketing spend on superfast services; usage information for SLU, PIA and FVA; plans for vectoring; ISDN30 customer details; and ISDN30, ISDN2 and IP-based telephony volume data. Request sent to and response received from: BT.
- 5.6.2 Information request of 26 November 2012 regarding local access provision in Hull; the number of unbundled local exchanges; the number of business and residential analogue lines; use of the Business Voice Reseller product; superfast broadband demand forecasts; marketing spend on superfast services; and ISDN30, ISDN2 and IP-based telephony volume data. Request sent to and response received from: KCOM.
- 5.6.3 Information request of 26 November 2012 regarding capital investment in networks; superfast broadband strategy; superfast broadband demand forecasts; competitor analyses for superfast broadband; marketing spend on superfast services; usage information for SLU and PIA; and ISDN30 IP-based telephony volume data. Request sent to and response received from: Virgin.
- 5.6.4 Information request of 26 November 2012 regarding superfast broadband strategy; superfast broadband demand forecasts; competitor analyses for superfast broadband; marketing spend on superfast services; usage

information for SLU and PIA; and ISDN30 and IP-based telephony volume data. Request sent to and response received from:

- CWW/Vodafone; and
- TTG.

5.6.5 Information request of 26 November 2012 regarding superfast broadband strategy; superfast broadband demand forecasts; competitor analyses for superfast broadband; marketing spend on superfast services; and usage information for SLU and PIA. Request sent to and response received from:

- EE;
- Telefonica O2; and
- Sky.

5.6.6 Information request of 26 November 2012 regarding ISDN30 and IP-based telephony volume data. Request sent to and response received from:

- Verizon; and
- Colt.

5.6.7 Information request of 10 January 2013 regarding GEA migration costs. Request sent to and response received from: BT.

5.6.8 Information request of 18 January 2013 regarding Quality of Service. Request sent to and response received from: BT.

5.6.9 Information request of 28 January 2013 regarding Quality of Service. Request sent to and response received from:

- BT Retail;
- Colt;
- CWW;
- Daisy;
- EE;
- KCOM;
- Telefonica O2;
- TTG;
- Verizon; and
- Virgin.

- 5.6.10 Information request of 25 February 2013 regarding the accuracy of information previously submitted to Ofcom as part of the BCMR on plans for the Hull area. Request sent to and response received from: MS3.
- 5.6.11 Information request of 27 February 2013 regarding clarification of certain strategy documents submitted in response to s.135 notice of 26 November 2012. Request sent to and response received from:
- TTG; and
 - Virgin.
- 5.6.12 Information request of 7 March 2013 regarding Plusnet subscriber and customer switching information; Plusnet superfast broadband forecasts; BT FTTC deployment where SLU is used; financial information relating to the BT Phone Book; and confirmation of previous information provided for the 2012 ISDN30 Charge Control review. Request sent to and response received from: BT.
- 5.6.13 Information request of 28 March 2013 regarding ISDN2 cost information and customer details; and technical and financial information on calling and network features (call waiting, voicemail, three-way calling and caller ID). Request sent to and response received from: BT.
- 5.6.14 Information request of 18 April 2013 regarding clarification of ISDN30 data provided in response to s.135 notice of 26 November; and wholesale ISDN30 customer numbers. Request sent to and response received from: Colt.
- 5.6.15 Information request of 22 April 2013 regarding confirmation of information provided at meetings; clarification of revenue forecasts; clarification of customer take-up forecasts for superfast broadband; clarification of superfast broadband and standard broadband profitability forecasts; and retail and wholesale fibre strategies. Request sent to and response received from: BT.
- 5.6.16 Information request of 2 May 2013 regarding the accuracy of ISDN30 channel data previously submitted to Ofcom as part of the 2012 ISDN30 charge control. Request sent to and response received from:
- CWW/Vodafone; and
 - Verizon.
- 5.6.17 Information request of 2 May 2013 regarding the accuracy of ISDN30 channel data previously submitted to Ofcom as part of the 2012 ISDN30 charge control. Request sent to and response received from: Colt.
- 5.6.18 Information request of 23 May 2013 (including a 'Discussions Topics' Letter) regarding Quality of Service. Request sent to and response received from: BT.
- 5.6.19 Information request of 7 June 2013 regarding customer lifetimes. Request sent to and response received from: BT.

- A5.7 We have also had informal discussions with stakeholders on a range of issues, in particular with BT on cost information relating to calling and network features, TRC, SFIs and electricity charges, and with TalkTalk on market definition.

UK Legislation

- A5.8 The Competition Act 1998, www.legislation.gov.uk/ukpga/1998/41/contents
- A5.9 The Enterprise Act 2002, www.legislation.gov.uk/ukpga/2002/40/contents
- A5.10 The Communications Act 2003, as amended, www.legislation.gov.uk/ukpga/2003/21/contents

Ofcom documents

- A5.11 Oftel, *Oftel's market review guidelines: criteria for the assessment of significant market power*, 5 August 2002, www.ofcom.org.uk/static/archive/oftel/publications/about_oftel/2002/smpg0802.htm
- A5.12 Oftel, *Imposing access obligations under the new EU Directives*, 13 September 2002, http://www.ofcom.org.uk/static/archive/oftel/publications/ind_guidelines/acce0902.htm
- A5.13 Ofcom, *The regulatory financial reporting obligations on BT and Kingston Communications, Final Statement and notification: Accounting separation and cost accounting*, 22 July 2004, http://stakeholders.ofcom.org.uk/binaries/consultations/fin_reporting/statement/finance_report.pdf
- A5.14 *Direction concerning ADSL Broadband Access Migration Services; and a Determination to resolve a dispute between Tiscali, Thus and BT concerning ADSL Broadband Access Migration Services - Final Statement*, 9 August 2004, www.stakeholders.ofcom.org.uk/binaries/consultations/bam/statement/statement.pdf
- A5.15 *Direction Setting the Margin between IPStream and ATM interconnection Prices*, 26 August 2004, www.stakeholders.ofcom.org.uk/binaries/consultations/adsl_price/statement/statement.pdf
- A5.16 *Strategic Review of Telecommunications – Phase 2 consultation document*, 18 November 2004, www.stakeholders.ofcom.org.uk/binaries/consultations/telecoms_p2/summary/maincondoc.pdf
- A5.17 *Review of the wholesale local access market*, 16 December 2004, www.stakeholders.ofcom.org.uk/binaries/consultations/rwlam/statement/rwlam161204.pdf
- A5.18 *Broadband Regulation*, 30 June 2005, www.stakeholders.ofcom.org.uk/binaries/consultations/rwlam/statement/bbr.pdf

- A5.19 *Ofcom's approach to risk in the assessment of the cost of capital*, 18 August 2005, www.stakeholders.ofcom.org.uk/binaries/consultations/cost_capital2/statement/final.pdf
- A5.20 *Valuing copper access*, 18 August 2005, www.stakeholders.ofcom.org.uk/consultations/copper/
- A5.21 *Final statements on the Strategic Review of Telecommunications, and undertakings in lieu of a reference under the Enterprise Act 2002*, 22 September 2005, www.stakeholders.ofcom.org.uk/binaries/consultations/752417/statement/statement.pdf
- A5.22 *Undue discrimination by SMP providers – How Ofcom will investigate potential contraventions on competition grounds of requirements not to unduly discriminate imposed on SMP providers*, 15 November 2005, <http://stakeholders.ofcom.org.uk/binaries/consultations/undsmp/statement/contraventions4.pdf>
- A5.23 *Review of the wholesale broadband access markets 2007/06*, 15 November 2007, www.stakeholders.ofcom.org.uk/binaries/consultations/wbamr07/summary/wbamr07.pdf
- A5.24 *Service Level Guarantees: incentivising performance*, 20 March 2008, www.stakeholders.ofcom.org.uk/binaries/consultations/slg/statement/statement.pdf
- A5.25 *A new pricing framework for Openreach, Developing new charge controls for wholesale line rental, unbundled local loops and related services*, 30 May 2008, www.stakeholders.ofcom.org.uk/binaries/consultations/openreach/summary/openreachcondoc.pdf
- A5.26 *Next Generation New Build*, 23 September 2008, www.stakeholders.ofcom.org.uk/binaries/consultations/newbuild/statement/new_build_statement.pdf
- A5.27 *A New Pricing Framework for Openreach: second consultation*, 5 December 2008, www.stakeholders.ofcom.org.uk/binaries/consultations/openreachframework/summary/off.pdf
- A5.28 *Delivering super-fast broadband in the UK*, 3 March 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/nga_future_broadband/statement/statement.pdf
- A5.29 *Review of the fixed narrowband services wholesale markets*, Consultation, 19 March 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/review_wholesale/summary/fnwm.pdf
- A5.30 *Fixed narrowband retail services markets: Consultation on the identification of markets and determination of market power*, 19 March 2009, www.stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/summary/fnrsm_condoc.pdf
- A5.31 *Variation to BT's Undertakings under the Enterprise Act 2002 related to Fibre-to-the-Cabinet*, 11 June 2009, www.ofcom.org.uk/consult/condocs/fttc/statement/

- A5.32 *Leased Lines Charge Control, A new charge control framework for wholesale traditional interface and alternative interface products and services*, Statement, 9 July 2009,
www.stakeholders.ofcom.org.uk/binaries/consultations/lcc/statement/lccstatement.pdf
- A5.33 *Review of the fixed narrowband services wholesale markets*, 15 September 2009,
www.stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf
- A5.34 *Fixed Narrowband Retail Services Markets*, 15 September 2009,
www.stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/statement/statement.pdf
- A5.35 *Charge control for Wholesale Line Rental and related services – statement and consultation*, 26 October 2009,
www.stakeholders.ofcom.org.uk/binaries/consultations/wlr/summary/wlrcondoc.pdf
- A5.36 *Protecting consumers from mis-selling of fixed line telecommunications services*, 18 December 2009,
www.stakeholders.ofcom.org.uk/binaries/consultations/protecting_consumers_mis-selling/statement/statement.pdf
- A5.37 *Undertakings given to Ofcom by BT pursuant to the Enterprise Act 2002 – consolidated version*, 23 March 2010,
www.stakeholders.ofcom.org.uk/binaries/telecoms/policy/bt/consolidated.pdf
- A5.38 *Review of retail and wholesale ISDN30 markets – consultation*, 4 May 2010,
www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/summary/isbn30.pdf
- A5.39 *Retail Bundling in Hull*, 5 August 2010,
www.stakeholders.ofcom.org.uk/binaries/consultations/retail-bundling-in-hull/summary/main.pdf.
- A5.40 *Review of retail and wholesale ISDN30 markets*, 20 August 2010,
www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf
- A5.41 *Strategic review of consumer switching: A consultation on switching processes in the UK communications sector*, 10 September 2010,
www.stakeholders.ofcom.org.uk/binaries/consultations/consumer-switching/summary/switching.pdf
- A5.42 *Review of the wholesale local access market*, 7 October 2010,
www.stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf
- A5.43 *Review of the wholesale fixed analogue exchange lines markets – consultation*, 15 October 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/summary/main.pdf
- A5.44 *CW/00613/04/03: Investigation into BT's residential broadband pricing*, 2 November 2010, http://stakeholders.ofcom.org.uk/binaries/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_613/decision.pdf

- A5.45 *Review of the wholesale fixed analogue exchange lines markets*, 20 December 2010, www.stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf
- A5.46 *Charge control review for LLU and WLR services*, 31 March 2011, <http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/summary/wlr-cc-2011.pdf>
- A5.47 *Dispute Resolution Guidelines – Ofcom’s guidelines for the handling of regulatory disputes*, 7 June 2011, www.stakeholders.ofcom.org.uk/binaries/consultations/dispute-resolution-guidelines/statement/guidelines.pdf.
- A5.48 *CW/01067/02/11: Determination to resolve a dispute between DRL/Thales and BT relating to Sub Loop Unbundling charges*, 15 July 2011, www.stakeholders.ofcom.org.uk/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_01067/
- A5.49 *WBA Charge Control: Charge Control framework for WBA Market 1 Services*, Statement, 20 July 2011, www.stakeholders.ofcom.org.uk/binaries/consultations/823069/statement/statement.pdf
- A5.50 *LLU Charge Control – Further consultation*, 23 November 2011, www.stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc/summary/condoc.pdf
- A5.51 *Price controls for wholesale ISDN30 services: Consultation of the form and level of price controls on Openreach wholesale ISDN30 services*, 22 December 2011, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-2011/summary/isdn30-2011.pdf
- A5.52 *Consumer switching*, 9 February 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/switching-fixed-voice-broadband/summary/condoc.pdf
- A5.53 *Charge control review for LLU and WLR services*, 7 March 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf
- A5.54 *Wholesale ISDN30 charge control*, 12 April 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30-price-control/statement/ISDN30_final_statement.pdf
- A5.55 *Business connectivity market review*, 18 June 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/business-connectivity/summary/sections815.pdf
- A5.56 *The Leased Lines Charge Control, Proposals for a new charge control framework for certain leased lines services*, Consultation, 5 July 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/lcc-2012/summary/LLCC_2012.pdf
- A5.57 *Enforcement Guidelines – Ofcom’s guidelines for the handling of competition complaints and complaints concerning regulatory rules*, 25 July 2012,

- www.stakeholders.ofcom.org.uk/binaries/consultations/draft-enforcement-guidelines/annexes/Enforcement_guidelines.pdf.
- A5.58 *Regulatory financial reporting: a review*, 6 September 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/reg-financial-report/summary/condoc.pdf
- A5.59 *Narrowband Market Review, Consultation on possible approaches to cost modelling for the Network Charge Control for the period 2013-2016*, Consultation, 28 September 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/narrow-band-market-review/summary/condoc.pdf
- A5.60 *Consolidated version of the General Conditions as at 22 November 2012 including annotations*, www.stakeholders.ofcom.org.uk/binaries/telecoms/ga/general-conditions22nov12.pdf
- A5.61 *CW/01098/12/12: Dispute relating to whether Openreach offered MPF New Provide to TalkTalk Telecom Group PLC on fair and reasonable terms and conditions*, , www.stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_01098/
- A5.62 *Review of the fixed narrowband services markets*, 5 February 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/summary/NMR_Consultation.pdf
- A5.63 *CW/01103/03/13: Complaint from TalkTalk Telecom Group plc against BT Group plc about alleged margin squeeze in superfast broadband pricing*, www.stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_01103/
- A5.64 *Annual Plan 2013/14*, 28 March 2013, www.ofcom.org.uk/files/2013/03/annplan1314.pdf
- A5.65 *Business Connectivity Market Review Statement* 28 March 2013 www.stakeholders.ofcom.org.uk/consultations/business-connectivity-mr/
- A5.66 *UK broadband competition reaches new milestone* 25 April 2013 www.media.ofcom.org.uk/2013/04/25/uk-broadband-competition-reaches-new-milestone/
- A5.67 *Changes to BT and KCOM's regulatory and financial reporting 2012/13 update*, 25 April 2013, <http://stakeholders.ofcom.org.uk/consultations/bt-kcom-reporting-2012-13/?a=0>
- A5.68 *Cost orientation*, 5 June 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/cost-orientation/summary/Cost_orientation.pdf
- A5.69 *CW/988/06/08: Complaint from THUS plc and Gamma Telecom Limited against BT about alleged margin squeeze in Wholesale Calls pricing*, 20 June 2013, www.stakeholders.ofcom.org.uk/binaries/enforcement/competition-bulletins/closed-cases/all-closed-cases/cw_988/final.pdf
- A5.70 *Ofcom, Fixed line installations and fault repair quality of service research*, 3 July 2013,

<http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/telecoms-market-data/fault-repair-research.pdf>

EC documents

- A5.71 *Judgment of 24 October 1996, Viho / Commission (C-73/95 P, ECR 1996 p. I-5457), www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:61995CJ0073:EN:PDF*
- A5.72 *Regulation (EC) No 2887/2000 of the European Parliament and of the Council of 18 December 2000 on unbundled access to the local loop www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32000R2887:EN:HTML*
- A5.73 *Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:108:0007:0020:EN:PDF*
- A5.74 *Directive 2002/19/EC of the European Parliament and of the Council of 7 March 2002 on access to, and interconnection of, electronic communications networks and associated facilities, as amended by Directive 2009/140/EC of the European Parliament and of the Council of 25 November 2009 amending Directives 2002/21/EC on a common regulatory framework for electronic communications networks and services, 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities, and 2002/20/EC on the authorisation of electronic communications networks and services, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:337:0037:0069:EN:PDF*
- A5.75 *Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, as amended by Directive 2009/140/EC and Regulation 544/2009, www.ec.europa.eu/information_society/policy/ecomm/doc/140framework.pdf*
- A5.76 *Directive 2002/22/EC of the European Parliament and of the Council, 7 March 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2002:108:0051:0051:EN:PDF*
- A5.77 *Directive 2002/22/EC of the European Parliament and of the Council (as amended by Directive 2009/136/EC), 7 March 2002, www.ec.europa.eu/information_society/policy/ecomm/doc/136univserv.pdf*
- A5.78 *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03), 11 July 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF*
- A5.79 *The Treaty of the European Union and the Treaty establishing the European Community (Consolidated Versions), 26 December 2006, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2006:321E:0001:0331:EN:PDF,*
- A5.80 *Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and*

- of the Council on a common regulatory framework for electronic communications networks and services, (2007/879/EC), www.ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/rec_mar_kets_en.pdf
- A5.81 *Explanatory note accompanying the Commission recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and the Council on a common regulatory framework for electronic communications networks and services,* www.ec.europa.eu/information_society/policy/ecomm/doc/implementation_enforcement/eu_consultation_procedures/sec_2007_1483_2.pdf
- A5.82 *Communication from the Commission – Guidance on the Commission’s enforcement priorities in applying Article 82 of the EC Treaty (now Article 102 of the Treaty on the Functioning of the European Union) to abusive exclusionary conduct by dominant undertakings (2009/C 45/02), 24 February 2009,* www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:045:0007:0020:EN:PDF
- A5.83 *Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 establishing the Body of European Regulators of Electronic Communications (BEREC) and the Office (the BEREC Regulation)* <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:337:0001:0010:EN:PDF>
- A5.84 *Revised European Framework for Electronic Communications, 18 December 2009,* www.ec.europa.eu/information_society/policy/ecomm/index_en.htm
- A5.85 *Commission recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA) OJ L251/35, 20 September 2010,* www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:251:0035:0048:EN:PDF
- A5.86 *EC response to 2010 WLA consultation,* www.stakeholders.ofcom.org.uk/binaries/consultations/wla/responses/european-commission.pdf
- A5.87 *Commission recommendation of XXX on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment, draft of 7 December 2012,* www.ec.europa.eu/digital-agenda/en/news/draft-commission-recommendation-consistent-non-discrimination-obligations-and-costing
- A5.88 *Vice President N. Kroes, Building our Digital Single Market: 10 steps to deliver broadband, 30 January 2013* www.europa.eu/rapid/press-release_SPEECH-13-80_en.htm#PR_metaPressRelease_bottom

Academic literature

- A5.89 *Chain-Store Competition: Customized vs. Uniform Pricing, Dobson P and Waterson M, Warwick Economic Research Paper No. 840* www2.warwick.ac.uk/fac/soc/economics/research/workingpapers/2008/twerp_840.pdf

Ofcom research

- A5.90 *The Communications Market 2005*, July 2005,
www.stakeholders.ofcom.org.uk/binaries/research/cmr/comms_mkt_report05.pdf
- A5.91 *The Communications Market 2006*, July 2006,
www.stakeholders.ofcom.org.uk/binaries/research/cmr/main.pdf
- A5.92 *The Communications Market 2007*, July 2007,
www.stakeholders.ofcom.org.uk/binaries/research/cmr/telecoms1.pdf
- A5.93 *Narrowband Multi-channels Market Research*, 4 May 2010,
www.stakeholders.ofcom.org.uk/binaries/consultations/isdn30/narrowband.pdf
- A5.94 *Analysys Mason for Ofcom, UK local access fibre deployment study*, 27 January 2011, www.stakeholders.ofcom.org.uk/binaries/telecoms/policy/local-fibre-access.pdf
- A5.95 *Communication Market Report*, 18 July 2012,
www.stakeholders.ofcom.org.uk/binaries/research/cmr/cmr12/CMR_UK_2012.pdf
- A5.96 *Jigsaw Research, Report for the 2013 Narrowband Market Review*, January 2013,
www.stakeholders.ofcom.org.uk/binaries/consultations/nmr-2013/annexes/JR-report.pdf
- A5.97 *The Consumer Experience of 2012*, January 2013,
www.stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-12/Consumer_Experience_Research1.pdf
- A5.98 *The Consumer Experience of 2012: Policy Evaluation Report*, January 2013,
http://stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-12/Consumer_Experience_Policy_1.pdf
- A5.99 *Technology Tracker*, January-February 2013,
www.ofcom.org.uk/static/research/Wave-1-2013-data-tables.zip
- A5.100 *Fixed line installations and fault repair quality of service research*, April 2013,
<http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/telecoms-market-data/fault-repair-research.pdf>

Third party research

- A5.101 EC, *Consumer Market Monitoring Survey (2010)*
www.ec.europa.eu/consumers/consumer_research/dashboard_part3_en.htm
- A5.102 WIK-Consult's Study for ECTA, *NGA Progress Report*, March 2012,
www.ectaportal.com/en/upload/File/Press_Releases/2012/NGA_Progress_Report_final.pdf
- A5.103 Roy Morgan Research for the New Zealand Commerce Commission, *Consumer Switching Behaviour in Telecommunications Markets*, April 2012,
www.comcom.govt.nz/assets/Telecommunications/Market-Monitoring/Consumer-Switching-Study-December-2011.pdf

- A5.104 Illume Research, *SIP/IP Trunking Market Report & Forecast 2012*, 8 August 2012
- A5.105 Analysys Mason, *Western Europe telecoms market: forecasts and analysis 2012–2017*, September 2012
- A5.106 Policy Exchange, *The Superfast and the Furious*, 7 January 2013, www.policyexchange.org.uk/images/publications/the%20superfast%20and%20the%20furious.pdf
- A5.107 Cullen, *Duct sharing – Prices*, www.cullen-international.com/report/3294/t2456
- A5.108 Enders Analysis, *UK broadband, telephony and pay TV trends Q4 2012*, 4 March 2013
- A5.109 AlixPartners for TalkTalk, *Economic issues relating to Ofcom’s market review of wholesale local access*, 20 December 2012, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_additional_p1.pdf
- A5.110 WIK-Consult for TalkTalk, *Estimating the Costs of GEA*, March 2013, www.stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/TalkTalk_Group_second_addit1.pdf

Websites

- A5.111 BT, *Home products and services* (www.productsandservices.bt.com)
- *Phone and calling plans*, www.productsandservices.bt.com/products/landline/packages
- A5.112 Openreach (www.openreach.co.uk)
- *Equivalence Management Platform*, www.openreach.co.uk/orpg/home/helpandsupport/help_support/downloads/emp_high_level_view.pdf.
 - *GEA-FTTC Product Description (requires login)*, www.openreach.co.uk/orpg/customerzone/products/super-fastfibreaccess/fibretothecabinet/description/downloads/FTTC%20Product%20Description%20Issue%209.pdf
 - *Fibre only exchanges*, www.openreach.co.uk/orpg/home/products/super-fastfibreaccess/fibreonlyex/fibreonlyex.do
 - *Fact sheet: Time Related Charges*, www.openreach.co.uk/orpg/home/products/serviceproducts/timerelatedcharges/timerelatedcharges/downloads/TRCs.pdf
 - *Price list, WLR ISDN30*, www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=WH17ucyC%2Fv7E1PoECWJLs3T0E4HidA8NS2h%2Bn9f3uuQIMnGHsqdC0vzO163bJmh34D91D7M0q8u%2F%0AIIStlFAKw%3D%3D
- A5.113 BT, *Business products and services* (www.business.bt.com)

- *ISDN2 and ISDN30 services*, www.business.bt.com/phone-services/isdn
 - *ISDN2 and ISDN30 pricing*, www.business.bt.com/phone-services/isdn/pricing/
 - *Business phone lines and call plans*, www.business.bt.com/phone-services/business-phone-lines/
- A5.114 BT, *Managed network IT services and communications* (www.globalservices.bt.com)
- *ISDN2e pricing options*, www.globalservices.bt.com/static/assets/pdf/products/isdn2e/BT_One_Voice_access_ISDN_2e_pricing_options_010113.pdf
- A5.115 EC, *Digital agenda for Europe* (www.ec.europa.eu/digital-agenda/about-our-goals)
- *Draft Commission Recommendation on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment*, www.ec.europa.eu/digital-agenda/en/news/draft-commission-recommendation-consistent-non-discrimination-obligations-and-costing
- A5.116 Gov.uk, *Stimulating private sector investment to achieve a transformation in broadband in the UK by 2015* (www.gov.uk/government/policies/transforming-uk-broadband)
- A5.117 Illume Consulting, *The voice of VOIP* (www.matttownend.wordpress.com)
- www.matttownend.wordpress.com/tag/sip-trunking/.
- A5.118 KCOM Group (www.kcomplc.com)
- A5.119 KCOM, *Price manual – business services* (www.pricing.k-c.co.uk/business-main.asp)
- A5.120 Hyperoptic (www.hyperoptic.com)
- *Hyperoptic secures £50 million investment*, 23 May 2013, www.hyperoptic.com/web/guest/press?p_p_id=press_WAR_pressportlet&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-1&p_p_col_count=1&press_WAR_pressportlet_render=article&press_WAR_pressportlet_urlTitle=hyperoptic-secures-%C2%A350-million-investment
- A5.121 ISPreview (www.ispreview.co.uk)
- *Digital region picks new operator to run its South Yorkshire UK network*, 7 February 2013, www.ispreview.co.uk/index.php/2013/02/digital-region-pick-new-operator-to-run-its-south-yorkshire-uk-network.html
- A5.122 MS3 (www.ms-3.co.uk)
- *About us*, www.ms-3.co.uk/pages/about-us
 - *MS3 expand with Garness Jones*, 11 January 2013, www.ms-3.co.uk/articles/5

- *MS3 network officially live*, 10 April 2013, www.ms-3.co.uk/articles/7

A5.123 NICC, *UK interoperability standards* (www.niccstandards.org.uk)

A5.124 OTA2 (www.offta.org.uk)

- *Update for March 2011*, www.offta.org.uk/updates/otaupdate20110405.htm
- *Update for January 2012*, www.offta.org.uk/updates/otaupdate20120207.htm

A5.125 TalkTalk (www.talktalk.co.uk)

- *TalkTalk Broadband*, www.sales.talktalk.co.uk/product/broadband/essentials

A5.126 TalkTalk, *TalkTalk Business* (www.talktalkbusiness.co.uk)

- *IP-ISDN30*, www.talktalkbusiness.co.uk/products-and-services/voice-services/calls-lines-wlr3--cps/ip-isdn30/

A5.127 ZDNET (www.zdnet.com)

- *NBN: fibre to the world*, 24 March 2013, www.zdnet.com/nbn-fibre-to-the-world_p3-7000012385/

Other documents

BEREC

A5.128 ERG (03) 09rev3, *Revised ERG Working paper on the SMP concept for the new regulatory framework*, September 2005.
www.erg.eu.int/doc/publications/public_hearing_concept_smp/erg_03_09rev3_smp_common_concept.pdf

A5.129 ERG (06) 33, *Revised ERG Common Position on the approach to Appropriate remedies in the ECNS regulatory framework*, May 2006.
www.erg.eu.int/doc/meeting/erg_06_33_remedies_common_position_june_06.pdf

A5.130 ERG (08) 20b, *ERG Report on the Public Consultation of the ERG Common Position on Geographic Aspects of Market Analysis (definition and remedies)*, September 2008.
www.erg.ec.europa.eu/doc/publications/erg_08_20b_final_cp_geog_aspects_cons_report_081016.pdf

A5.131 ERG (09) 07, *Report on the Discussion on the application of margin squeeze tests to bundles*, March 2009,
[www.erg.eu/streaming/ERG_\(09\)_07_Report_on_the_Discussion_of_the_application_of_Margin_Squeeze_tests_to_bundles.pdf?contentId=545844&field=ATTACHED_FILE](http://www.erg.eu/streaming/ERG_(09)_07_Report_on_the_Discussion_of_the_application_of_Margin_Squeeze_tests_to_bundles.pdf?contentId=545844&field=ATTACHED_FILE)

A5.132 BoR (10) 34, *BEREC report on best practices to facilitate consumer switching*, October 2010, www.berec.europa.eu/doc/berec/bor_10_34_rev1.pdf

A5.133 BoR (10) 64, *BEREC report on the impact of bundled offers in retail and wholesale market definition*, December 2010,

http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/?doc=209

- A5.134 BoR (12) 127, *BEREC common position on best practice in remedies on the market for wholesale (physical) network infrastructure access (including shared or fully unbundled access) at a fixed location imposed as a consequence of a position of significant market power in the relevant market*, 8 December 2012, [www.berec.europa.eu/files/document_register_store/2012/12/20121208163628_BoR_\(12\)_127_BEREC_COMMON_POSITION_ON_BEST_PRACTICE_IN_REMEDIES_ON_THE_MARKET_FOR_WHOLESALE.pdf](http://www.berec.europa.eu/files/document_register_store/2012/12/20121208163628_BoR_(12)_127_BEREC_COMMON_POSITION_ON_BEST_PRACTICE_IN_REMEDIES_ON_THE_MARKET_FOR_WHOLESALE.pdf)
- A5.135 BoR (12) 128, *BEREC common position on best practice in remedies on the market for wholesale broadband access (including bitstream access) imposed as a consequence of a position of significant market power in the relevant market*, 8 December 2012, [www.berec.europa.eu/files/document_register_store/2012/12/BoR_\(12\)_128_CP_WBA.pdf](http://www.berec.europa.eu/files/document_register_store/2012/12/BoR_(12)_128_CP_WBA.pdf)
- A5.136 BEREC press release, BoR (13) 33, *BEREC provides an update on its opinion on the Commission's draft Recommendation on cost orientation and non-discrimination*, 11 March 2013, www.berec.europa.eu/eng/document_register/subject_matter/berec/press_releases/?doc=1222
- A5.137 BoR (13) 41, *BEREC Opinion on Commission draft Recommendation on non-discrimination and costing methodologies*, 26 March 2013, www.berec.europa.eu/eng/document_register/subject_matter/berec/opinions/?doc=1244

BT

- A5.138 *Regulatory financial statements:* <http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/index.htm>
- A5.139 Letter from BT to Ofcom, *Floors for future broadband pricing*, 10 November 2006, www.stakeholders.ofcom.org.uk/binaries/telecoms/policy/bb/floors.pdf
- A5.140 *2011/12 Regulatory Financial Statements*, http://www.btplc.com/Thegroup/RegulatoryandPublicaffairs/Financialstatements/2012/RFS_2012.pdf
- A5.141 *BT speeds up fibre plans once again*, 1 November 2012 www.btplc.com/News/Articles/Showarticle.cfm?ArticleID=B95CCF6C-F125-4ABF-A78D-82476B31A07C
- A5.142 *Results for the Fourth Quarter and Year to 31 March 2013*, 10 May 2013, www.btplc.com/News/ResultsPDF/q413_release.pdf
- A5.143 *Q4 2012/13 results presentation transcript – Part 1, BT Group plc*, 10 May 2013, www.btplc.com/Sharesandperformance/Quarterlyresults/PDFdownloads/q413_transcript1.pdf
- A5.144 *Slides Part 2, BT, Results for the Fourth Quarter and Year to 31 March 2013*, 10 May 2013,

www.btplc.com/Sharesandperformance/Quarterlyresults/PDFdownloads/q413_slides_update_part2.pdf

Commission for Communications Regulation

A5.145 *Next Generation Access: Remedies for Next Generation Access market*, 31 January 2013, www.comreg.ie/fileupload/publications/ComReg1311.pdf

Competition Appeal Tribunal

A5.146 *Communication Appeals Tribunal Notice of Appeal under Section 192 of The Communications Act 2003 Case No 1212/3/3/13* 30, May 2013, www.catribunal.org.uk/237-8028/1212-3-3-13-Colt-Technology-Services.html

InfoDev

A5.147 *Telecommunications Regulation Handbook* (2000), www.infodev.org/en/publication.22.html

OFT

A5.148 OFT, *Market definition*, December 2004, OFT403, www.oft.gov.uk/shared_of/business_leaflets/ca98_guidelines/oft403.pdf

Openreach

A5.149 *Openreach response to 2009 first consultation on WLR charge controls*, www.stakeholders.ofcom.org.uk/binaries/consultations/wlrcc/responses/bt_response.pdf

A5.150 *Presentation to Ofcom: Network and Calling features*, November 2012

A5.151 Openreach, *How to raise a Statement of Requirement for Openreach Products*, Issue 7, 18 April 2013

A5.152 *GEN027/13 Physical Infrastructure Access (PIA) Update*, 17 May 2013, www.openreach.co.uk/orpg/home/updates/briefings/generalbriefings/generalbriefingsarticles/gen02713.doc

KCOM

A5.153 *New Services Manual, Part 2*, January 2011, www.kcomplc.com/docs/regulatory-pdf/reg_rio_knsm.pdf

A5.154 *Draft Reference Offer for LLU*, www.kcomplc.com/regulatory-information/reference-offers/kc-local-loop-unbundling/

A5.155 *Regulatory Financial Statements for the year ending 31 March 2012*, 27 July 2012, www.kcomplc.com/docs/regulatory-pdf/final_statements_2012.pdf

Sky

A5.156 Sky, *Unaudited results for the nine months ended 31 March 2013* www.corporate.sky.com/documents/pdf/latest_results/q3_1213_press_release.pdf

TalkTalk

- A5.157 *Interim Results*, 13 November 2012,
www.talktalkgroup.com/~media/Files/T/TalkTalk/pdfs/presentations/2012/13-11-2012-interim-pres.pdf
- A5.158 TalkTalk, *Preliminary results for the 12 months to 31 March 2013*, 16 May 2013,
www.talktalkgroup.com/~media/Files/T/TalkTalk/pdfs/reports/2013/prelim-results-2013.pdf

Virgin

- A5.159 *Virgin Media boosts Britain's broadband speeds*, 11 January 2012
www.mediacentre.virginmedia.com/Stories/Virgin-Media-boosts-Britain-s-broadband-speeds-2322.aspx
- A5.160 *First quarter 2013 results*, 24 April 2013,
www.investors.virginmedia.com/phoenix.zhtml?c=135485&p=irol-financial-results

Vodafone

- A5.161 Vodafone, *ISDN2 Transfer briefing paper*, February 2012

Annex 6

General analytical approach to market definition and SMP assessment

Introduction

- A6.1 This annex sets out in general terms the processes that we have followed in defining the markets within this review, how and on what basis we assess whether anyone has SMP in a given market, whether SMP conditions should be imposed in a relevant market, and in what form. Sections 3-7 (market definition and SMP analysis) and 8-15 (remedies) set out in more detail how we have applied our approach in each relevant market.

The time period under review

- A6.2 Rather than just looking at the current position, market reviews look ahead to how competitive conditions may change in future. Our evaluation of the current market takes into account past developments and evidence, before then considering the foreseeable market changes that we expect to affect its development over the period to April 2017. This forecast period reflects the period covered by this market review.
- A6.3 The forward look period that we have used does not preclude us reviewing the market before that point should the market develop in way we have not foreseen to the extent that it is likely to affect the competitive conditions that are operating.

Approach to market definition

- A6.4 In defining markets for market review purposes, our main EU law obligation is to define relevant markets appropriate to national circumstances in accordance with the principles of competition law, taking the utmost account of the 2007 EC Recommendation and the EC SMP Guidelines.¹
- A6.5 There are two dimensions to the definition of the relevant market: the relevant products to be included within the market and the geographic extent of the market. It is often practical to define the relevant product market before exploring the geographic dimension of the market.
- A6.6 While we describe below our analytical approach to market definition, it should be borne in mind that this is not a mechanical or abstract process. The approach is a dynamic one based on our overall understanding of the relevant markets, taking account of available evidence of past behaviour as well as our forward-looking analysis over the forecast period, reflecting the characteristics of the relevant retail and wholesale markets and the factors likely to influence their competitive development.

¹ Article 15(3), EC, *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services* (2002/C 165/03), 11 July 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF.

- A6.7 It should therefore be recognised that the market definition exercise is not an end in itself, but, rather, a means to an end. Market definition aids the assessment of whether end-users of a product are protected by effective competition and thus whether there is a requirement for the imposition of *ex ante* regulation. It is in this light that we have conducted our market definitions in this review.
- A6.8 In particular, when identifying markets that differ from those in the 2007 EC Recommendation, the three criteria test is applied to identify markets that are susceptible to *ex ante* regulation. The market definition exercise goes to this end.
- A6.9 To re-iterate, the three criteria that must cumulatively be met are:²
- the presence of high and non-transitory barriers to entry, which may be of a structural, legal or regulatory nature;
 - a market structure which does not tend towards effective competition within the relevant time horizon (the application of this criterion involves examining the state of competition behind the barriers to entry); and
 - the insufficiency of competition law alone to adequately address the market failure(s) concerned.
- A6.10 If these conditions are met, it may be appropriate to impose ex-ante regulation in the market. In formulating our proposals, we have taken utmost account of the EC SMP Guidelines and the 2007 EC Recommendation as well as the accompanying Explanatory Memorandum (the 'Explanatory Memorandum').³

Sequencing of our analysis

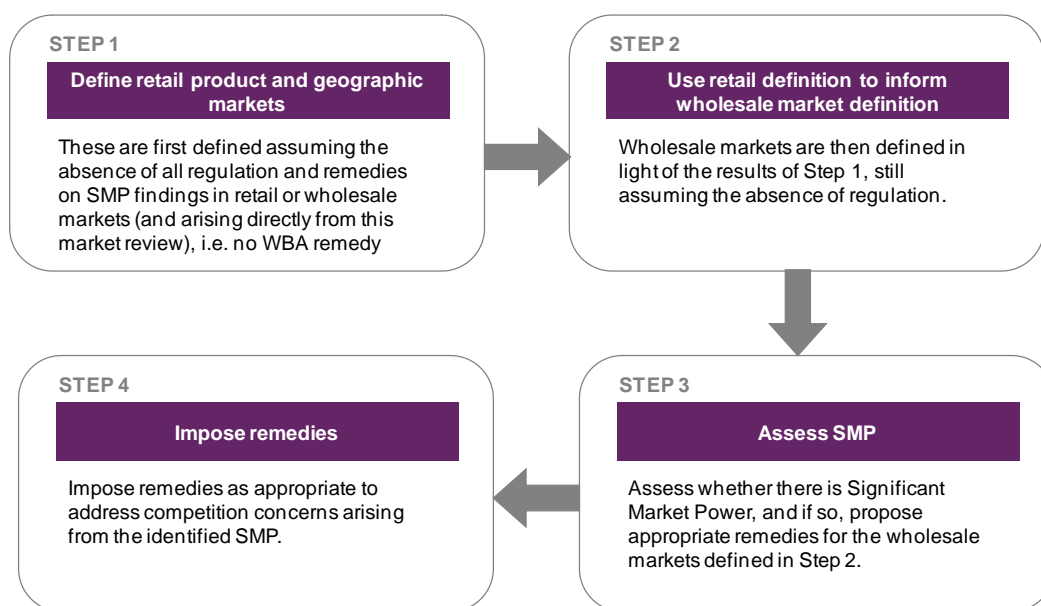
- A6.11 We now provide an overview of the stages involved in assessing whether or not it is appropriate to impose *ex ante* regulation. Figure A6.1 sets out the sequencing of our analysis.

² As set out in paragraph 5 of EC, *Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services*, (2007/879/EC),

www.ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/rec_markets_en.pdf.

³ EC, *Explanatory note accompanying the Commission recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and the Council on a common regulatory framework for electronic communications networks and services*,

www.ec.europa.eu/information_society/policy/ecomm/doc/implementation_enforcement/eu_consultation_procedure/sec_2007_1483_2.pdf.

Figure A6.1: Sequencing of market definition, SMP and remedies analysis

A6.12 The order in which we carry out the various steps is linked with another aspect that often needs to be taken into account – especially in the electronic communications sector – namely the level of the supply chain (e.g. retail, wholesale) that is being analysed. Our usual starting point for identifying markets where there may be a requirement for the imposition of *ex ante* regulation is the definition of retail markets from a forward-looking perspective (Step 1). The wholesale market is defined subsequent to this exercise being carried out (Step 2).

A6.13 The analysis of retail market definition is logically prior to the definition of wholesale markets because the demand for the upstream wholesale service is a derived demand – i.e. the level of the demand for the upstream input depends on the demand for the retail service. Hence the range of available substitutes at the downstream (retail) level will inform the likely range of substitutes for the upstream (wholesale) service. This is because a rise in the price of a wholesale service which is passed through in the price of downstream retail services will cause retail customers to switch to substitute retail products, reducing demand for the wholesale input. We refer to this as an indirect constraint.

A6.14 Consequently, Step 1 (retail market definition) and Step 2 (wholesale market definition) should be regarded as one exercise, the ultimate purpose of which is to define those wholesale markets in the UK where there may be a requirement for the imposition of *ex ante* regulation.⁴

⁴ See, in this respect, Recital 4 of the 2007 EC Recommendation which states that “[h]aving defined retail markets, it is then appropriate to identify relevant wholesale markets” (emphasis added) (EC, Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, (2007/879/EC), www.ec.europa.eu/information_society/policy/ecomm/doc/library/proposals/rec_markets_en.pdf). See also section 2.1, EC, Explanatory note accompanying the Commission recommendation on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive 2002/21/EC of the European Parliament and the Council on a common regulatory framework for electronic communications networks and services,

A6.15 We have thus considered the definition of retail and wholesale markets and, in relevant cases, whether the wholesale market is one in which *ex ante* regulation may be appropriate (if so, we have then formally identified a relevant market).⁵ Step 3 in our analysis is assessing whether or not there is SMP. In the event that we find that SMP exists, we then go on to consider appropriate remedies for the relevant market (Step 4).

Market definition

Demand-side and supply-side substitution

A6.16 Market boundaries are determined by identifying constraints on the price setting behaviour of firms.⁶ There are two main constraints to consider:

- first, to what extent it is possible for a customer to substitute other services for those in question in response to a relative price increase ('demand-side substitution'); and
- second, to what extent suppliers can switch, or increase, production to supply the relevant products or services in response to a relative price increase ('supply-side substitution').

A6.17 The hypothetical monopolist test ('HMT') is a useful tool often used to identify close demand-side and supply-side substitutes. In this test, a product is considered to constitute a separate market if the hypothetical monopolist supplier could impose a small but significant non-transitory increase in price ('SSNIP') above the competitive level without losing sales to such a degree as to make this price rise unprofitable. If such a price rise would be unprofitable, because consumers would switch to other products or because suppliers of other products would begin to compete with the hypothetical monopolist, then the market definition should be expanded to include the substitute products.

A6.18 We must first therefore address the issue of which product(s) should form the starting point for the application of the HMT. We refer to this starting point as the 'focal product.'⁷ Paragraph 41 of the EC SMP Guidelines states that "*As a starting point, an NRA should apply this test firstly to an electronic communications service*

www.ec.europa.eu/information_society/policy/ecom/doc/implementation_enforcement/eu_consultation_procedure/sec_2007_1483_2.pdf) and paragraph 44, (EC, *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services* (2002/C 165/03), 11 July 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF).

⁵ See Recital 5 and Recommendation 2 of EC, *Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services*, (2007/879/EC), www.ec.europa.eu/information_society/policy/ecom/doc/library/proposals/rec_markets_en.pdf) and paragraph A6.55 below.

⁶ See paragraph 38 of EC, *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services* (2002/C 165/03), 11 July 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF.

⁷ This reflects the terminology used by the OFT (OFT, *Market definition*, December 2004, OFT403, www.of.gov.uk/shared_of/business_leaflets/ca98_guidelines/of403.pdf).

or product offered in a given geographical area, the characteristics of which may be such as to justify the imposition of regulatory obligations ...”⁸

- A6.19 We define markets first on the demand-side, considering if other services could be considered as substitutes by consumers in the event of the hypothetical monopolist supplier introducing a SSNIP above the competitive level.
- A6.20 Then, where relevant, we assess supply-side substitution possibilities to consider whether they provide any additional constraints on the pricing behaviour of the hypothetical monopolist which have not been captured by the demand-side analysis. In this assessment, supply-side substitution is considered to be a low cost form of entry which can take place within a reasonable timeframe (e.g. up to 12 months). The key point is that, for supply-side substitution to be relevant, not only must suppliers be able, in theory, to enter the market quickly and at low cost by virtue of their existing position in the supply of other products or geographic areas, but there must also be an additional competitive constraint arising from such entry into the supply of the service in question.
- A6.21 Therefore, in identifying potential supply-side substitutes, it is important that providers of these services have not already been taken into consideration. There might be suppliers who provide other services but who might also be materially present in the provision of demand-side substitutes to the service for which the hypothetical monopolist has raised its price. Such suppliers are not relevant to supply-side substitution since they supply services already identified as demand-side substitutes. As such, their entry has already been taken into account and so supply-side substitution from these suppliers cannot provide an additional competitive constraint on the hypothetical monopolist. However, the impact of expansion by such suppliers can be taken into account in the assessment of market power.

Bundling

- A6.22 A common feature of the telecoms sector is the supply of bundles of different services. The Explanatory Memorandum explains that in most cases the individual services in a bundle are not good demand-side substitutes of each other, yet may be considered as part of the same retail market if there is no independent demand for individual parts of the bundle.
- A6.23 However, the Explanatory Memorandum goes on to say that if, in the presence of a SSNIP there is evidence that a sufficient number of customers would “unpick” the bundle and obtain the service elements of the bundle separately, then it can be concluded that the service elements constitute the relevant markets in their own right.
- A6.24 BEREC’s report on bundles expands on this and says that economies of scope and transaction cost savings might make it less likely that consumers will “unpick” a bundle.⁹ It also suggests that evidence relating to consumer switching between bundled and unbundled products, switching costs, and the take-up of bundles

⁸ Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services (2002/C 165/03), 11 July 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF.

⁹ BEREC, BoR (10) 64, BEREC report on the impact of bundled offers in retail and wholesale market definition, December 2010, http://berec.europa.eu/eng/document_register/subject_matter/berec/reports/?doc=209.

compared to individual products (and the availability of individual products) can be used to infer substitutability of bundled and unbundled products.

Homogeneous competitive conditions

A6.25 In certain circumstances, it may also be appropriate to define a product market by grouping together services which are subject to homogeneous competitive conditions, despite the absence of demand- and supply-side substitutability. Homogeneity of competitive conditions is chiefly used in defining geographic markets to combine, into a single market, different geographic areas in which competitive conditions are nonetheless sufficiently homogeneous. However, it can also be used in the product market definition analysis. This approach can help streamline the subsequent market power analysis by reducing the need to review multiple markets for products the provision of which is subject to homogeneous competitive conditions.

A6.26 However, combining products and services based on homogenous competition conditions, is – by definition – only appropriate where this would not alter any subsequent findings on SMP (relative to defining those markets separately and making separate market power assessments accordingly). Provided this is the case, then we consider applying this criterion to both our product and geographic market definition analysis is appropriate since market definition, as explained above, is a means to an end and the end is an assessment of the effectiveness of competition in the relevant market which involves carrying out the market power analysis.

A6.27 Our approach also takes into account the EC SMP Guidelines. In particular, paragraph 56 of the EC SMP Guidelines states that:

“According to established case-law, the relevant geographic market comprises an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different...”

A6.28 Hence, subject to the relevant caveats above, where there are geographic areas where competitive conditions are sufficiently homogeneous, the definition of the relevant geographic market will include all of those areas within one market.

Common pricing constraints

A6.29 Another factor that is sometimes considered in setting market boundaries is whether there exist common pricing constraints across customers, services or geographic areas (i.e. areas in which a firm voluntarily offers its services at a geographically uniform price). Where common pricing constraints exist, the geographic areas in which they apply could be included within the same relevant market even if demand-side and supply-side substitutes are not present. Failure to consider the existence of a common pricing constraint could lead to unduly narrow markets being defined.

Relevance of existing regulation – the modified Greenfield approach

- A6.30 When we conduct our analysis to define the relevant retail and wholesale markets we assume that there is no SMP regulation in place in the market under consideration or in downstream markets – the so-called ‘modified Greenfield approach’.¹⁰
- A6.31 This approach means we conduct Step 1 and Step 2 of the approach set out in Figure A6.1 in the absence of SMP regulation. To do otherwise would mean that the subsequent wholesale market power assessment (Step 3) would be informed by a previous retail market definition that itself relied on a wholesale regulatory remedy arising from the finding of wholesale market power. This would be a circular and incorrect approach to market definition.
- A6.32 However, at both Steps 1 and 2, it remains appropriate to take into account *ex ante* regulation arising from SMP findings in markets other than those being defined. Further, having defined the wholesale market, it may be necessary to go on to consider whether *ex ante* regulation is necessary at the retail level. In carrying out this retail level assessment, it is appropriate to take into account any regulation that is upstream of the market being considered, as upstream regulation (e.g. wholesale remedies) has the potential to affect the competitive state of downstream (i.e. retail) markets (indeed, this is generally one of the main intentions of upstream regulation).

Geographic market

- A6.33 In addition to the product(s) to be included within a market, market definition also requires the geographic extent of the market to be specified. The geographic market is the area within which demand side and/or supply side substitution can take place and is defined using a similar approach to that used to define the product market. We have considered the geographic extent of each relevant market covered in this market review.
- A6.34 There are a number of possible approaches to geographic market definition. One approach would be to begin with a narrowly-defined area and then consider whether a price increase by a hypothetical monopolist in that narrowly defined area would encourage customers to switch to suppliers located outside the area (demand-side substitution) or CPs outside the area to begin to offer services in the area (supply-side substitution). If demand and/or supply side substitution is sufficient to constrain prices then it is appropriate to expand the geographic market boundary.
- A6.35 We recognise that in certain communications (product) markets in the UK, there could be different competitive pressures in different geographic areas. In this case, we therefore have to consider whether it would be appropriate to identify separate geographic markets for some services (note also that the discussion in paragraphs A6.25-A6.29 above about homogenous competitive conditions and common pricing

¹⁰ See also section 2.5 of EC, *Explanatory note accompanying the Commission recommendation on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and the Council on a common regulatory framework for electronic communications networks and services*, www.ec.europa.eu/information_society/policy/ecomm/doc/implementation_enforcement/eu_consultation_procedure/sec_2007_1483_2.pdf.

constraints is relevant). Defining separate markets by geographic area may be problematic because, due to the dynamic nature of communications markets, the boundary between areas where there are different competitive pressures may be unstable and change over time, rendering the market definition obsolete.

- A6.36 An alternative approach is to define geographic markets in a broader sense. This involves defining a single geographic market but recognising that this single market has local geographical characteristics. That is to say, recognising that within the single market there are geographic areas where competition is more developed than in other geographic areas. This avoids the difficulties of proliferation and instability in the definition.

Market power assessment

- A6.37 As we recognise above, market definition is not an end in itself. The definition of the scope of the relevant economic market is carried out in order to identify the product(s) and the geographic area over which a competition assessment can be made of CPs' ability to act to an appreciable extent independently of competitors, customers and consumers, i.e. whether there are any CPs that hold a position of SMP within a particular market.

Definition of SMP

- A6.38 Sections 45, 46 and 78 of the CA03 grant us the power under certain circumstances to set conditions which require CPs to do certain things. Specifically, sections 46(7) and 46(8) state that SMP services conditions may be imposed on a particular person who is either a CP or a person who makes associated facilities available, and who has been determined to have SMP in a services market (i.e. a specific market for electronic communications networks, electronic communications services or associated facilities).

- A6.39 Accordingly, having identified the relevant product and geographic market(s) and, where relevant having identified the market as susceptible to *ex ante* regulation, we go on to analyse each market in order to assess whether any person or persons have SMP as defined in section 78 of the CA03 (construed in accordance with Article 14 of the Framework Directive). Section 78 of the CA03 provides that SMP is defined as being equivalent to the competition law concept of dominance in accordance with Article 14(2) of the Framework Directive which provides:

"An undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers."

- A6.40 Further, Article 14(3) of the Framework Directive states that:

"Where an undertaking has significant market power on a specific market, it may also be deemed to have significant market power on a closely related market, where the links between the two markets are such as to allow the market power held in one market to be leveraged into the other market, thereby strengthening the market power of the undertaking."

- A6.41 Therefore, in the relevant market, one or more undertakings may be designated as having SMP where that undertaking or undertakings enjoy a position of dominance. Also, an undertaking may be designated as having SMP where it could lever its market power from a closely related market into the relevant market, thereby strengthening its market power in the relevant market.
- A6.42 In assessing whether an undertaking has SMP, we take due account of the EC SMP Guidelines as we are required to do under section 79 of the CA03. Where relevant, we have also considered the application of the equivalent guidelines published by Oftel.¹¹

The criteria for assessing SMP

- A6.43 The EC SMP Guidelines require NRAs to assess whether competition in a market is effective. This assessment is undertaken through a forward looking evaluation of the market (i.e. determining whether the market is prospectively competitive), taking into account foreseeable developments and a number of relevant criteria.¹²
- A6.44 Our assessments of SMP are concerned with the prospects for competition over the review period of three years. Ultimately, we want to understand how the markets are likely to develop, and whether competition is likely to be, or become, effective during this review period. Below we set out certain key factors that we are likely to consider when assessing SMP.¹³
- A6.45 Where a market is found to be competitive then no SMP conditions can be imposed. Section 84(4) of the CA03 requires that any SMP condition in that market, applying to a person by reference to a market power determination made of the basis of an earlier analysis, must be revoked.

Market shares

- A6.46 In the EC SMP Guidelines, the EC discusses market shares as being an indicator of (although not sufficient alone to establish) market power:

“...Market shares are often used as a proxy for market power. Although a high market share alone is not sufficient to establish the possession of significant market power (dominance), it is unlikely that a firm without a significant share of the relevant market would be in a dominant position. Thus, undertakings with market shares of no more than 25% are not likely to enjoy a (single) dominant position on the market concerned. In the Commission's decision making practice, single dominance concerns normally arise in the case of undertakings with market shares of over 40%, although the Commission may in some cases have concerns about dominance even with lower market shares, as dominance may occur

¹¹ Oftel, *Oftel's market review guidelines: criteria for the assessment of significant market power*, 5 August 2002, www.ofcom.org.uk/static/archive/oftel/publications/about_oftel/2002/smpg0802.htm.

¹² See, for example, paragraphs 19 and 20, and the opening words of paragraph 75, of the EC SMP Guidelines.

¹³ The factors listed in this annex are not intended to be exhaustive – other evidence may be relevant. Paragraph 78 of the EC SMP Guidelines lists the following criteria that could be used to assess market power: overall size of the undertaking; control of infrastructure not easily duplicated; technological advantages or superiority; absence of, or low, countervailing buying power; easy or privileged access to capital markets/financial resources; product/services diversification (e.g. bundled products or services); economies of scale; economies of scope; vertical integration; a highly developed distribution and sales network; absence of potential competition; and barriers to expansion.

without the existence of a large market share. According to established case-law, very large market shares — in excess of 50% — are in themselves, save in exceptional circumstances, evidence of the existence of a dominant position...”¹⁴

- A6.47 Market shares and market share trends provide an indication of how competitive a market has been in the past. If a firm has a persistently high market share, then that in itself gives rise to a presumption of SMP. However, changes in market share are also relevant to our assessment of prospects for competition. For example, a market share trend which shows a decline may suggest that competition will provide an effective constraint within the time period over which the SMP assessment is being conducted, although it does not preclude the finding of SMP.¹⁵

Barriers to entry and expansion

- A6.48 Entry barriers are important in the assessment of potential competition.¹⁶ The lower entry barriers are, the more likely it is that potential competition will prevent undertakings already within a market from profitably sustaining prices above competitive levels. Moreover, the competitive constraint imposed by potential entrants is not simply about introducing a new product to the market. To be an effective competitive constraint, a new entrant must be able to attain a large enough scale to have a competitive impact on undertakings already in the market. This may entail entry on a small scale, followed by growth. Accordingly, whether there are barriers to expansion is also relevant to an SMP assessment. Many of the factors that may make entry harder might also make it harder for undertakings that have recently entered the market to expand their market shares and hence their competitive impact.
- A6.49 A related factor is the growth in demand in the market. In general, CPs are more willing to invest in a growing market (and less willing in a declining market). As a result, barriers to entry and expansion tend to be less of an impediment to competition in rapidly growing markets.

Countervailing buyer power

- A6.50 A concentrated market need not lead to harmful outcomes if buyers have sufficient countervailing buyer power to curtail the exercise of market power. In general, purchasers may have a degree of buyer power where they purchase large volumes and can make a credible threat to switch supplier or to meet their requirements through self-supply to a significant degree. It is important to note, however, that the volumes involved must be large enough to make a material difference to the

¹⁴ Paragraph 75, *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services* (2002/C 165/03), 11 July 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF.

¹⁵ See, for example, paragraph 75, *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services* (2002/C 165/03), 11 July 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF.

¹⁶ Paragraph 80, *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services* (2002/C 165/03), 11 July 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF.

profitability of the current supplier. That is, an individual wholesale customer must represent a significant proportion of the total volume supplied by the relevant CP.

Excessive pricing and profitability

- A6.51 In a competitive market, individual firms should not be able to persistently raise prices above costs and sustain excess profits. As costs fall, prices should be expected to fall too if competition is effective.
- A6.52 The ability, therefore, to price at a level that keeps profits persistently and significantly above the competitive level is an important indicator of market power. The EC SMP Guidelines refer to the importance, when assessing market power on an ex-ante basis, of considering the power of undertakings to raise prices without incurring a significant loss of sales or revenue (factors that may explain excess profits in the short term, such as greater innovation and efficiency, or unexpected changes in demand, should however be considered in interpreting high profit figures).¹⁷
- A6.53 The reverse is not true: consistently low profits, i.e. profits at or below the cost of capital, cannot be taken as evidence of an absence of market power. It may simply be evidence of inefficiency. For example, if a firm with SMP were to have inefficiently high costs, it may charge a price above the level we would expect to see in a competitive market but this would not result in high profits. In addition, price regulation exists in many of the wholesale markets considered, and therefore low profits may simply be the result of regulation rather than a reflection of the underlying competitive conditions.

¹⁷ Paragraph 73, *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services* (2002/C 165/03), 11 July 2002, www.eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF.

Annex 7

Regulatory framework

Introduction

- A7.1 This annex provides an overview of the market review process to give some additional context and understanding of the matters discussed in this consultation, including the legal instruments (statutory notifications) published at Annex 11.
- A7.2 Market review regulation is technical and complex, including the legislation and the recommendations and guidelines that we need to consider as part of the process. There may be many relevant documents depending on the market and/or issues in question. This overview does not purport to give a full and exhaustive account of all such materials that we have considered in reaching our preliminary views on this market. Some of the key aspects of materials relevant to this market review are, however, discussed in this annex.

Market review concept

- A7.3 The concept of a market review refers to procedures under which we, at regular intervals, identify relevant markets appropriate to national circumstances and carry out analyses of these markets to determine whether they are effectively competitive before then deciding on appropriate remedies, known as SMP obligations or conditions (we explain the concept of SMP below).
- A7.4 In carrying out this work, we act in our capacity as the sector-specific regulator for the UK communications industries, particularly relating to our role as the regulator for telecommunications. Our functions in this regard are to be found in Part 2 of the CA03.¹⁸ We exercise those functions within the framework harmonised across the European Union for the regulation of electronic communications by the Member States (known as the CRF), as transposed by the CA03. The applicable rules¹⁹ are contained in a package of five EC Directives, of which two Directives are immediately relevant for present purposes, namely:
- Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services ('the Framework Directive'); and
 - Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities ('the Access Directive').
- A7.5 The Directives require that NRAs (such as Ofcom) carry out reviews of competition in communications markets to ensure that SMP regulation remains appropriate and proportionate in the light of changing market conditions.

¹⁸ <http://www.legislation.gov.uk/ukpga/2003/21/contents>

¹⁹ The Directives were subsequently amended on 19 December 2009. The amendments have been transposed into the national legislation and applied with effect from 26 May 2011 and any references in this consultation to the CA03 should be read accordingly.

A7.6 Each market review normally involves three analytical stages, namely:

- the procedure for the identification and definition of the relevant markets ('the market definition procedure');
- the procedure for the assessment of competition in each market, in particular whether the relevant market is effectively competitive ('the market analysis procedure'); and
- the procedure for the assessment of appropriate regulatory obligations ('the remedies procedure').

A7.7 These stages are normally carried out together.

Market definition procedure

A7.8 The CA03 provides that, before making a market power determination²⁰, we must identify the market which is, in our opinion, the one which, in the circumstances of the UK, is the market in relation to which it is appropriate to consider making such a determination and to analyse that market.

A7.9 The Framework Directive requires that NRAs shall, taking the utmost account of the 2007 EC Recommendation²¹ and SMP Guidelines²² published by the EC, define the relevant markets appropriate to national circumstances, in particular relevant geographic markets within their territory, in accordance with the principles of competition law.

A7.10 The 2007 EC Recommendation identifies a set of product and service markets within the electronic communications sector in which *ex ante* regulation may be warranted. Its purpose is twofold. First, it seeks to achieve harmonisation across the single market by ensuring that the same markets will be subject to a market analysis in all Member States. Second, the 2007 EC Recommendation seeks to provide legal certainty by making market players aware in advance of the markets to be analysed.

A7.11 However, NRAs are able to regulate markets that differ from those identified in the 2007 EC Recommendation where this is justified by national circumstances, taking account of the three cumulative criteria referred to in the EC Recommendation²³ ('the three-criteria test') and where the EC does not raise any objections.

²⁰ The market power determination concept is used in the CA03 to refer to a determination that a person has SMP in an identified services market.

²¹ EC, *Commission Recommendation of 17 December 2007 on relevant product and service markets within the electronic communications sector susceptible to ex ante regulation in accordance with Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services*, (2007/879/EC), http://ec.europa.eu/information_society/policy/ecomms/doc/library/proposals/rec_markets_en.pdf.

²² EC, *Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services* (2002/C 165/03), 11 July 2002, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2002:165:0006:0031:EN:PDF>.

²³ The 2007 EC Recommendation states that, "[w]hen identifying markets other than those set out in the Annex, national regulatory authorities should ensure that the following three criteria are cumulatively met: (a) the presence of high and non-transitory barriers to entry. These may be of a structural, legal or regulatory nature; (b) a market structure which does not tend towards effective competition within the relevant time horizon. The

- A7.12 Under the three-criteria test, when identifying markets other than those in the 2007 EC Recommendation, the NRA needs to ensure that each of the following three criteria are cumulatively met:
- the presence of high and non-transitory barriers to entry. These may be of a structural, legal or regulatory nature;
 - a market structure which does not tend towards effective competition within the relevant time horizon. The application of this criterion involves examining the state of competition behind the barriers to entry; and
 - the insufficiency of competition law alone to adequately address the market failure(s) concerned.”
- A7.13 The fact that an NRA identifies the product and service markets listed in the 2007 EC Recommendation or identifies other product and service markets that meet the three-criteria test does not automatically mean that regulation is warranted. Market definition is not an end in itself but rather a means of assessing effective competition. The three-criteria test is also different from the SMP assessment because the test’s focus is on the general structure and market characteristics.
- A7.14 The relationship between the market definitions identified in this review and those listed in the 2007 EC Recommendation is discussed in relevant parts of this consultation.²⁴
- A7.15 The SMP Guidelines make clear that market definition is not a mechanical or abstract process. It requires an analysis of any available evidence of past market behaviour and an overall understanding of the mechanics of a given market sector. As market analysis has to be forward-looking, the SMP Guidelines state that NRAs should determine whether the market is prospectively competitive, and thus whether any lack of effective competition is durable, by taking into account expected or foreseeable market developments over the course of a reasonable period. The SMP Guidelines clarify that NRAs enjoy discretionary powers which reflect the complexity of all the relevant factors that must be assessed (economic, factual and legal) when identifying the relevant market and assessing whether an undertaking has SMP.
- A7.16 The SMP Guidelines also describe how competition law methodologies may be used by NRAs in their analysis. In particular, there are two dimensions to the definition of a relevant market: the relevant products to be included in the same market and the geographic extent of the market. Ofcom’s approach to market definition follows that used by the UK competition authorities, which is in line with the approach adopted by the EC.
- A7.17 While competition law methodologies are used in identifying the *ex ante* markets, the markets identified will not necessarily be identical to markets defined in individual competition law cases, especially as the *ex ante* markets are based on an overall forward-looking assessment of the structure and the functioning of the

application of this criterion involves examining the state of competition behind the barriers to entry; (c) the insufficiency of competition law alone to adequately address the market failure(s) concerned.”

²⁴ See, in particular, where we set out how we consider the three criteria test is cumulatively satisfied for each of the relevant markets which are not included in the 2007 EC Recommendation, but for which we have concluded are markets in which *ex ante* regulation is warranted.

market under examination. Accordingly, the economic analysis carried out for the purpose of this review, including the markets we have identified, is without prejudice to any analysis that may be carried out in relation to any investigation pursuant to the Competition Act 1998²⁵ (relating to the application of the Chapter I or II prohibitions or Article 101 or 102 of the Treaty on the Functioning of the European Union²⁶) or the Enterprise Act 2002.²⁷

Market analysis procedure

Effective competition

- A7.18 The CA03 requires that we carry out market analyses of identified markets for the purpose of making or reviewing market power determinations. Such analyses are normally to be carried out within 2 years from the adoption of a revised recommendation on markets, where that recommendation identifies a market not previously notified to the EC, or within 3 years from the publication of a previous market power determination relating to that market.²⁸
- A7.19 In carrying out a market analysis, the key issue for an NRA is to determine whether the market in question is effectively competitive. The 27th recital to the Framework Directive clarifies the meaning of that concept. Namely, *"[it] is essential that ex ante regulatory obligations should only be imposed where there is not effective competition, i.e. in markets where there are one or more undertakings with significant market power, and where national and Community competition law remedies are not sufficient to address the problem"*.
- A7.20 The definition of SMP is equivalent to the concept of dominance as defined in competition law. In essence, it means that Ofcom needs to determine whether any undertaking in the relevant market is in a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers, and ultimately consumers. The Framework Directive requires, that NRAs must carry out their market analysis taking the utmost account of the SMP Guidelines, which emphasise that NRAs should undertake a thorough and overall analysis of the economic characteristics of the relevant market before coming to a conclusion as to the existence of SMP.
- A7.21 In that regard, the SMP Guidelines set out, additionally to market shares, a number of criteria that can be used by NRAs to measure the power of an undertaking to behave to an appreciable extent independently of its competitors, customers and consumers, including:
- the overall size of the undertaking;
 - control of infrastructure not easily duplicated;

²⁵ <http://www.legislation.gov.uk/ukpga/1998/41/contents>

²⁶ Previously Article 81 and Article 82 of the EC Treaty, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:083:FULL:EN:PDF>

²⁷ <http://www.legislation.gov.uk/ukpga/2002/40/contents>

²⁸ The CA03 was amended on 26 May 2011 to include these requirements following amendment to the Directives on 19 December 2009. However, the CA03 provides for a transitional provision which means that the requirement to notify the EC within 3 years from a previous market power determination only applies where that market power determination was made after 25 May 2011. The market power determinations under review in this document were all made prior to 25 May 2011.

- technological advantages or superiority;
- absence of or low countervailing buying power;
- easy or privileged access to capital markets/financial;
- resources;
- product/services diversification (e.g. bundled products or services);
- economies of scale;
- economies of scope;
- vertical integration;
- highly developed distribution and sales network;
- absence of potential competition; and
- barriers to expansion.

A7.22 A dominant position can derive from a combination of these criteria, which when taken separately may not necessarily be determinative.

Sufficiency of competition law

A7.23 As part of our overall forward-looking analysis, we also assess whether competition law by itself (without *ex ante* regulation) is sufficient, within the relevant markets we have defined, to address the competition problems we have identified. Aside from the need to address this issue as part of the three-criteria test, we also consider this matter in our assessment of the appropriate remedies which, as explained below, are based on the nature of the specific competition problems we identify within the relevant markets as defined. We also note that the SMP Guidelines clarify that, if NRAs designate undertakings as having SMP, they must impose on them one or more regulatory obligations.

A7.24 In considering this matter, we bear in mind the specific characteristics of the relevant markets we have defined. Generally, the case for *ex ante* regulation is based on the existence of market failures which, by themselves or in combination, mean that the establishment of competition might not be possible if the regulator relied solely on *ex post* competition law powers that have been established for dealing with more conventional sectors of the economy. Therefore, it is appropriate for *ex ante* regulation to be used to address these market failures along with any entry barriers that might otherwise prevent effective competition from becoming established within the relevant markets we have defined. By imposing *ex ante* regulation that promotes competition, it may be possible to reduce such regulation over time as markets become more competitive, allowing greater reliance on *ex post* competition law.

A7.25 *Ex post* competition law is also unlikely in itself to bring about (or promote) effective competition, as it prohibits the abuse of dominance rather than the holding of a dominant position itself. In contrast, *ex ante* regulation is normally aimed at actively promoting the development of competition through attempting to reduce the level of

market power (or dominance) in the identified relevant markets, thereby encouraging the establishment of effective competition. This is particularly the case when addressing the effects of network externalities, which generally re-enforce a dominant position. As noted above, under *ex post* competition law there is no prohibition on the holding of a position of dominance in itself and it is, therefore, normally more appropriate to address the impact of network externalities through *ex ante* obligations.

- A7.26 Additionally, unless we consider otherwise in relation to a specific obligation in this review, we generally take the view that *ex ante* regulation is needed to create legal certainty for the market under review. Linked to that certainty is the fact that the SMP obligations we have proposed are necessary to enable us to intervene in a timely manner. For some other specific obligations, we generally consider that they are needed as competition law would not remedy the particular market failure, or we believe that specific clarity and detail of the obligation is required to achieve a particular result.

Remedies procedure

Powers and legal tests

- A7.27 The Framework Directive prescribes what regulatory action NRAs must take depending upon whether or not an identified relevant market has been found effectively competitive. Where a market has been found effectively competitive, NRAs are not allowed to impose SMP obligations and must withdraw such obligations where they already exist. On the other hand, where the market is found not effectively competitive, the NRAs must identify the undertakings with SMP in that market and then impose appropriate obligations.
- A7.28 NRAs have a suite of regulatory tools at their disposal, as reflected in the CA03. Specifically, the Access Directive specifies a number of SMP obligations, including transparency, non-discrimination, accounting separation, access to and use of specific network elements and facilities, price control and cost accounting. When imposing a specific obligation, the NRA will need to demonstrate that the obligation in question is based on the nature of the problem identified, proportionate and justified in the light of the policy objectives as set out in Article 8 of the Framework Directive.
- A7.29 Specifically, for each and every proposed SMP obligation, we explain why it satisfies the test that the obligation is:
- objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
 - not such so as to discriminate unduly against particular persons or against a particular description of persons;
 - proportionate to what the condition or modification is intended to achieve; and
 - transparent in relation to what is intended to be achieved.
- A7.30 Additional legal requirements may also need to be satisfied depending on the SMP obligation in question. For example, in the case of price controls, the NRA's market analysis must indicate that the lack of effective competition means that the CP

concerned may sustain prices at an excessively high level or may apply a price squeeze to the detriment of end-users. In that instance, NRAs must take into account the investment made by the CP and allow it a reasonable rate of return on adequate capital employed, taking into account any risks specific to a particular new investment, as well as ensure that any cost recovery mechanism or pricing methodology that is mandated serves to promote efficiency and sustainable competition and maximise consumer benefits. Where an obligation to provide third parties with network access is considered appropriate, NRAs must take into account factors including the feasibility of the proposed network access, the technical and economic viability of creating networks²⁹ that would make the network access unnecessary, the investment of the network operator who is required to provide access³⁰, and the need to secure effective competition³¹ in the long term.

- A7.31 To the extent relevant to this review, we demonstrate the application of these requirements to the SMP obligations in question in the relevant parts of this document. In doing so, we also set our assessment of how, in our opinion, the performance of our general duties under section 3 of the CA03 is secured or furthered by our regulatory intervention, and that it is in accordance with the six Community requirements in section 4 of the CA03. This is also relevant to our assessment of the likely impact of implementing our proposals.

Ofcom's general duties - section 3 of the CA03

- A7.32 Under the CA03, our principal duty in carrying out functions is to further the interests of citizens in relation to communications matters and to further the interests of consumers in relevant markets, where appropriate by promoting competition.
- A7.33 In doing so, we are required to secure a number of specific objectives and to have regard to a number of matters set out in section 3 of the CA03.
- A7.34 In performing our duties, we are also required to have regard to a range of other considerations, as appear to us to be relevant in the circumstances. For the purpose of the FAMR, we consider that a number of such considerations are relevant, in particular:
- the desirability of promoting competition in relevant markets;
 - the desirability of encouraging investment and innovation in relevant markets; and
 - the desirability of encouraging the availability and use of high speed data transfer services throughout the UK.
- A7.35 We have also had regard to the principles under which regulatory activities should be transparent, accountable, proportionate, consistent, and targeted only at cases in which action is needed, as well as the interest of consumers in respect of choice, price, quality of service and value for money.

²⁹ Including the viability of other network access products, whether provided by the dominant provider or another person.

³⁰ Taking account of any public investment made.

³¹ Including, where it appears to us to be appropriate, economically efficient infrastructure-based competition.

A7.36 Ofcom has, however, a wide measure of discretion in balancing its statutory duties and objectives. In doing so, we will take account of all relevant considerations, including responses received during our consultation process, in reaching our conclusions.

European Community requirements for regulation - sections 4 and 4A of the CA03 and Article 3 of the BEREC Regulation

A7.37 As noted above, our functions exercised in this review fall under the CRF. As such, section 4 of the CA03 requires us to act in accordance with the six European Community requirements for regulation. In summary, these six requirements are:

- to promote competition in the provision of electronic communications networks and services, associated facilities and the supply of directories;
- to contribute to the development of the European internal market;
- to promote the interests of all persons who are citizens of the EU;
- to take account of the desirability of Ofcom's carrying out of its functions in a manner which, so far as practicable, does not favour one form of or means of providing electronic communications networks, services or associated facilities over another (i.e. to be technologically neutral);
- to encourage, to such extent as Ofcom considers appropriate for certain prescribed purposes, the provision of network access and service interoperability, namely securing efficient and sustainable competition, efficient investment and innovation, and the maximum benefit for customers of CPs; and
- to encourage compliance with certain standards in order to facilitate service interoperability and secure freedom of choice for the customers of CPs.

A7.38 We considered that the first, third, fourth and fifth of those requirements are of particular relevance to the matters under review and that no conflict arises in this regard with those specific objectives in section 3 of the CA03 that we consider are particularly relevant in this context.

A7.39 Section 4A of the CA03 requires Ofcom, in carrying out certain of its functions (including, among others, Ofcom's functions in relation to market reviews under the CRF) to take due account of applicable recommendations issued by the EC under Article 19(1) of the Framework Directive. Where we decide not to follow such a recommendation, we must notify the EC of that decision and the reasons for it.

A7.40 Similarly, Article 3(3) of the Regulation establishing BEREC³² requires NRAs to take utmost account of any opinion, recommendation, guidelines, advice or regulatory best practice adopted by BEREC.

A7.41 Accordingly, we have taken due account of the applicable EC recommendations and utmost account of the applicable opinions, recommendations, guidelines,

³² Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 establishing the Body of European Regulators of Electronic Communications (BEREC) and the Office (the BEREC Regulation) <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:337:0001:0010:EN:PDF>.

advice and regulatory best practices adopted by BEREC relevant to the matters under consideration in this review.

Impact assessment – section 7 of the CA03

- A7.42 The analysis presented in the whole of this document represents an impact assessment, as defined in section 7 of the CA03.
- A7.43 Impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making. This is reflected in section 7 of the CA03, which means that generally 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 and publishing 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 the Ofcom website:
http://www.ofcom.org.uk/consult/policy_making/guidelines.pdf
- A7.44 Specifically, pursuant to section 7, an impact assessment must set out how, in our opinion, the performance of our general duties (within the meaning of section 3 of the CA03) is secured or furthered by or in relation to what we propose.
- A7.45 Ofcom is separately required by statute to assess the potential impact of all our functions, policies, projects and practices on race, disability and gender equality. This assessment is set out in Annex 8.

Regulated entity

- A7.46 The power in the CA03 to impose an SMP obligation by means of an SMP services condition provides that it is to be applied only to a 'person' whom we have determined to be a 'person' having SMP in a specific market for electronic communications networks, electronic communications services or associated facilities (i.e. the 'services market').
- A7.47 The Framework Directive requires that, where an NRA determines that a relevant market is not effectively competitive, it shall identify 'undertakings' with SMP in that market and impose appropriate specific regulatory obligations. For the purposes of EU competition law, 'undertaking' includes companies within the same corporate group (for example, where a company within that group is not independent in its decision making).³³
- A7.48 We consider it appropriate to prevent a dominant provider to whom an SMP service condition is applied, which is part of a group of companies, exploiting the principle of corporate separation. The dominant provider should not use another member of its group to carry out activities or to fail to comply with a condition, which would otherwise render the dominant provider in breach of its obligations.
- A7.49 To secure that aim, we apply the SMP conditions to the person in relation to which we have made the market power determination in question by reference to the so-

³³ *Viho v Commission*, Case C-73/95 P [1996] ECR I-5447, <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:61995CJ0073:EN:PDF>

called 'Dominant Provider', which we define as "[X p/c], whose registered company number is [000] and any [X p/c] subsidiary or holding company, or any subsidiary of that holding company, all as defined in section 1159 of the Companies Act 2006."

Annex 8

Equality Impact Assessment

- A8.1 Ofcom is required by statute to assess the potential impact of all our functions, policies, projects and practices on race, disability and gender equality.³⁴
- A8.2 We fulfil these obligations by carrying out an Equality Impact Assessment ('EIA'), which examines whether or not the remedies that we have proposed for the fixed access markets under review would have an adverse impact on equality.
- A8.3 In this way, the EIA assists 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.

Fixed access market reviews

- A8.4 The aim of these reviews is to assess the state of competition in the WFAEL, wholesale ISDN30, wholesale ISDN2 and WLA markets and, if any market is not found to be effectively competitive, to identify CPs which have SMP and to impose on them regulatory obligations at the wholesale level to address that SMP
- A8.5 Our approach to regulating wholesale fixed access markets is to impose appropriate regulatory obligations on CPs with SMP that will promote competition by requiring them to provide other CPs with access to their networks on regulated terms.
- A8.6 The effect of this approach has been, among others, to promote competition at the retail level, thereby ensuring all consumers in these markets have:
- a meaningful choice between suppliers and a range of different products and services (e.g. voice, broadband, superfast broadband, ISDN);
 - competitive prices and quality of service; and
 - high levels of take up arising from the nexus of price, quality of service, choice and innovation.
- A8.7 In order to achieve this, we have outlined in this consultation our proposals to impose specific access remedies and charge controls, in addition to a number of general remedies, for the WLA, WFAEL, wholesale ISDN30 and wholesale ISDN2 markets:

³⁴ Ofcom has a general duty under the 2010 Equality Act to advance equality of opportunity in relation to age, gender, disability, ethnicity, religious belief, sexual orientation, gender reassignment and pregnancy and maternity.

Table A8.1: Proposed remedies

Wholesale market	Proposed remedies
WLA	BT: <ul style="list-style-type: none"> Local Loop Unbundling (LLU) including charge control, and Basis of charges for Time Related Charges, Special Fault Investigations and Electricity. Virtual Unbundled Local Access (VULA), including charge control on GEA-to-GEA migrations Sub Loop Unbundling (SLU), including Basis of charges Physical Infrastructure Access (PIA), including Basis of charges General remedies³⁵ KCOM: general remedies
WFAEL	BT: <ul style="list-style-type: none"> Wholesale Line Rental (WLR) including charge control, and Basis of charges for Time Related Charges General remedies KCOM: General remedies
ISDN30	BT: ISDN30 WLR, charge control, general remedies KCOM: general remedies
ISDN2	BT: ISDN2 WLR, charge control, general remedies KCOM: general remedies

A8.8 It is important to determine whether or not the impact of these proposals falls disproportionately on particular groups of consumers as our proposed remedies will have an indirect effect on consumers at the retail level.³⁶

³⁵ General remedies are remedies not specific to any particular product or service, but which provide general obligations which aim to promote competition such as: a requirement to provide network access on reasonable request; request for new network access; no undue discrimination; Equivalence of Inputs, requirement to publish a Reference Offer; requirement to notify charges, terms and conditions; requirement to notify technical information; quality of service obligations; and accounting separation.

³⁶ The EIA for the LLU and WLR charge controls is dealt with in the forthcoming 2013 LLU WLR Charge Control Consultation.

Assessment

- A8.9 Due to the complexity of competition at the retail level, it is difficult to predict in advance how retail offers will be changed, if at all, in response to the proposed remedies at the wholesale level. This is because CPs have discretion over the level and structure of their prices and product/service offerings, and are therefore likely to pursue a variety of retail strategies when confronted with regulatory changes at the wholesale level. In addition, it is also difficult to determine precisely how end consumers will respond to these changes. As a result, we can only make broad inferences about the effect on consumers.
- A8.10 We have had regard to our understanding of how different groups in society engage with communications services. We refer in particular to our Policy Evaluation Report of 8 January 2013³⁷ in which we looked at groups such as people with disabilities, older consumers, those on low incomes and different ethnic communities. We have also had regard to our Research Document of January 2013³⁸ which, amongst other things, looked at the age and gender profile of consumers who have taken up fixed-line services.
- A8.11 Whilst our research identifies the differences in take-up and use of fixed-line services by different groups within society, our proposals in this review concerning wholesale network access remedies are aimed at promoting competition across the range of fixed line services and therefore it is not apparent that they are likely to have any particular impact at the retail level on race, disability and gender equality.
- A8.12 We do not consider it necessary to carry out separate EIAs in relation to race or gender equality or equality schemes under the Northern Ireland and Disability Equality Schemes. This is because we anticipate that our regulatory intervention will not have a differential impact on people of different gender or ethnicity, on consumers in Northern Ireland or on disabled consumers compared to consumers in general.
- A8.13 We believe that our proposed interventions will not have a particular effect on one group of consumers over another or envisage that the impact of our proposals will be detrimental to any group of society. Rather, we consider that our proposals will further the aim of advancing equality of opportunity between different groups in society by furthering the interests of all consumers in retail fixed access markets by promoting competition in the supply of fixed-line services.

³⁷ Ofcom, *The Consumer Experience of 2012: Telecoms, internet, digital broadcasting and post*, Policy Evaluation Report, 8 January 2013, http://stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-12/Consumer_Experience_Policy_1.pdf

³⁸ Ofcom, *The Consumer Experience of 2012*, January 2012, http://stakeholders.ofcom.org.uk/binaries/research/consumer-experience/tce-12/Consumer_Experience_Research1.pdf

Annex 9

Quality of service: Current performance, impact of poor delivery, and establishing a reasonable level of performance

Introduction

- A9.1 We explained in Section 9 that we initiated a review of Openreach's Quality of Service ('QoS') prompted by evidence of a relative decline in performance in 2012 and late 2010 as well as concerns from CPs about the effectiveness of the current regulatory and contractual framework in incentivising Openreach to deliver a good performance on a consistent basis.
- A9.2 This annex, together with Annex 10 sets out evidence and analysis we have carried out as part of the QoS review and which led us to developing the proposed SMP service conditions set out in detail in Section 10.
- A9.3 In this annex in particular we assess and provide evidence relating to the following areas:
- Openreach's recent performance;
 - the impact of poor service performance; and
 - the views of consumers and small and medium enterprises ('SMEs') on what constitutes a good or reasonable service quality.
- A9.4 We first, however, set out the existing SLAs and SLGs to which Openreach operate.

Current applicable SLAs/SLGs

- A9.5 The current Service Level Agreements ('SLAs') and Service Level Guarantees ('SLGs') have been established mostly by industry negotiation and agreement building on the measures implemented by Ofcom in our previous review of QoS in 2008.³⁹
- A9.6 Table A9.1 below summarises the agreed SLAs/SLGs for the main products covered by the FAMR, as well as indicating the process by which they were established.

³⁹ <http://stakeholders.ofcom.org.uk/consultations/slg/?a=0>

Table A9.1: Current SLA/SLG arrangements for the main product types

Product	Process	SLA	SLG	Process by which SLA/SLG was set
WLR (includes analogue, ISDN2 and ISDN 30)	Installation appointment availability	13 working days from 1 November 2012 reducing to 12 from 1 November 2013	£2 per day if actual performance is >SLA but ≤ SLA + 3 days £4 per day if actual performance is >SLA+ 3 days	Industry/CEO level discussions
	Fulfilment of appointment	Engineer to arrive during appointment period	£40 per missed appointment	Set by industry on the basis of reciprocity reflecting a charge if the CP causes a missed appointment
	Completion to CCD ⁴⁰	Completion by midnight on CCD	1 month line rental per day (capped at 60 days)	Industry agreement
	Repair	SLA dependent on care level selected by CP. Most used care level is for repair within next working day +1	1 month line rental per day (capped at 60 days)	Industry agreement
SMPF and MPF	Installation appointment availability	13 working days from 1 November 2012 reducing to 12 from 1 November 2013	£2 per day if actual performance is >SLA but ≤ SLA + 3 days £4 per day if actual performance is >SLA+ 3 days	Industry / CEO level discussions
	Fulfilment of appointment	Engineer to arrive during appointment period	£40 per missed appointment	Set by industry on the basis of reciprocity reflecting a charge if the CP causes a missed appointment
	Completion to CCD	Completion by midnight on CCD	1 month line rental per day (capped at 60 days)	Industry agreement
	Repair	SLA dependent on care level selected by CP. Most used care level is for fix by the end of next working day (includes Sat)	1 month line rental per day (capped at 60 days)	Industry agreement
GEA (FTTC)	Installation appointment availability	n/a	n/a	Not part of the recent CEO negotiations
	Fulfilment of appointment	Engineer to arrive during appointment period	£40 per missed appointment	Set by industry on the basis of reciprocity reflecting a charge if the CP causes a missed appointment
	Completion to CCD	Completion by midnight on CCD	1 month line rental per day (capped at 60 days)	Set by Openreach
	Repair	SLA dependent on care level selected by CP. Most used care level is for fix by the end of next working day (includes Sat)	1 month line rental per day (capped at 60 days)	Set by Openreach

⁴⁰ 'Customer Confirmed Date' - this is the date by which Openreach has committed to completing the customer's order.

Recent performance

A9.7 We obtained information from Openreach using our statutory information gathering powers for the period from April 2009 to April 2013 to allow us to examine longer term performance trends since the 2008 SLG Review⁴¹ as well performance in 2012 when there were particular problems. We have also supplemented this information with data from weekly service performance updates provided by Openreach to Ofcom for the period November 2012 to May 2013.

A9.8 In order to obtain a comprehensive picture of Openreach's performance we asked Openreach to provide:

- its Key Performance Indicators ('KPI') that support its installation order and fault repair SLAs (i.e. those measures summarised above in Table A9.1). We also obtained the KPIs that Openreach reports to the OTA which differ slightly from the SLA measures as a much longer time series was available for these measures;
- its installation order and fault repair processing times (i.e. measures of the elapsed time to complete orders and faults repairs) since these would be likely to extend when performance declines; and
- the number of SLG claims and the value of SLG payments.

A9.9 The discussion below is structured as follows:

- first, we give an overview of the KPIs used by Openreach to record its performance;
- second, we summarise Openreach's installation order performance. We review installation order lead times and performance against the SLA target for order completion by agreed completion dates;
- third, we summarise Openreach's fault repair performance. We review fault repair lead times and performance against the SLA target for completion of faults within contractual timescales; and
- finally, we summarise the number of SLG payments paid to CPs by Openreach and the total value of these payments for all products for the provision of new lines and repairs.

Overview of the KPIs used by Openreach to record service performance

A9.10 Below we provide a brief description of the KPIs discussed in the text by way of introduction.

A9.11 Installation orders relate to requests for the installation of new lines, alterations to existing lines and migration activities (i.e. transfer of a service from one CP to another). There are two main types of installation order:

⁴¹ 2008 SLG Consultation, <http://stakeholders.ofcom.org.uk/consultations/slq/?a=0>

- non-appointed order – an order that only requires exchange jumpering and/or exchange configuration activities (i.e. does not require an appointment for a site visit to a customer) and which can generally be completed with very short lead times (in some cases the same day⁴²); and
- appointed order – an order that requires a visit to the customer's premises. Timescales for these orders are dictated mainly by the availability of field engineering resources and as a consequence are generally longer than for non-appointed orders.

A9.12 Appointed order performance is generally reported separately to non-appointed order performance because of the additional field engineering activities involved.

A9.13 Fault repair activities relate to the repair of customer specific faults. Fault repairs are generally only appointed when the fault report or initial diagnostic tests indicate that the fault is at the customer's premises.

A9.14 The following are the main KPIs discussed below:

- **Order completion by CCD** – the primary performance measure used by Openreach is a measure of the proportion of orders completed by midnight on the Customer Confirmed Date (CCD). The CCD is the completion date given by Openreach when it accepts the order after validation checks⁴³ and where applicable an appointment has been made by the CP. In the case of appointed orders, the CCD is the appointment date. In the case of non appointed orders, the CCD is a date specified by Openreach unless the CP specifies a date (which would generally be a later date). As noted in Table A9.1, this metric is subject to an SLA and orders not completed by midnight on the CCD are liable for SLG payments.⁴⁴
- **Fulfilment of Appointment** – a measure of appointments missed by Openreach (i.e. when Openreach do not arrive at the customer's premises within the agreed appointment time-slot). As noted in Table A9.1 above, this metric is subject to an SLA and SLG payments are due for missed appointments.⁴⁵ This SLG operates concurrently with the SLA for Order Completion by CCD. Therefore in cases where a missed appointment results in the order not being completed on the CCD, both SLG payments are due.
- **Installation Appointment Availability** - a measure of the earliest appointment available to a CP when it appoints each installation order, known as First Appointment Date (FAD). As noted in Table A9.1, this metric is subject to an SLA and an SLG payment is due when the earliest available appointment is not within the specified lead time.
- **Repairs completed within contractual timescales** – the primary performance measure used by Openreach for fault repair is a measure of the proportion of

⁴² For example, Openreach currently complete the working line takeover ('WLTO') process for the same CP with an open stop order within the same day.

⁴³ The KCI2 order stage in Openreach's EMP operational support system.

⁴⁴ SLG payments would not be due when completion is delayed by the customer e.g. the customer was not present on the agreed appointment date.

⁴⁵ There is also a reciprocal arrangement for cases when CPs and their customers miss appointments.

fault repairs completed within the contractual timescales as specified for the relevant maintenance care levels. As noted in Table A9.1 this metric is subject to a SLA and a SLG payment is due when repairs are not completed within the contractual timescale.

- **Average Time to Install (ATTI)** – the elapsed time (in days) between the acceptance of a valid installation order by Openreach and when Openreach advises the CP of its completion.
- **Average Time to Clear (ATTC)** – the elapsed time between acceptance of a fault by Openreach and when Openreach advises the CP that the fault has been cleared.
- **Payable volumes** – the number of events for which an SLG payment is due.
- **SLG Payments** – the amount that was paid to CPs under the terms of their SLA/SLG contract.

A9.15 Average lead times as measured by the ATTI measure will be influenced by several factors:

- minimum lead times built into some Openreach processes (for example the 10 day minimum lead time for migration orders);
- the availability of Openreach resources to execute orders which will in turn be affected by a range of factors including:
 - variations in installation order and fault repair volumes;
 - Openreach's resource management decisions (i.e. the level and deployment of resources); and
 - the accuracy of the order volume forecasts submitted by CPs, upon which Openreach makes resource deployment decisions;
- the availability of appointment slots for appointed orders which effectively sets a minimum lead time for appointed orders (determined by the amount of resources that Openreach allocates to provision activities);
- customer choices about lead times (customers may sometimes request an appointment later than the first available appointment and therefore average lead times are likely to be longer than Installation Appointment Availability Measurements would suggest); and
- exceptionally, periods of severe weather which may hamper travel and external engineering activities.

A9.16 We would not expect customer choices about lead times to vary significantly over time and might therefore expect that deterioration in the ATTI would point to more systemic failures in Openreach's service provision.

A9.17 Similarly average fault clearance times as measured by the ATTC measure will be affected by several factors:

- the maintenance care levels applicable to services which specify the fault clearance timescales;
- the availability of Openreach resources to repair faults which will in turn be affected by the factors listed above;
- Customer availability in cases where site access is required; and
- Exceptionally, severe weather that may hampers travel and external engineering activities and as we discuss in Annex 10 may generate faults that are more time consuming to repair.

A9.18 We would not expect customer availability to vary significantly over time and might therefore expect that deterioration in the ATTC would point to more systemic failures in Openreach's service provision.

Installation order performance

A9.19 We have set out below, using the data provided by Openreach, our analysis of Openreach's installation order performance with respect to:

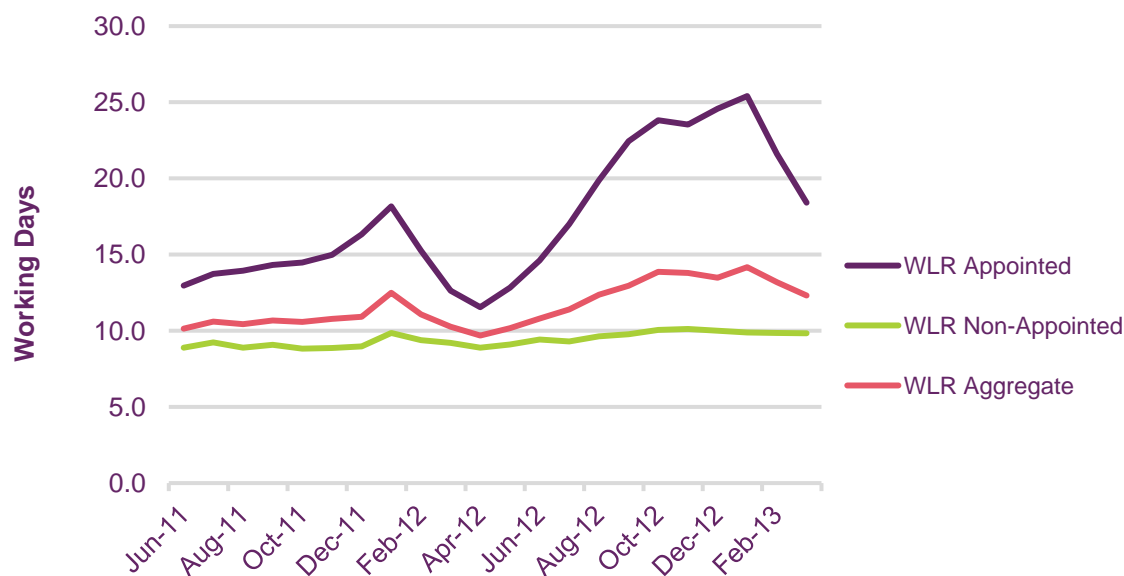
- installation order lead-times. We first look at the ATTI measure and then at the recently introduced measures for installation appointment availability; and
- the completion by CCD performance for WLR PSTN, LLU (MPF and SMPF) and ISDN services.

Installation order lead times – ATTI and Installation Appointment Availability

A9.20 Figures A9.2 and A9.3 below shows Openreach's ATTI measure for WLR PSTN, SMPF and MPF services for the period June 2011 to February 2013.

A9.21 Figure A9.2 shows that ATTI for non-appointed WLR PSTN orders have been fairly stable. In contrast, ATTI for appointed WLR PSTN orders extended significantly in the second half of 2012 reaching a peak of 25 working days in January 2013.

Figure A9.2: Average Time to Install - Installation orders for WLR3 Services (working days)

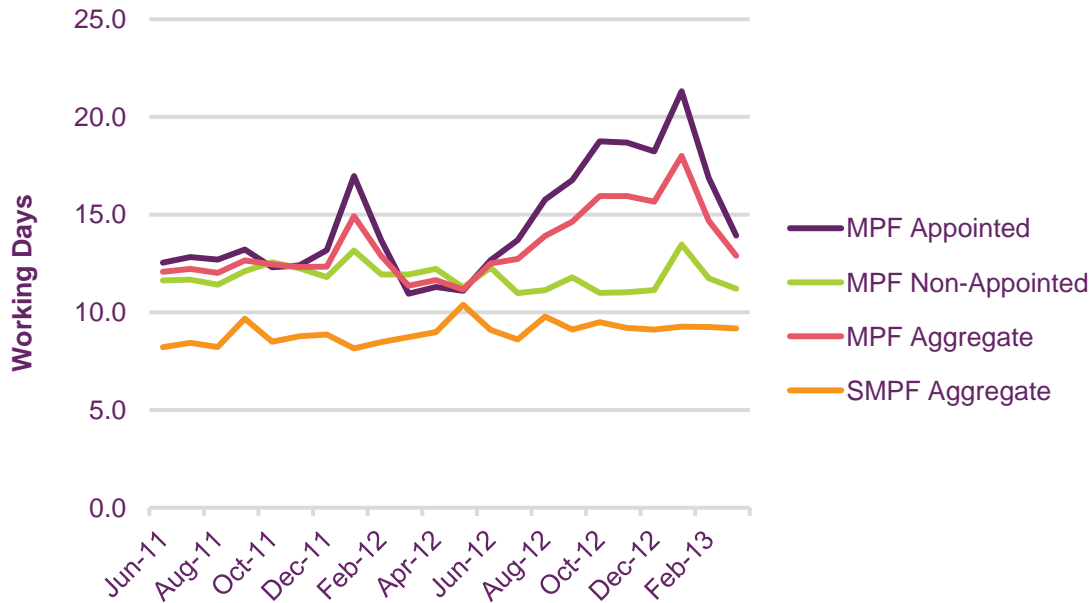


Source: Ofcom analysis of data provided by Openreach via S135 information request. Includes basic and premium orders relating to new provide, start of stop, working line takeover, migration and other provide orders. Note that the “aggregate” is a weighted average of sub-products within each product category.

A9.22 Figure A9.3 shows a similar pattern for LLU services. ATTI for appointed MPF orders increased significantly in the second half of 2012 reaching a peak of 21 days in December 2012 before falling in January and February 2013.

A9.23 We understand that these increases in ATTI for WLR PSTN and LLU orders resulted from the diversion of field engineering resources to repair activities due to poor weather. With fewer resources allocated to installation orders, demand exceeded supply and as a result appointment lead-times extended.

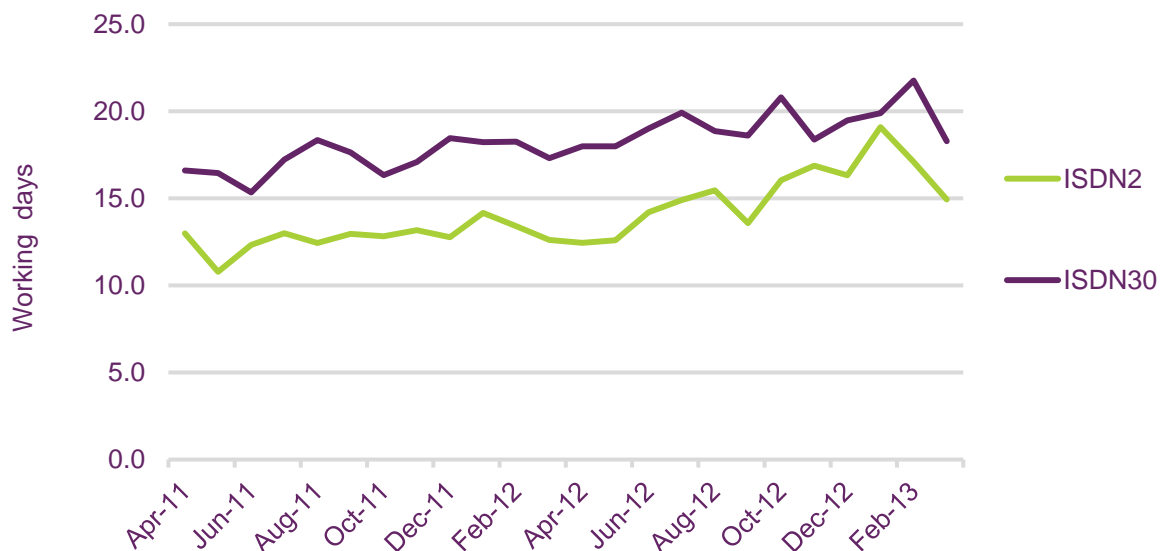
Figure A9.3: Average Time to Install - Installation orders for LLU Services (working days)



Source: Ofcom analysis of data provided by Openreach via S135 information request. Includes new provide, start of stop, working line takeover, migration and other provide orders. Note that the “aggregate” is a weighted average of sub-products within each product category.

A9.24 Figure A9.4 shows Openreach's ATTI's measure for ISDN services. ATTI for these services increased steadily over this period.

Figure A9.4: Average Time to Install - Installation orders for ISDN services (working days)



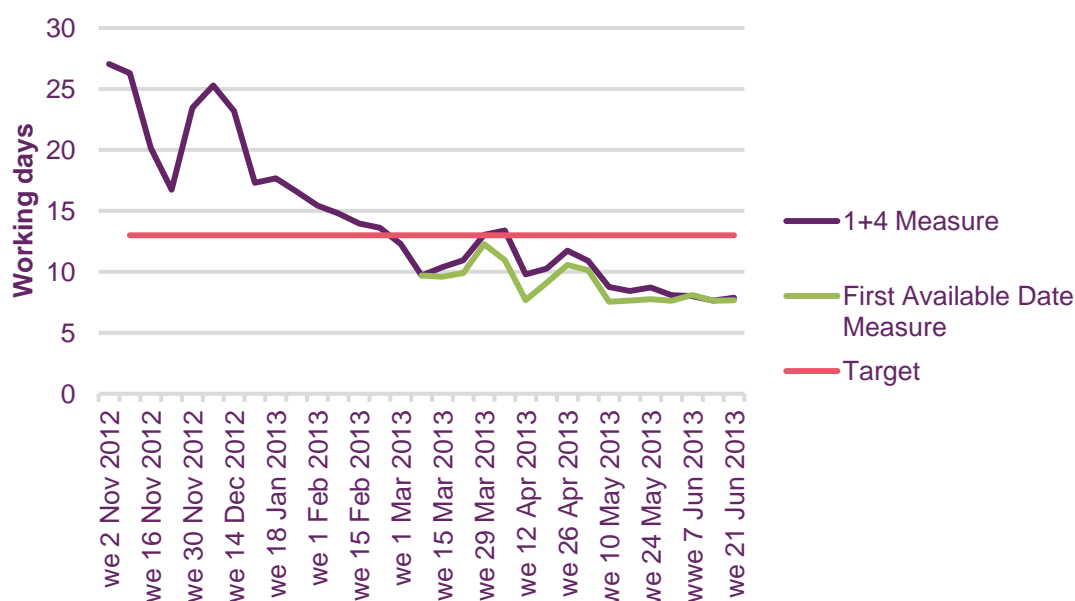
Source: Ofcom analysis of data provided by Openreach via S135 information request. Includes new provide, working line takeover, migration and other provide orders.

A9.25 We have also reviewed Openreach's Installation Appointment Availability measure for WLR and MPF that was introduced in conjunction with the copper appointment

availability SLA in 2012. The initial measure called the '1+4 Measure' indicated that an appointment slot was available on at least four out of five consecutive days. More recently, a different measure has been used for the SLA. This is known as the First Available Date (FAD) measure and measures the earliest available appointments offered.

- A9.26 Figure A9.5 shows both appointment availability measures and the associated SLA target. It echoes the ATTI trend discussed above and shows a steady improvement in appointment availability between November 2012 and June 2013. During this period, appointment availability reduced from 27 days to less than 8 days.

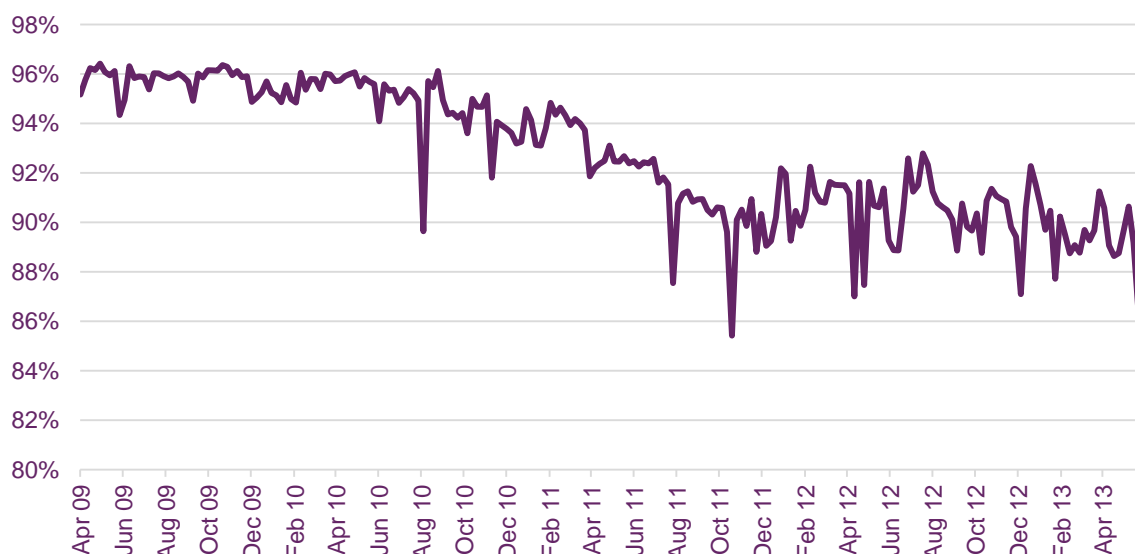
Figure A9.5: Openreach Installation Appointment Availability Measures for WLR and MPF



Source: Ofcom weekly service updates provided by Openreach from November 2012 to June 2013.
Note: First Appointment Date (FAD) measure added in March 2013.

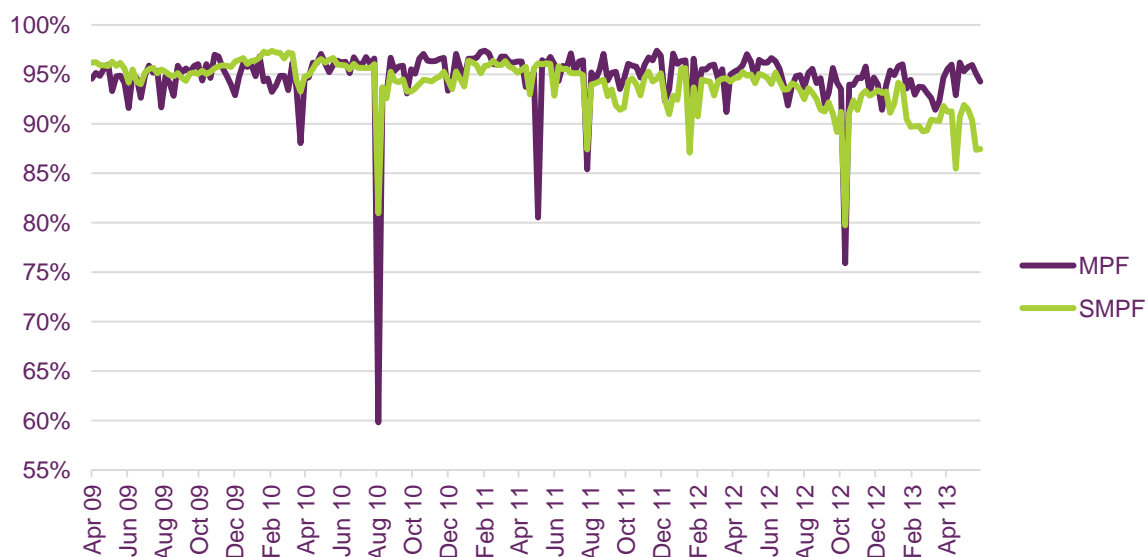
Installation order completion rates against CCD

- A9.27 Figures A9.6 to A9.8 below show Openreach's performance for WLR PSTN, LLU and ISDN services against the Right First Time measures that Openreach reports to the OTA. We present this measure as a proxy for the SLA measure of 'installation orders completed by CCD' as a much longer time series was available than the SLA measure and we are particularly interested in longer term trends here. Both are measures of orders completed by the CCD, but the Right First Time measure additionally classifies orders that develop a fault within 8 days of completion as failures.
- A9.28 Figure A9.6 below shows a decline in performance for WLR services. Prior to April 2010 performance was consistently between 94% and 96%. It then declined until June 2011 and subsequently ranged between 85% and 92%.

Figure A9.6: WLR Installation order completion by CCD (Right First Time measure)

Source: Ofcom analysis of Openreach data. Includes all WLR2 and WLR3 provide and start order types.

A9.29 Figure A9.7 below shows that with the exception of isolated months, performance for MPF services has been fairly consistent, ranging between 90% and 96%. The same can be said for SMPF performance, apart from deterioration over the six months to April 2013.

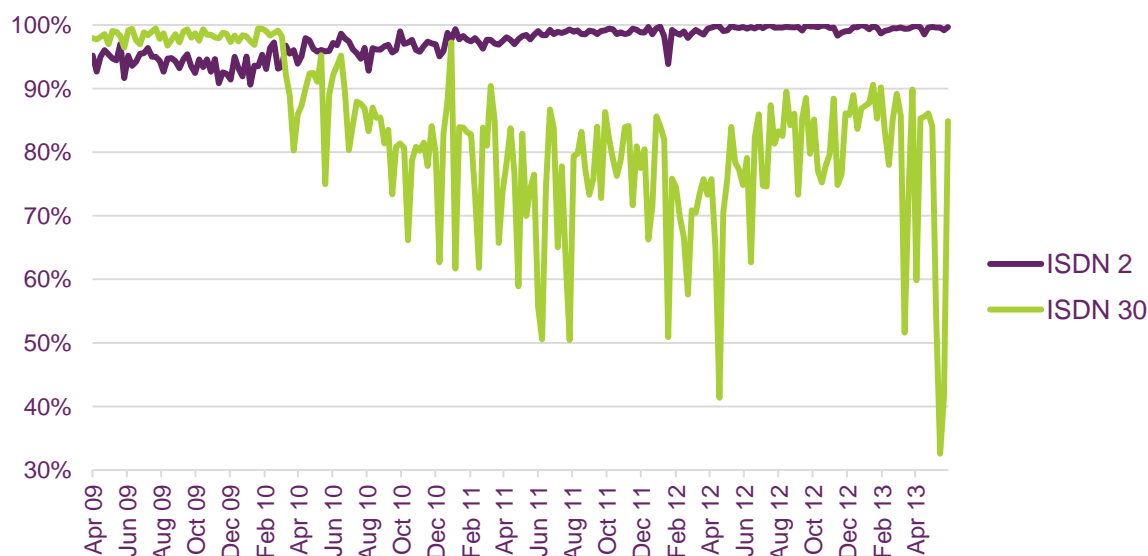
Figure A9.7: LLU Installation order completion by CCD (Right First Time measure)

Source: Ofcom analysis of OTA data. Includes all provision order types.

A9.30 Figure A9.8 below shows an improvement in performance for ISDN2 services from around 95% to 100% over the period. Performance for ISDN30 services declined significantly from close to 100% to around 80% between December 2009 and September 2010. There has subsequently been significant volatility around a

median of about 80%. The volatility may in part be due to the low order volumes for these services.⁴⁶

Figure A9.8: ISDN30 Installation order completion by CCD (Right First Time measure)



Source: Ofcom analysis of Openreach data. Includes all WLR2 and WLR3 provision order types.

Fault repair performance

A9.31 We have set out below, using the data provided by Openreach, our analysis of Openreach's fault repair performance with respect to:

- fault repair performance against contractual timescales for WLR PSTN, LLU (MPF and SMPF) and ISDN services; and
- fault repair lead times using the ATTC measure for WLR PSTN, LLU (MPF and SMPF) and ISDN services.

Repair performance against contractual timescales

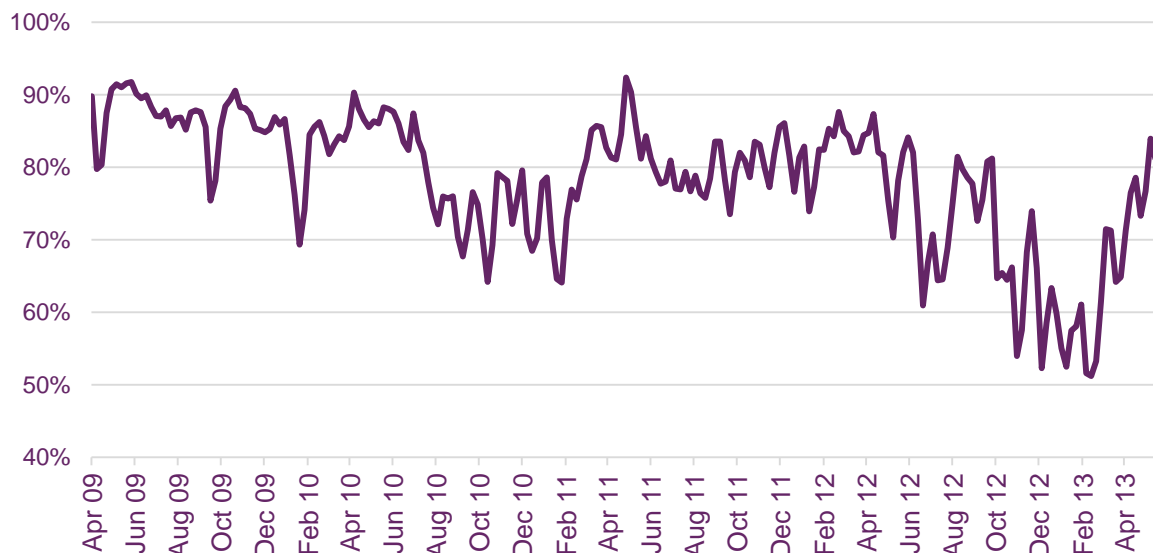
A9.32 Figures A9.9 to A9.11 below shows Openreach's performance for WLR PSTN, LLU and ISDN services against the First Touch, Last Touch repair measures that Openreach reports to the OTA. We present these measures as a proxy for the SLA measures of repairs against contractual timescales as a much longer time series was available than the SLA measures and we are particularly interested in longer term trends here. Both are measures of faults completed within contractual timescales but the First Touch, Last Touch measure additionally counts Faults that lead to repeat faults within 8 days as failures.

A9.33 Figure A9.9 below shows Openreach's performance for maintenance care level 1 WLR PSTN services which is the default for WLR PSTN Services. This graph shows the two periods of low performance that were of particular concern to CPs, firstly the period between July 2010 and February 2011 that some CPs have

⁴⁶ For example, there were on average less than [3<] ISDN30 orders per month between June 2011 and March 2013 and less than [3<] ISDN2 orders over the same period.

referred to as the first service crisis and secondly the latter half of 2012 when performance fell. Although there is significant volatility from month to month, performance outside these exceptional periods also appears to have declined by around 5-10% from 85-90% to 80-85%.

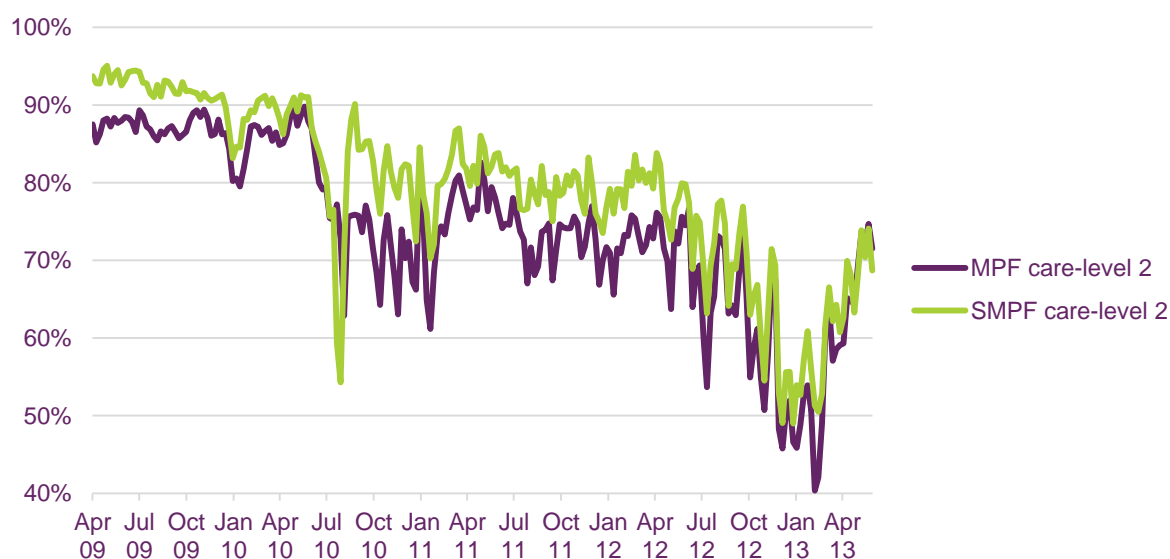
Figure A9.9: WLR PSTN (care level 1) repair performance (First Touch, Last Touch measure)



Source: Ofcom analysis of Openreach data. Includes WLR2 and WLR3 Faults.

- A9.34 Figure A9.10 below shows Openreach's repair performance for MPF and SMPF with maintenance care level 2 (the standard offering for such services). Care level 2 is a more demanding target than care level 1, requiring that faults be cleared by the end of the next working day compared with the next working day +1 for care level 1.
- A9.35 Here again there is significant volatility from month to month, but Openreach's performance exhibits a similar pattern to the WLR services discussed above. The two periods of particularly low performance are again apparent as is an overall decline in performance across the period. The main difference is that the overall fall in performance since April 2009 appears somewhat larger, at a little over 10%, possibly reflecting the more demanding repair targets.

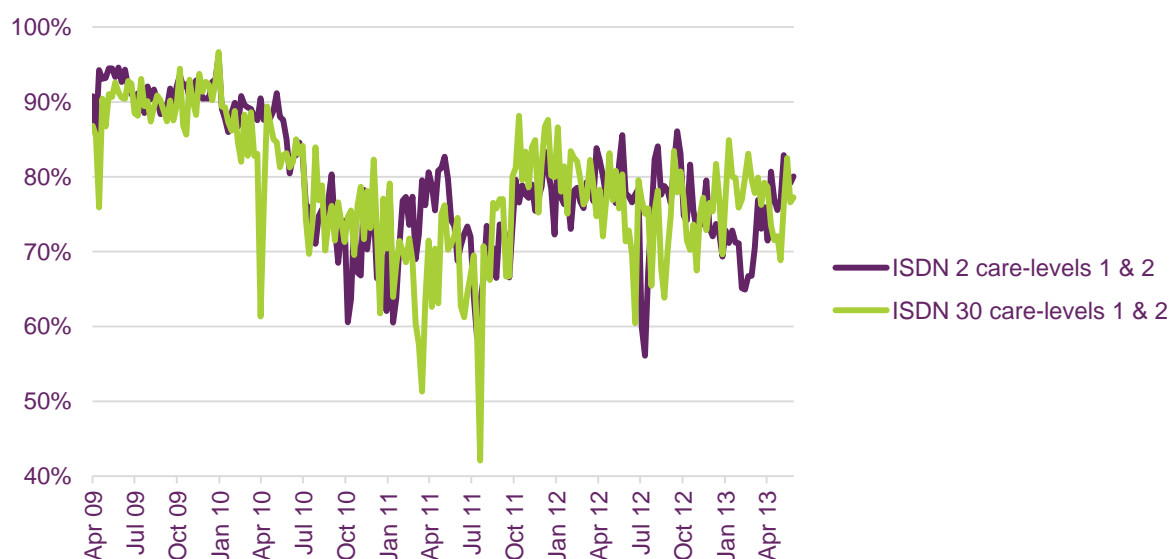
Figure A9.10: MPF and SMPF (care level 2) repair performance (First Touch, Last Touch measure)



Source: Ofcom analysis of Openreach data, Includes WLR2 and WLR3 faults.

A9.36 Table A9.11 below shows Openreach's repair performance for ISDN services with both maintenance care levels 1 and 2. Here again there is significant volatility from month to month and Openreach's performance exhibits a similar pattern to the other services. There has been an overall fall in performance of about 12% over the period from an average of around 90% to an average of around 78%. The two periods of lower performance are also visible, although performance for ISDN30 services was largely unaffected by the severe weather in 2012.

Figure A9.11: ISDN2 and ISDN30 (care-levels 1 & 2) repair performance (First Touch, Last Touch measure)

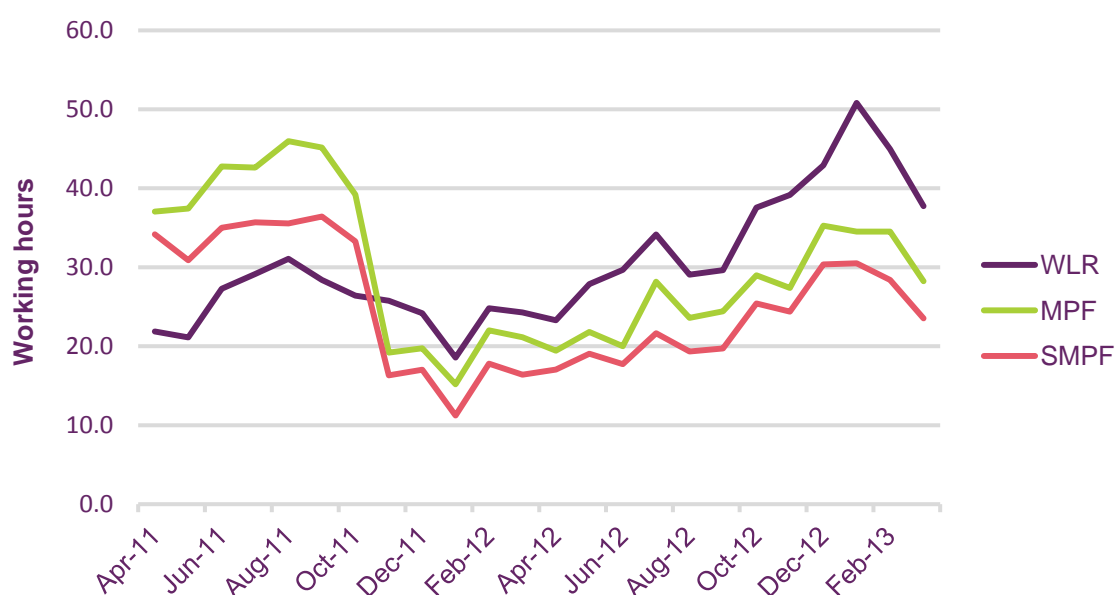


Source: Ofcom analysis of Openreach data. Includes WLR2 and WLR3 faults.

Average time to repair faults

- A9.37 We have also analysed Openreach's performance in terms of the average time it takes to complete a repair (using the ATTC measure). Openreach was only able to provide this measure for the period April 2011 to March 2013.
- A9.38 Figure A9.12 below shows Openreach's ATTC performance for WLR PSTN, SMPF, and MPF. Average clear times are measured in working hours which vary according to the maintenance care level and consequently these figures do not directly equate to performance against specific SLAs.⁴⁷ Between August 2011 and January 2012, average clear times for all services halved roughly before rising steadily through 2012, peaking again at the end of 2012.

Figure A9.12: Average time to clear WLR3 PSTN and LLU faults (working hours)



Source: Ofcom analysis of Openreach data. Includes all maintenance care levels.

SLG payments by Openreach

- A9.39 Openreach pays compensation to CPs in the form of SLG payments when it fails to meet its performance targets set out in the SLAs with the exception of instances where force majeure applies. To date, Openreach has not tended to apply any force majeure exclusions, known as MBROC to the payment of SLGs related to appointed lead times / installations although it has told us it may well do so in future. In the case of repairs, Openreach has typically not paid SLGs in areas where force majeure has been declared.
- A9.40 To the extent that the impact of force majeure remains limited, we would expect the number of payments and the amount paid by Openreach to CPs to increase in line with deteriorating performance.

⁴⁷ Working hours for Care Level 1 are 0700 -2100 Monday to Friday. Working hours for Care Level 2 are 0700-2100 Monday to Saturday. Working hours for Care Levels 3 and 4 are all hours (i.e. 24x7x365).

- A9.41 As can be seen from the data presented in this sub-section, the number of SLG payments and the amount paid by Openreach to CPs was particularly high in the second half of 2012, mirroring the fall in Openreach's performance for installation orders and fault repairs. The data in this sub-section begins in mid-2008 and shows that SLG payments have been fairly steadily increasing since then.
- A9.42 We first look at Openreach's SLG payments with respect to installation orders for WLR, LLU and ISDN lines. We then look at Openreach's respective SLG payments for fault repair.

Installation order SLG payments

- A9.43 Figures A9.13 and A9.14 present the number and value of SLG payments relating to installation orders for WLR PSTN, SMPF and MPF over the last 5 years. They include payments for orders not completed by the CCD but exclude other installation related SLGs such as missed installation appointments and Installation Appointment Availability. The total number and value of ISDN payments has been very small in relative terms and therefore they are not included in the figures below.⁴⁸ The information presented in these figures needs to be treated with care since there was a period during 2012 (April to October) when some of Openreach's MPF CP customers were not receiving SLGs against installation appointments.⁴⁹
- A9.44 The relative growth of MPF payments and decline of WLR and SMPF payments is likely to have been driven by the transition of major CPs from WLR/SMPF to MPF services. Consequently, the aggregate numbers of SLG payments and values is the most informative of the overall trend.
- A9.45 Although there is significant volatility from month to month, the aggregate volume of SLG payments has increased steadily over this period. The volume of payments peaked in August 2010 at [X] and in September 2012 at [X] payments per month, roughly twice the level observed at the start of the period. The total value of SLG payments has followed a similar pattern and has increased from around £[X] per month in September 2008, peaking at nearly £[X] per month in July 2011 before falling back somewhat.
- A9.46 We have reviewed order volumes over time to understand whether an increase in orders has driven the increase in SLG payments. During this period, the volume of non-appointed orders for WLR and LLU services has decreased significantly and the volume of appointed orders has been fairly static. We therefore consider that the increase in SLG payments has been driven mainly by the decline in installation order performance discussed above. However, it is possible that the volatility observed in order volumes may have been a contributory factor.

⁴⁸ On average, there were around [X] claims per month for SLG payments associated with the provision of ISDN2 and ISDN30 lines between July 2008 and the end of 2012. The total value of these payments on average less than £[X] per month over the same period.

⁴⁹ Between April and December 2012 no SLG payments were made by BT Openreach to Sky and TalkTalk in respect of installations for LLU products. Issues relating to this are currently the subject of Ofcom's investigation: "Dispute between TalkTalk Telecom Group PLC and Openreach relating to whether Openreach offered MPF New Provide to TalkTalk on fair and reasonable terms and conditions", http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_01098/

Figure A9.13: Number of SLG payments associated with installation order completion by CCD SLA

[X]

Source: Ofcom analysis of data provided by Openreach via S135 information request

Figure A9.14: Total value of SLG payments per month associated with installation order completion by CCD measure

[X]

Source: Ofcom analysis of data provided by Openreach via S135 information request

Repair SLG payments

- A9.47 Figures A9.15 and A9.16 present the aggregate number and value of SLG payments relating to fault repairs for WLR PSTN, SMPF and MPF over the last 5 years. The total number and value of payments associated with ISDN repairs was relatively low compared to the total and are therefore not included in the figures below.⁵⁰
- A9.48 As with the installation order SLGs, the transition of major CPs from WLR/SMPF services to MPF will have influenced the patterns observed.
- A9.49 The repair SLG payments shown here relate to faults not completed within contractual timescales and consequently the number of payments and value of payments exhibit a pattern similar to the repair performance measures discussed. The volume and value of the SLG payments has risen fairly steadily over the period and there are two peaks in claims, corresponding to the fall in performance in 2010 and the problems in the second half of 2012. The value of SLG payments made each month has risen from a low of around £[X] in April 2009 and peaked at £[X] in October 2012.

Figure A9.15: Total number of SLG payments associated with repairs

[X]

Source: Ofcom analysis of data provided by Openreach via S135 information request

Figure A9.16: Total value of SLG payments associated with repairs

[X]

Source: Ofcom analysis of data provided by Openreach via S135 information request

Summary of current and recent performance

- A9.50 Our analysis indicates that Openreach's installation order and fault repair performance deteriorated between April 2008 and May 2013. There was a gradual decline in repair performance and some aspects of provision performance during this period and there were also two periods when performance was much lower.

⁵⁰ On average, there were around [X] claims per month for SLG payments associated with the repair of ISDN2 and ISDN30 lines between July 2008 and the end of 2012. The total value of these SLG payments was on average just over £[X] per month during this period.

The first from July 2010 to February 2011 and the second in the latter half of 2012. At the end of our period of analysis (May 2013), performance had been improving steadily for several months and improved further in June 2013. In summary:

- Openreach's performance against its main installation order measure (orders completed by CCD) has deteriorated somewhat over the past two years. Whilst performance has been maintained at around 95% for MPF orders, performance for WLR orders which was maintained at around 95% until mid 2010 subsequently deteriorated and has since been maintained at around 90%. SMPF performance also deteriorated in late 2012, falling from around 95% to around 90%;
- installation order lead times increased significantly during the second half of 2012 when Openreach diverted resources to deal with the effects of poor weather. At times, lead times were exceptionally high, reaching a peak of 25 working days for WLR orders in January 2013;
- Openreach's fault repair performance against contractual timescales also declined during this period. Performance for WLR services fell about 5% from around 90% in spring 2009 to around 85% in May 2013. Performance for MPF services declined from around 98% to around 75% during this period. As noted above there were also two periods of much lower performance when performance for WLR services fell to around 50% and performance for MPF services fell to 40%;
- with respect to ISDN services, installation order performance for ISDN30 services declined in early 2010 from around 98%, settling at around 80% (although there is considerable volatility). Installation order performance for ISDN2 services improved from around 95% to close to 100%. Installation order lead times have also increased somewhat for both ISDN2 and ISDN30. However, as discussed above, we place less weight on ISDN due to relatively low order numbers; and
- the number and value of Openreach's SLG payments have increased in line with degrading performance on both installation orders and fault repair of WLR and LLU services. The total value of claims rose from about £[3<] per month in April 2009 to around £[3<] in October 2012.

Assessing the impact of service quality

- A9.51 We now turn to our assessment of the potential impact that poor quality of service delivery by Openreach has on CPs, consumers and businesses. We also consider the potential impact on competition in the retail telephony market more broadly from poor quality of service.
- A9.52 In undertaking this assessment we have relied upon evidence received from CPs in response to the 2012 FAMR Call for Inputs and statutory information requests. We also commissioned some market research to understand the value residential consumers and SMEs place on those elements of service performance which are directly attributable to Openreach's service quality.⁵¹ From this we have assessed

⁵¹ 'The 2013 QoS research', available here:

<http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/telecoms-market-data/fault-repair-research.pdf>

the impact that long lead times for both provisioning and repair can have on the market.

A9.53 In particular, as outlined in further detail under the relevant headings below, the responses to the 2012 FAMR Call for Inputs provided a clear consensus from wholesale purchasers of Openreach's fixed access services (including from BT Retail) that poor quality of service has a significant negative impact on their operations. Respondents to the FAMR Call for Inputs highlighted that poor QoS has a negative impact for:

- CPs who provide services using Openreach's wholesale fixed access services;
- end-users (both consumers and businesses⁵²); and
- competition and the market more generally.

A9.54 Although these issues are often interrelated, we have set out our assessment of each of these impacts in turn below, drawing on evidence provided by CPs directly (through formal information requests and comments in response to the FAMR Call for Inputs), our market research and other relevant evidence.

Impact on CPs

A9.55 In the 2008 SLG Review,⁵³ as part of the calculation of the loss to CPs of different failures used to inform the assessment of the level of SLG, we identified the following potential impacts on CPs from poor QoS from Openreach:

- **lost/delayed revenue as a result of failure** – losses associated with anticipated income that is not realised during the period of delay between an anticipated connection and actual connection of a customer's service;
- **lost customers** – losses and costs associated with potential customers that do not place an order, as well as existing customers that cancel an order;
- **compensation paid by CPs to their end-users;**
- **additional costs of customer service relating to the failure** - costs associated with additional customer care provided to address delayed connections, or
- **operational costs to the CP of dealing with Openreach as a result of the failure;** and
- **reputational damage.**

A9.56 More recently, we have looked at this in our provisional determination of a dispute between TalkTalk and Openreach relating to whether Openreach offered MPF New Provide to TalkTalk on fair and reasonable terms and conditions (the MPF

⁵² As explained in Section 9, paragraph 9.14, we have focussed on the LLU and WLR products in this stage of the QoS review, and the users of these products tend to be smaller businesses. Larger businesses usually opt for Ethernet/leased line products which are not in scope of this phase of the QoS review.

⁵³ Ofcom, *Service level guarantees: incentivising performance*, December 2007, p.20.
<http://stakeholders.ofcom.org.uk/consultations/slg/?a=0>

Dispute’).⁵⁴ In this dispute, we set out four categories we would expect an SLG to cover, which broadly corresponded with the categories identified by TalkTalk and Openreach. These were:

- ‘Lost revenues’ - the daily profit losses associated with customers that experience delays after they have placed an order, but that did not cancel their order because of the delay;
- ‘Cancellations’ – profit losses associated with customers that experience delays after they have placed an order and cancel their order because of the delay;
- ‘Potential Sales’ – the profit margin losses associated with customers that would have placed an order with a CP but were deterred from doing so because of their expectation that there would be delays in provision (which in turn was caused by extended lead times); and
- ‘Customer care’ - the additional costs that a CP is likely to incur when handling its customers that have suffered a delay as a result of extended lead times.

A9.57 We consider that both sets of cost categories broadly align:

- ‘Lost/delayed revenue as a result of failure’ from the 2008 SLG Review is the same as ‘Lost revenues’ from the MPF Dispute;
- ‘Lost customers’ in the 2008 SLG Review included ‘Cancellations’ from the MPF Dispute because Cancellations refers to costs as a result of customers ultimately not ordering a new line from a CP due to extended lead times;
- ‘Compensation paid by CPs to their end-users’, ‘additional costs of customer service relating to the failure’ and ‘operational costs to the CP of dealing with Openreach as a result of the failure’ from the 2008 SLG Review can all be categorised as ‘Customer care costs’ from the MPF Dispute. In the context of the MPF Dispute we did not consider appropriate to include CPs’ costs of missing appointments and goodwill credits that CPs pay out to their customers as a result of extended lead times. Nonetheless, we consider that it is plausible for these costs to be incurred by CPs; and
- ‘Reputational damage’ from the 2008 SLG review is linked to ‘Potential sales’ from the dispute. Although in the MPF Dispute, reputational damage was not explicitly identified we consider that the description of ‘Potential Sales’ is very closely aligned with that of ‘reputational damage’.

A9.58 Below, we present the evidence we have collected by reference to the cost category headings set out in the MPF Dispute. In our second provisional conclusions in that dispute, we stated that we were mindful that the purpose of an SLG is to provide a pre-estimate of an average CP’s loss and is not designed to calculate the actual loss suffered by a party.⁵⁵ Accordingly in this sub-section, we do not attempt to set out a prescriptive methodology for how the impact of poor

⁵⁴ Ofcom, *Dispute between TalkTalk Telecom Group PLC and Openreach relating to whether Openreach offered MPF New Provide to TalkTalk on fair and reasonable terms and conditions*, http://stakeholders.ofcom.org.uk/enforcement/competition-bulletins/open-cases/all-open-cases/cw_01098/

⁵⁵ The MPF Dispute, provisional conclusions, p.20, paragraph 3.32.

quality of service should be calculated in financial terms. Rather, for the purposes of the present assessment, we are seeking to identify the categories of the potential impacts on CPs.

Lost revenues

- A9.59 This component, which is primarily attributable to delays in provisioning, refers to the daily profit losses associated with customers that experience delays after they have placed an order, but that did not cancel their order because of the delay. When a CP signs up a new customer it will not start to charge that customer until the service is installed and operational. As highlighted in paragraph A9.50 above, during 2012 there were times when provisioning times were as long as 25 working days. These delays therefore raise the potential for significant amounts of lost revenues for CPs, who could otherwise begin charging customers earlier for the provision of the service.

Cancellations

- A9.60 These are costs associated with customers that experience delays after they have placed an order and cancel their order because of the delay. As CPs set out in their FAMR Call for Inputs responses, examples of this include customers that cancel initial orders because of long provisioning wait times or after having an engineer not turning up for a scheduled appointment. CPs also reported that customers may also cancel their service because of problems with getting repairs completed.⁵⁶
- A9.61 One CP, [X], provided evidence showing that there was a positive correlation between the average lead/install times and broadband customer cancellation rates, where the reason for the customer cancellation was BT delays. Another CP [X] also provided evidence indicating a positive correlation between the number of new line orders requiring an engineer visit and cancellation rates.⁵⁷ It is not clear from the data provided whether BT delays were the main reason for the cancellation and it is likely that other factors also have an influence on customer cancellations (particularly given that the level of cancellations did not decrease when Openreach's provisioning lead times improved). Nevertheless, we consider that a positive correlation is likely.
- A9.62 Data from our market research provides further support for this. In particular, the data available indicates that customers do start considering switching away from their provider when the service they receive for either provisioning or repair is not what they would consider to be reasonable. As indicated in Figures A9.21 and A9.22 below, up to a third of customers (both consumers and SMEs) indicated that they would consider switching away from their provider in these scenarios. The market research indicated that the mean length of time for provisioning that is likely to lead to consumers and SMEs considering a switch is only around 6 working days⁵⁸, whereas, as indicated earlier, provisioning times in 2012 were up to 25 working days for some products. The effect is not as strong for fault repair - the mean length of time for fault repair which is likely to lead to SMEs considering a

⁵⁶ TalkTalk and Sky for example referred to these impacts. In addition, [X].

⁵⁷ Note, however, that the data provided in both instances only represented a six month period so may not be representative. [X].

⁵⁸ 2013 QoS research, Q9b "What level of wait for a fixed line phone and/ or internet installation for you/your business would lead you to consider switching to an alternate supplier? The mean response was 6.5 days for SMEs and 6.4 days for consumers.

switch was just over 4 working days (the evidence suggests that consumers were more tolerant and would accept a lead time of up to 7 working days before considering a switch).⁵⁹ In comparison lead times for fault repair were a maximum of 44 working hours (but on average much lower) in 2012.

- A9.63 When we asked about the relative importance of different aspects of provisioning (in the research we referred to this as 'installation') scenarios, the time taken to get an appointment contributed to 67% of SMEs' views of whether a particular scenario would cause them to switch supplier and 57% of the same view for consumers.⁶⁰ This indicates that provisioning times can be an important factor in switching decisions for some end-users.
- A9.64 Research provided by [S<] also provides some indication that consumers are more likely to cancel their orders if they are offered a longer time for provisioning. That research found that if consumers were offered an installation time of up to two weeks, 40% of respondents were likely to cancel the order. This rose to 58% for a lead time of three weeks, and 74% for over a month. While there are some limitations to this research⁶¹, it does provide further support for the likely correlation between likelihood to switching elsewhere and installation times.⁶² The same research found that around 22% of respondents were likely to switch providers if they had to wait three working days for an engineer to repair their fixed line or broadband service (rising to 37% for 4-5 working days and 51% for 6-7 working days).⁶³
- A9.65 We do not consider that it is straightforward to accurately pre-estimate the percentage of customers that will cancel their orders purely because of issues related to Openreach's service. However, the evidence we have described above is suggestive of a positive correlation between a decline in QoS and the loss of orders. We therefore consider for the purposes of this assessment that cancellations could represent a cost to CPs.

Potential sales

- A9.66 These are profit losses caused by customers that would have placed an order with a CP but were deterred from doing so because of their expectation that there would be delays in provision (which in turn was caused by extended lead times). CPs lose the profit margins that they otherwise would have made if the customers signed up with them. In the MPF Dispute we considered that there were significant difficulties and uncertainty in pre-estimating the value of the 'Potential Sales' component.
- A9.67 In effect, lost potential sales can be viewed as reputational damage – one of the impacts listed in the 2008 SLG Review. If a CP was performing particularly badly (as a result of a decline in Openreach's QoS) and the CP's poor performance was public knowledge, it is plausible that consumers' expectations of the service they

⁵⁹ 2013 QoS research, Q9c "What level of wait for a fixed line phone and/ or internet repair for you/your business would lead you to consider switching to an alternate supplier?" The mean response was 4.3 days for SMEs and 7.1 days for consumers.

⁶⁰ 2013 QoS research, Q7a.

⁶¹ The survey was carried out on a sample of 400 users via an online panel. We note that participants in online panel research tend to have a more favourable than average attitude to technology. In this case the attitudinal bias could potentially have lead to an over-statement of the propensity to cancel.

⁶² [S<]

⁶³ [S<]

would expect to receive would be lowered to the point that they would be deterred from placing an order.

- A9.68 A number of CPs referred to the damage to their reputations resulting from the decline in QoS provided by Openreach in their responses to the 2012 FAMR Call for Inputs. Vodafone, for example, said that Openreach's service issues damaged its relationships with its end user customers, who considered that it was Vodafone at fault for being unable to effectively manage BT's part in the provisioning process.⁶⁴ KCOM said that all aspects of Openreach service delivery had a direct impact on its customer relationships and where issues occurred relating to quality and/or timeliness, it was not acceptable for it to suggest in correspondence with customers that the fault lies with another party e.g. Openreach.⁶⁵ Similarly, FCS said that customers saw quality of service as the responsibility of their service provider and therefore a poor level of service from Openreach was damaging to that service provider's business and reputation.⁶⁶
- A9.69 We recognise that the many end-users may not appreciate (or indeed care about) the delineation between that part of the service provided by their CP and that provided by Openreach. We agree, therefore, that where there are issues, it is likely to be the individual CP that the customer holds responsible, rather than a third party. There is some limited evidence from surveys provided by CPs (in response to an information request under section 135 of the Act), which indicate that there may be a correlation between their customers' perceptions of the CP and the service performance issues. For example, [3<] provided evidence to show that its scores indicating how likely a customer was to recommend its service to a friend fell the longer customers had to wait for their broadband to be activated.⁶⁷ Similarly another CP [3<] provided survey evidence showing a correlation between its scores indicating how likely customers were to recommend its service and changes in service dissatisfaction (particularly for local enterprise customers).⁶⁸
- A9.70 This reputational impact does appear likely to be greater in the case of business users than consumers, particularly with regards to repairs. Our market research found that SMEs placed significant weight on performance issues and reliability when selecting their CP. In particular SMEs ranked "responsiveness to faults" and "performance" as the most important factors when they were selecting their CP.⁶⁹ In comparison, "speed of installation" was given relatively low priority, by both SMEs and consumers. Therefore, where an SME experiences issues with fault repair from their CP, it seems likely that this could impact on that customer's perception of their CP. The fact that the issue with the responsiveness to faults may not be the responsibility of the individual CP (but rather with the service provided by Openreach) does not alleviate this damage to the customer's perception of the CP.

⁶⁴ See page 23 of Vodafone's response to the 2012 FAMR Call for Inputs, available here:

http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/Cable_Wireless_Worldwide.pdf

⁶⁵ See page 7 of KCOM's response to the 2012 FAMR Call for inputs, available here:

http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/KCOM_Group_PLC.pdf

⁶⁶ See page 6 of FCS' response to the 2012 FAMR Call for Inputs, available here:

<http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/fcs.pdf>

⁶⁷ [3<]

⁶⁸ [3<].

⁶⁹ 2013 QoS research, Q1A.

- A9.71 It is very difficult to pre-estimate accurately the number of 'potential sales' that would be lost as a result of delays. However, we consider there to be a plausible link between poor quality of service and lost potential sales, which in turn represents a potential impact on CPs.

Customer care costs

- A9.72 In the 2008 SLG Review and the MPF Dispute, we discussed a number of different types of customer care costs. Below, we set out the three main categories of customer care costs that we consider are likely to be incurred by CPs.

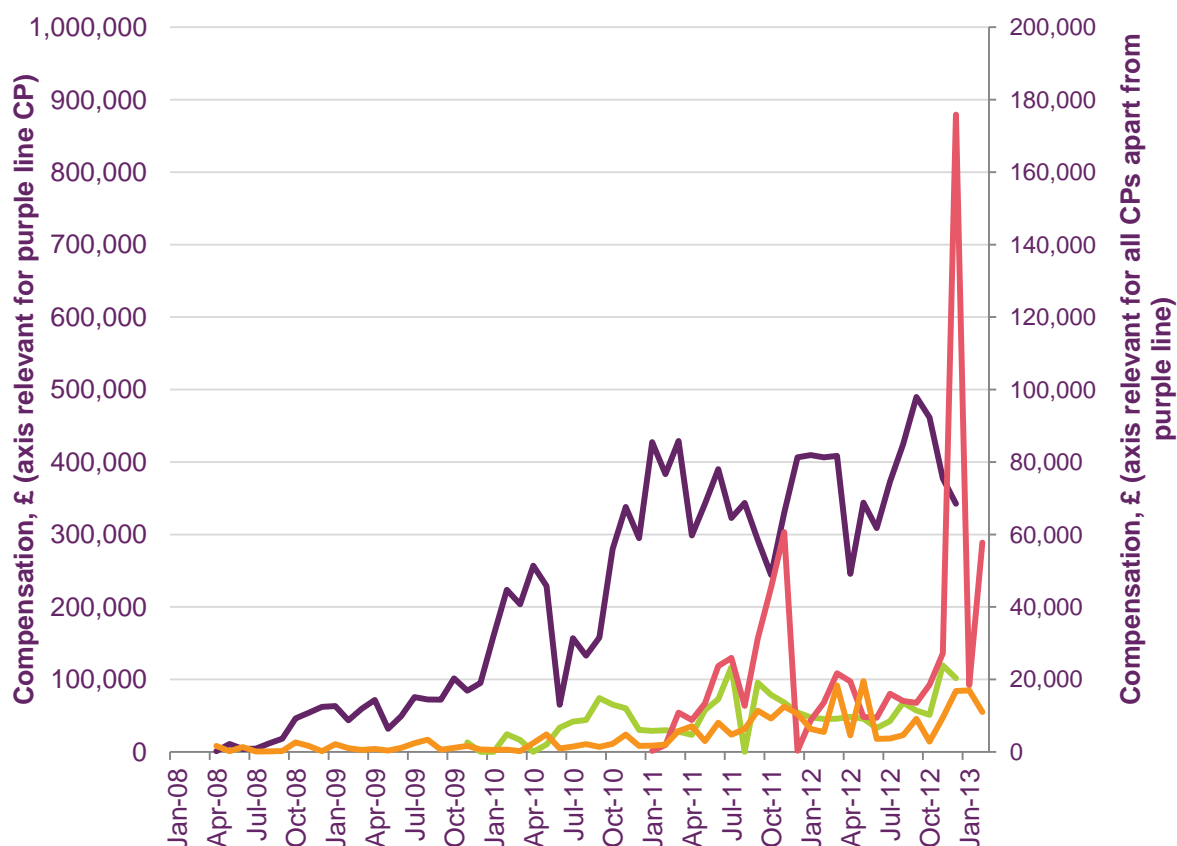
Compensation paid by CPs to end-users

- A9.73 A number of CPs highlighted in response to the 2012 FAMR Call for Inputs that they had to provide credits and/or goodwill payments (e.g. free rental months and engineer charges reversed) where there were problems with Openreach's service performance. As highlighted in Figures A9.21 and A9.22 below, a number of end-users (10% of SMEs and 13% of consumers) are likely to request compensation from their provider if the provisioning or fault repair service they receive is not what they would consider to be reasonable.⁷⁰ Consumers in particular indicated that how quickly an appointment could be made was the most important factor (with 45% importance) in their decision to request compensation (if the installation scenario was not what they considered to be reasonable). Whether or not the installation was completed in a single visit was also important (with 39% importance attributed) and to a lesser extent (16%) whether or not the engineer turned up as scheduled.⁷¹ In addition, as discussed further below (paragraph A9.75), a significant proportion of consumers and SMEs indicated that they would be likely to complain to their provider if the installation scenario is not what they consider to be reasonable, and this may also result in the provider offering compensation to the customer.
- A9.74 We asked CPs about the amount of compensation they have paid out to end-users because of problems with Openreach's service performance. Figure A9.17 below shows that compensation payments increased for a number of major CPs ([>]) during the period when Openreach's service performance deteriorated, particularly in the latter half of 2012. The extent of this impact on CPs depends on their particular approach to providing compensation payments to end-users but where they are issuing these payments, and the cause is Openreach delays, it can represent a direct cost to CPs.⁷²

⁷⁰ For further discussion of what consumers and business consider to be 'reasonable' see paragraphs A9.117 to A9.121 below.

⁷¹ 2013 QoS research, Q7a.

⁷² We did not take these costs into account as part of the MPF Dispute because any compensation payments are discretionary and depend on the particular policy adopted by the CP.

Figure A9.17 – Compensation payments paid by four CPs to their customers⁷³

Source: section 135 data from CPs

Additional costs of customer service

- A9.75 The results of our market research found that both SMEs and consumers said they were most likely to complain to their providers if a fault repair or provisioning service did not meet their expectations.⁷⁴ In particular, as demonstrated in Figures A9.21 and A9.22 below, the evidence shows that 67% of consumers and 58% of SMEs would complain to their provider in the event of a provisioning service that they did not consider to be reasonable. In the case of repair this increases to over 70% for both consumers and SMEs.
- A9.76 A number of CPs noted in their responses to the FAMR Call for Inputs that this increased need for end-users to contact CPs to complain about poor service results in increased costs. In particular, the costs of handling those customer service calls (e.g. staff time, as well as opportunity costs because those customer service agents could have been spending time on other issues which the CP has greater control

⁷³ Note that there are some limitations to this data because in some cases it was not clear whether the compensation payments could be linked directly to issues with Openreach's service.

⁷⁴ 2013 QoS research, Q7C (asked to all finding installation scenario not reasonable) "In the event of this scenario happening to you what action or actions, if any, would you be likely to take?" and Q9a "In the event that a fault repair to your [business] fixed line or broadband service was taking longer than you felt was reasonable, what actions, if any would you take?"

over). BT Retail noted, for example, that the long lead times for repair and provisioning had increased the propensity for its customers to contact them.⁷⁵

- A9.77 Further, the additional time spent liaising with customers to rearrange appointment times if an engineer does not turn up or the issue is not resolved on the first appointment will also result in additional customer service costs for CPs. There may also be other costs for example if the CP has to provide the customer with an alternative service in order to ensure the customer has internet access where they are experiencing a loss of service (e.g. a mobile broadband dongle). Again, it is difficult to estimate the scale of these costs, in particular which of these costs are incremental to those normally incurred by CPs. However, we consider that the Openreach service issues during late 2012, particularly where provisioning times and fault repairs were significantly below what customers considered to be acceptable are likely to have led to material costs of this nature for CPs.

Operational costs

- A9.78 As well as the more direct costs to CPs resulting from compensation payouts, there are also ongoing costs involved in dealing with Openreach as a result of a failure. Vodafone, FCS and TalkTalk all noted in their responses to the FAMR Call for Inputs that poor service quality increased their operational costs, for example the increased resource required to manage failures. In particular CPs need to liaise with Openreach to resolve any issues and manage receipt of SLG payments where appropriate. Clearly where QoS is poor, those issues are likely to be more frequent and thereby create additional costs. It would be a complex process to isolate the exact costs to CPs resulting from these particular issues, but given the numbers of repairs and provisioning of lines which have not been meeting the existing SLA targets (particularly during late 2012), we consider that it is plausible that CPs had to incur additional costs.

Impact on end-users (businesses and consumers)

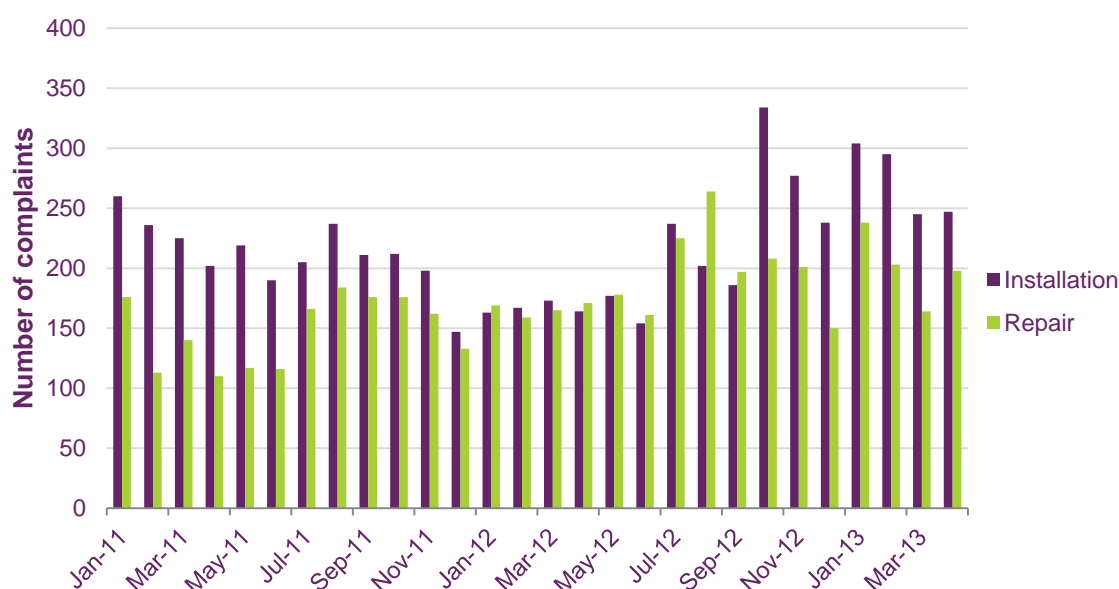
- A9.79 We have outlined above the impact that poor QoS can have on CPs in the form of increased costs, lost margins and reputational damage. This of itself is cause for concern. However, we are also concerned about how this then, in turn, has the potential to lead to particular negative impacts on end-users of the services. Ofcom's principal duty is to further the interests of consumers and citizens in relation to communications matters and these impacts are therefore of central importance in this review. Moreover, any negative impact that poor quality of service has on the consumer/business experience could then in turn be impacting competition within the sector by acting as a barrier to switching.
- A9.80 In response to the FAMR Call for Inputs, a number of CPs commented on the harm to consumers/businesses that could result from poor QoS provided by Openreach. In particular, CPs mentioned the unavailability of service (particularly for home/premise mover customers), as well as the inconvenience to consumers as a result of having to be available for multiple appointments and the frustration they experienced as a result. BT Retail, for example, noted that with the increasing importance of broadband to daily domestic life (and particularly now that significant numbers of its customers had TV over broadband) speedy repair was much more

⁷⁵ See pages 3-4 of BT Retail's 2012 FAMR Call For Inputs response, available here: http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT_Retail_response_on_Openr1.pdf

important than it used to be. BT Retail said that for businesses long lead times had been especially frustrating as a provision was often part of a bigger project and service outage was business-disrupting.⁷⁶ KCOM also noted that often the customer installations it was undertaking were complex and could have significant financial implications if they were not completed on time.⁷⁷ FCS also noted that the “unacceptable timeframes” for rectifying problems were particularly acute and damaging for business customers, where the cost of failure was much higher than for residential customers.⁷⁸

A9.81 The fact that problems with Openreach’s service may be impacting consumers negatively more generally is potentially indicated in the increase in complaints to Ofcom’s Advisory Team (the ‘OAT’). Although these complaints relate to delays or problems with provisioning and repairs more generally (i.e. they are not necessarily Openreach specific), there was a noticeable increase in complaints during the latter half of 2012, which coincides with Openreach QoS problems as outlined earlier in this annex. Figure A9.18 below shows that complaints about provisioning in particular increased noticeably in September 2012 (up to a peak of nearly 350 in October 2012) but more recently have started to decrease.

Figure A9.18: Complaints to OAT about provision/repair



Source: Ofcom OAT complaints data

A9.82 Based on the evidence available to us in this review, we are particularly concerned that long lead times for provisioning and repair can lead to the following negative impacts on end-users:

⁷⁶ See pages 3-4 of BT Retail’s response to the 2012 FAMR Call for Inputs, available here: http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BT_Retail_response_on_Openr1.pdf

⁷⁷ See page 7 of KCOM’s response to the 2012 FAMR Call for inputs, available here: http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/KCOM_Group_PLC.pdf

⁷⁸ See page 6 of FCS’ response to the 2012 FAMR Call for Inputs, available here: <http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/fcs.pdf>

- loss of service: long waiting times for provisioning a line and/or for getting faults repaired (where the fault means a loss in service) means that end-users are without fixed line and/or broadband often for extended periods;
- end-user time costs: for example if consumers are left waiting for engineers to turn up, having to make multiple appointments and rearrange appointments with CPs and in general suffering inconvenience as a result of Openreach service performance issues; and
- general reduction in welfare as a result of negative impact on competition.

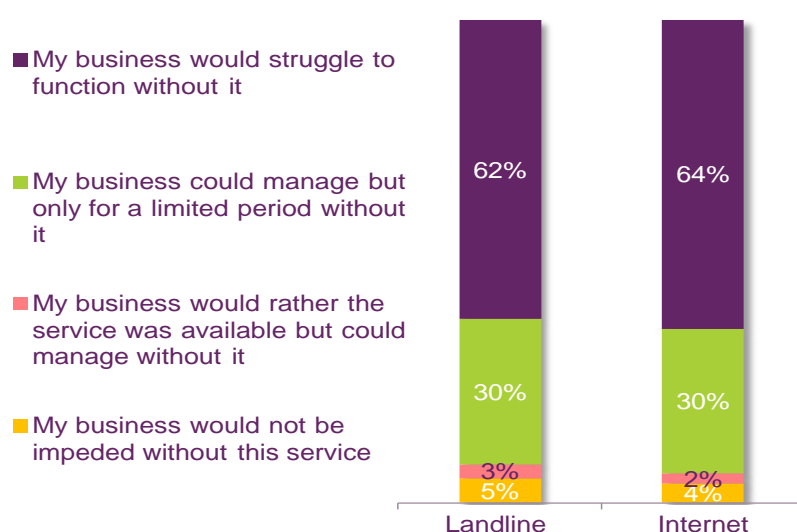
A9.83 We set out our assessment of the first two impacts below. We discuss the third as part of our assessment of the impact on competition in general under the relevant heading below.

Loss of service

A9.84 Both consumers and businesses are heavily reliant on their fixed line and broadband services, increasingly so in the case of broadband. Therefore any loss in either service can have a particularly significant negative impact, and in some instances the impact could be especially severe, for example if the end-user has a disability or is elderly and is reliant on their landline for contacting emergency services.

A9.85 As indicated in Figure A9.19 below, four in five SMEs said they would struggle to function without at least either their landline or broadband service. When asked about the reasons for this a number of SMEs pointed to the importance of their landline in communicating with customers, particularly for sales. A loss of service for these SMEs therefore has a significant negative impact because they could be losing customer sales and damaging their revenues, as well as potentially suffering reputational damage associated with being unable to communicate with their customers.

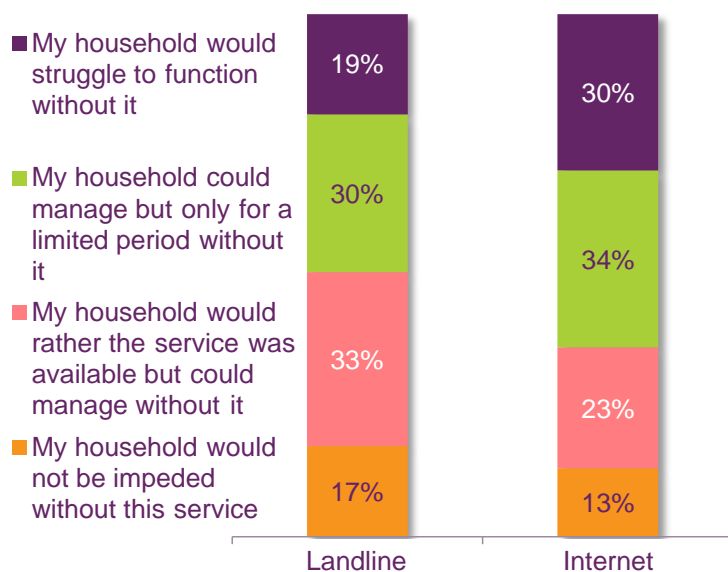
Figure A9.19: SME reliance on landline and broadband



Source: 2013 QoS research, Q8: "Thinking about your landline/ internet connection, how much does your business rely on your landline telephone/ broadband/ internet connection?" Base: All businesses (500)

- A9.86 The importance of service reliability and performance to SMEs is also reflected in the higher proportion that say they would consider paying extra for a premium service (where, for example, they received a priority service for fault repair) – 30% of SMEs said they would consider such a service.⁷⁹
- A9.87 In comparison, consumers are less likely to say that their household would ‘struggle to function’ without either a landline or broadband service. However, there is still a significant proportion of consumers (30%) who say they would struggle to function without their broadband service and similarly high proportions who claim that they could only manage for a limited period without either their landline or broadband service.

Figure A9.20: Consumer reliance on landline and broadband services



Source: 2013 QoS research, Q8: “Thinking about your landline/ internet connection, how much do you rely on your landline telephone/ broadband/ internet connection?” Base: All consumers (2011) / Base: All consumers with each service (1989/1604)

- A9.88 Within the 19% of consumers who said they would struggle to function without their landline, there was a specific group (17% of that 19% group) that said this was because either they, or a family member, was elderly and/or had disability issues which made landline contact particularly important in case of an emergency.⁸⁰ This particular group of consumers are already protected under existing regulatory requirements – in particular, under General Condition 15, CPs are required to provide a priority fault repair service to any subscribers with disabilities who have a genuine need for an urgent repair and CPs generally meet this requirement through purchasing higher fault repair care levels from Openreach.⁸¹ However, this serves to highlight a specific instance where a loss of service could have a particularly severe impact on a significant group of vulnerable consumers.

⁷⁹ Q15 of the 2013 QoS research.

⁸⁰ Q8c of the 2013 QoS research.

⁸¹ In particular GC15.6. The General Conditions are available at:

<http://stakeholders.ofcom.org.uk/binaries/telecoms/ga/general-conditions22nov12.pdf>

- A9.89 Research carried out for Ofcom's switching project in 2011 indicated that around a quarter of consumers who went through the switching process (and did not just cease one service and restart separately with another provider) experienced an unwanted break in service.⁸² The average length of that break in service was 12 days. This is therefore a significant period for consumers to be without a service which they rely on and creates significant inconvenience and costs to those consumers. More recent research (in 2012) provided further evidence of this concern, with the major issues experienced by consumers who switched their landline and broadband services (as a bundles) "being without service during the switch" (21%) "arranging services to start and stop at the same time" (17%), and "installation of the new service" (13%) being the most common 'main' issue during the switching process.⁸³

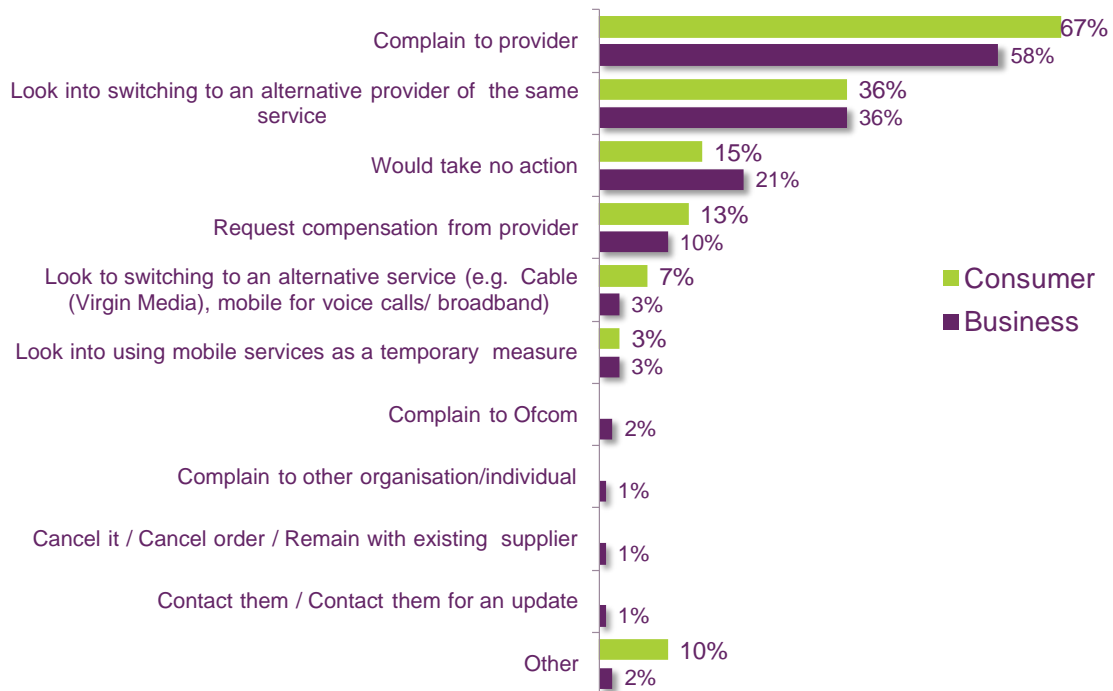
End-user time costs

- A9.90 It is not only a loss in service which creates issues and negative impacts on consumers and businesses. Even where there is no loss in service, consumers and businesses can still be negatively impacted by the additional time they need to spend on arranging to be at home/having someone on the premises available for engineer appointments, rearranging appointments, in general liaising with their CP to get the issue resolved and often complaining to their CP where problems occur. Whilst this may be difficult to quantify, in general this creates a poor customer service experience, with increased inconvenience and hassle for end-users.
- A9.91 As highlighted in the figures below, the evidence from our market research is that the most common response when either repair or provisioning arrangements are not considered reasonable is for the customer to complain to their provider.

⁸² P20Q1 of Ofcom's, 2011 Fixed Broadband Switching research, available here: http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/Fixed-broadband-switching/Final_fixed_broadband_onlin1.pdf

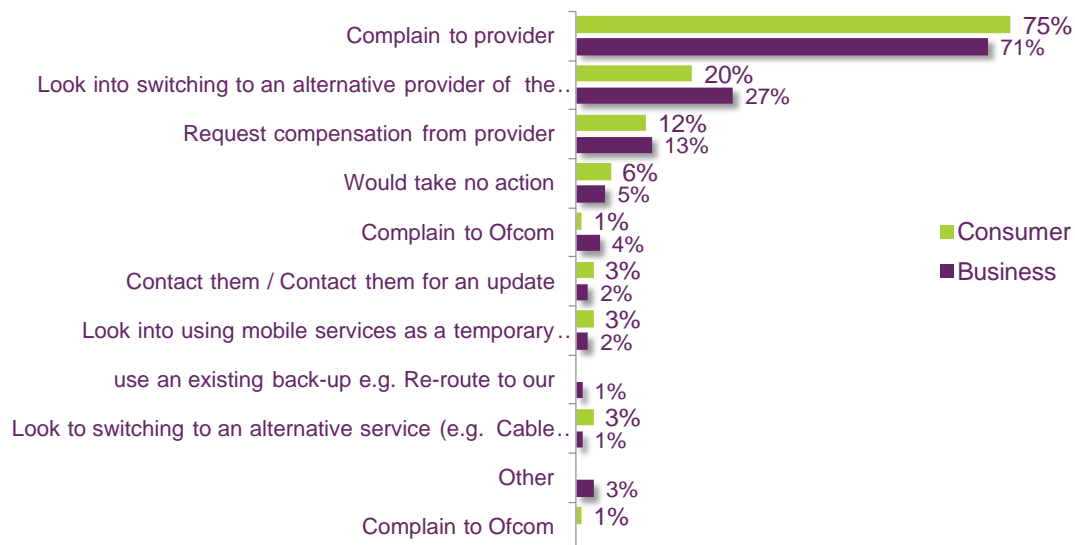
⁸³ QE1/2 of Ofcom's Customer retention and interoperability research, available here: http://stakeholders.ofcom.org.uk/binaries/research/telecoms-research/customer-retention/CRI_Report_Final.pdf. See Figure 45 on p.55.

Figure A9.21: Actions users would take if installation arrangements are not considered 'reasonable'



Source: Q7C (All finding installation scenario not reasonable) In the event of this scenario happening to you what action or actions, if any, would you be likely to take? UNPROMPTED Base: All not finding at least one installation scenario reasonable (businesses - 353) (consumers – 793)

Figure A9.22: Actions customers would take if repair arrangements are not considered 'reasonable'



Source: Q9a In the event that a fault repair to your [business] fixed line or broadband service was taking longer than you felt was reasonable, what actions, if any would you take? UNPROMPTED Base: All consumers (2011) and all businesses (500).

- A9.92 Our market research also found that the most important attribute in a service installation in order for it to be considered ‘reasonable’ by both consumers and SMEs was that the work was completed on a single visit.⁸⁴ This reinforces the view that having to wait for multiple appointments/rearrange appointments is a significant inconvenience to end-users.
- A9.93 There is also a concern, which we discuss further below and is indicated in paragraph A9.89 above, that this additional hassle and inconvenience for end-users reduces the likelihood of switching.
- A9.94 The questions from the 2013 QoS research which asked about the level of compensation end-users would expect if there was a failure (with either a promised installation or repair) provide some indication of the value consumers and SMEs attribute to the additional hassle/inconvenience such failures create. In terms of SMEs, a third were unable to name a figure for compensation but of those that were, the median amount quoted was £91 per day. The mean amount was a lot higher (at £758) indicating that there are a significant number of SMEs which place a much higher value on compensation – particularly the larger companies which quoted much higher values. In line with the discussion earlier about the importance of fixed line/internet for SMEs compared to consumers, consumers quoted noticeably lower, although not insignificant, amounts. The average (using the median) was £9 per day but the mean amount was also higher at £24 per day (again around a third were unable to name a specific amount).⁸⁵ However, these results need to be considered alongside consumer and SME willingness to pay for a better service which avoids these negative impacts. As we note in paragraphs A9.129 to A9.130 below there was relatively limited willingness to pay for faster installation times or repairs, particularly amongst consumers.

Impact on competition

- A9.95 In response to the 2012 FAMR Call for Inputs a number of CPs referred to the impact that poor quality of service from Openreach has on competition in the market. FCS said customers were less likely to change providers or take-up new services where there were extended lead times for provisioning, or where the process appeared to be unreliable and uncertain.⁸⁶ TalkTalk said that the current level of service provided by Openreach was creating delayed market entry, making switching more difficult and distorting competition.⁸⁷ Sky, similarly said that the current level of service was an impediment to competition in the telecommunications industry and was harmful to the economy as a whole.⁸⁸ Sky also argued that the impact of poor QoS was likely to be greater on other CPs compared to BT Retail because, for example, consumers might become concerned

⁸⁴ Q7a, 2013 QoS research. 51% of consumers and 52% of SMEs reported the “completion of the work in a single visit” as the key component in the scenario being considered ‘reasonable’.

⁸⁵ Q24b, 2013 QoS research.

⁸⁶ See page 6 of FCS’ response to the 2012 FAMR Call for Inputs, available here:

<http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/fcs.pdf>

⁸⁷ See pages 19-20 of TalkTalk’s response to the 2012 FAMR Call for Inputs, available here:

<http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf>

⁸⁸ See page 10 of Sky, Sky’s submission dated October 2012, entitled “Regulating for quality: delivering service performance in UK telecoms”, available here:

http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BSkyb_Additional_Paper_1.pdf

about the disruption or delay in switching between operators, resulting in a stabilisation of market shares and/or a 'flight to brand' which benefits BT.⁸⁹

A9.96 We agree with this concern that a decline in QoS may have a negative impact on competition. In particular end-users may not be getting the best deals/packages to meet their communication needs either because:

- they do not have the incentive to switch to a better deal – i.e. they remain with their current provider (despite the availability of better/more attractive packages with other providers) because of concerns about the provisioning process and/or the issues with handling fault repairs. Or, they cancel initial orders when they are advised of the provisioning times and/or they experience delays in the provisioning process (for example an engineer not turning up for an appointment); or
- they are not incentivised to stay with the cheapest provider – i.e. they switch away from their existing provider due to either problems with the provisioning process (when it involves Openreach delays) when they move house/premises or problems with fault repair (again when this involves Openreach delays) taking too long to resolve.

A9.97 As indicated in Figures A9.21 and A9.22 above, a significant proportion of both consumers and businesses (36%) are likely to consider switching to an alternative provider if the service they receive for provisioning (referred to as 'installation' in the research) is not what they would consider to be reasonable. For repair this response was less likely, but still up to a quarter of consumers (27% for businesses) indicated they would consider switching. In addition, when asked about different scenarios for installation, both consumers and SMEs attributed significant importance (57% for consumers, 67% for SMEs) to how soon the appointment for installation was in any decision to switch supplier if the installation scenario was not what they considered 'reasonable'.⁹⁰ In fact when we asked consumers about the level of wait for installation and repair that was likely to make them consider switching supplier, the mean average for installation was only 6.3 working days for installation and 7.1 working days for repair. For SME's the average was 6.4 working days for installation and 4.3 working days for repair.⁹¹ Whilst this only reflects those that would consider switching, and many may not actually have switched where there was a delay, it does indicate that even where there is only a short delay over what end-users consider reasonable, they will either be dissuaded from switching to other CPs or start to look elsewhere for their service.

A9.98 This effect was also emphasised in research provided by [3<] where provisioning times of more than a week led to a significant proportion of respondents (up to 40%) stating that they would cancel an order. For repair, around a two-fifths (37%) of respondents said they would consider switching if repair took four to five working days or more.⁹²

A9.99 Similarly, the consumer switching research discussed above highlighted that there are some indications that issues with the installation process, and loss of service, could be preventing some consumers from switching (see paragraph A9.89 above).

⁸⁹ As footnote above, see page 5.

⁹⁰ Q7a, 2013 QoS research.

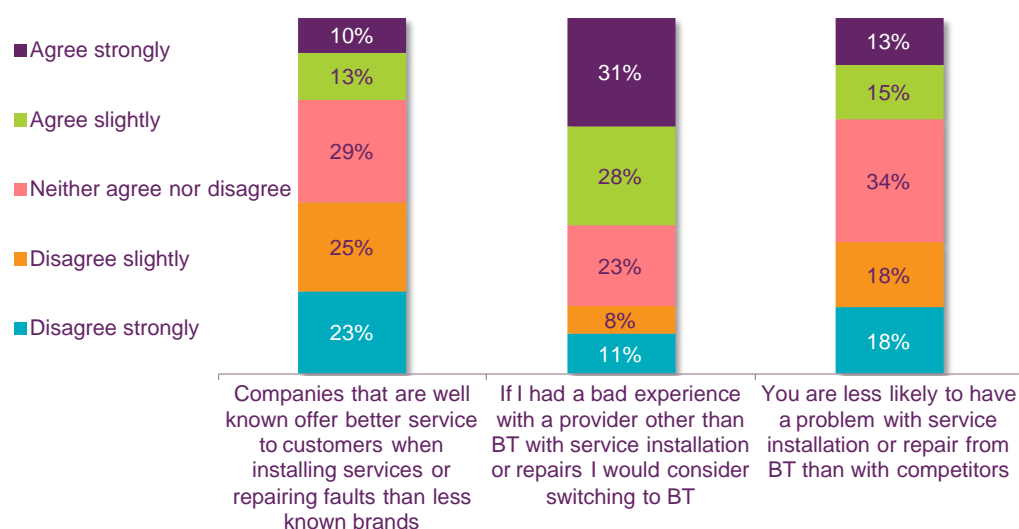
⁹¹ Q9b, 2013 QoS research.

⁹² [3<].

In particular, that research found that amongst those consumers that considered switching providers but decided against it, “being without service during the switch” (44%) and “installation of new service” (38%) were reported as a major issue or difficulty for a significant proportion of consumers during the process, and as being a factor which contributed to them deciding against switching.

A9.100 With respect to the ‘flight to brand’ argument put forward by Sky (i.e. consumers may return to a provider they are more familiar with if their experience with smaller brands has been less successful), we also asked about end-users’ views of BT/larger companies with respect to service installation and repair to ascertain whether there was any evidence of this point. The responses from SMEs are indicated in the Figure below and they indicated a range of views.

Figure A9.23: SME attitudes to larger providers and provisioning/fault repair



Source: 2013 QoS research, Q24b Base: All businesses (500)

A9.101 There was more disagreement than agreement with the statement that “companies that are well known offer better service to customers when installing services or repairing faults than less well known brands”.⁹³ There was slightly more agreement from SMEs with the statement “you are less likely to have a problem with service installation or repair from BT than competitors” but still a greater proportion of disagreement.⁹⁴ A significant proportion of respondents agreed that they would consider moving to BT if they experienced an issue with a service installation or repair (59% in total agreed with that statement), however a material proportion still disagreed with that statement and in a separate question in the research which asked about which supplier SMEs would consider moving to, only 9-11% named BT as the provider they would consider moving to (which is likely to be largely a reflection of BT’s market share).⁹⁵ In addition, this result is likely to have been influenced by those who are already BT customers.

A9.102 With respect to consumers, there appears to be a slightly more favourable attitude to larger brands (including BT). A greater proportion (37% compared to 23% of

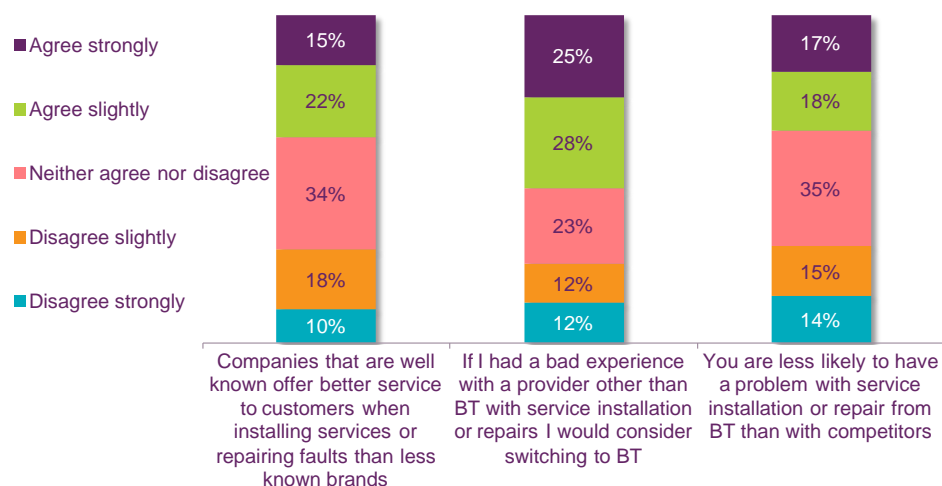
⁹³ Q24b, 23% of SMEs agreed with that statement and 48% disagreed.

⁹⁴ Q24b, 28% of SMEs agreed and 36% disagreed.

⁹⁵ Q10 of the 2013 QoS research.

SMEs) agreed that more well known brands were likely to offer a better service and similarly a greater proportion agreed that they were less likely to have repair/installation problems with BT compared to its competitors (35% of consumers agreed in total). Again this result has been influenced by those who are already BT customers (49% of BT customers agreed compared to 22% of non BT-customers). Nevertheless, as with the SME responses there appears to be a material minority of end-users who have a view that BT is less likely to have service problems compared to its competitors.

Figure A9.24: Consumer attitudes to larger providers and installations/fault repair



Source: 2013 QoS research, Q24b. Base: All consumers (2011)

A9.103 In summary, this evidence indicates that lead times have a significant impact on SMEs and consumers' choice of supplier. Whether they are considering switching away from their current provider to a potentially better deal or they are considering staying with their current provider because other potentially better offers do not seem very attractive, the length of time taken to install the new service is an important influence. It seems likely that a decline in Openreach's quality of service could distort SMEs and consumers' propensity to select the best value offers and this is likely to be detrimental to competition in the market. There is also some evidence to suggest that this could favour BT as a group in that a material minority of SMEs and consumers have more confidence in the BT brand.

A9.104 Therefore the evidence suggests that poor QoS is likely to lead to a negative impact on competition within the sector by firstly reducing the inclination to switch providers (due to the risk of service outages) and by distorting the choice of supplies – that it supporting a slight bias to larger CPs and in particular BT.

Summary of impact of service performance assessment

A9.105 Based on the evidence set out above, it is clear that poor QoS by Openreach for provisioning and repairs of fixed access services has the potential to generate a negative impact on both CPs and end-users, as well as potentially on competition in the market more generally. CPs suffer lost and/or delayed revenues, increased compensation to their customers, customer care and operational costs. Consumers and businesses are harmed by loss of service and increased hassle and inconvenience (often causing increased expense for them). We also consider that

poor QoS has the potential to lead to a weakening and distortion of competition, potentially favouring BT over other CPs where there are problems with QoS.

Considering what constitutes a reasonable level of service

A9.106 In order to inform our assessment of whether the current level of service which Openreach offers is appropriate, and what, if any, changes might be needed to the regulations, we discuss below what might constitute a reasonable level of service.

A9.107 We focus in particular on the timescales for provisioning and fault repair for WLR and LLU services – i.e. how many working days it takes Openreach to install a line (where an engineer appointment is required) and repair a fault on a line.

A9.108 We have looked at a number of different evidence sources to inform this assessment, including:

- responses from CPs to the 2012 FAMR Call for Inputs;
- the views of consumers and SMEs demonstrated by our market research; and
- a review of comparable benchmarks from other countries, products and industries.

Stakeholder comments in response to the 2012 FAMR Call for Inputs

A9.109 A number of stakeholders commented on specific details relating to the existing SLAs and how Ofcom should review those SLAs. We have set out a summary of these comments in the discussion of QoS in Section 10. Some of these comments are also relevant to considering what would constitute a reasonable level of service by Openreach. TalkTalk and Sky, for example, suggested that Ofcom should use benchmarking to assess the appropriate quality targets for Openreach.⁹⁶ In particular, they suggested we review quality target levels for other incumbent telecommunications providers and also other similar businesses, products and service experiences within the UK, as well as in comparable overseas markets.⁹⁷ Both emphasised that using current performance would not be sufficient, although TalkTalk suggested that it might act as a minimum quality benchmark.⁹⁸

A9.110 BT Retail noted that its customer research indicated that customers expected 1-2 weeks for provisioning (under 10 working days) and 2 day repair performance. It said business customers could be equally or more demanding, although it said it was generally a firm commitment within a reasonable timeline that business customers required.⁹⁹ BT Retail also commented that process improvements are needed to meet customer expectations, in particular relating to Openreach's CP

⁹⁶ See page 7 of Sky's submission dated October 2012, entitled "*Regulating for quality: delivering service performance in UK telecoms*", available here:

http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BSkyb_Additional_Paper_1.pdf

⁹⁷ See page 2 of Sky's submission dated October 2012, entitled "*Regulating for quality; an improved SLA regime*", available here: http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/BSkyb_Additional_Paper_2.pdf

⁹⁸ See pages 7-8 of TalkTalk's response to the 2012 FAMR Call for Inputs, available here:

<http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-markets/responses/ttg.pdf>

⁹⁹ See page 4 of BT Retail's response to the 2012 FAMR Call for Inputs.

and customer engagement (i.e. a more proactive approach to keeping customers informed), appointment availability and flexibility (e.g. having shorter appointment slots and the ability to give certain customers priority) and allowing innovation to meet business customer needs, such as developing premium services for those willing to pay extra.¹⁰⁰

Timescales for provisioning – research results

- A9.111 In order to put the evidence from our market research in context, it is important to be clear about which provisioning processes we are making comparisons with. Openreach's installation order processes cover a range of activities, relating to the installation, reconfiguration and cessation of telephony and broadband services. These include new line provisioning (for example installing a new WLR or MPF service into a home/office), changes (e.g. adding SMPF to an existing WLR line or adding a feature such as call barring to an existing WLR service), switching a line to a different provider and moving a service to a new location (e.g. in connection with a house move).
- A9.112 The actual process, and timing, involved with provisioning can vary significantly depending on the nature of the order. In particular the timescale depends on whether it is a non-appointed or appointed order (as defined earlier, see paragraph A9.11). Appointed orders have been the main cause for concern during the recent service problems when lead times extended considerably when Openreach (with industry agreement) prioritised its resources on repair work. Our market research has consequently focused on these types of orders.
- A9.113 Another factor relevant to the provisioning timescale is whether or not the requirement relates to a switching order (i.e. switching a line to a different provider). An additional consumer protection measure is built into the WLR and LLU switching processes, known as the 'Notification of Transfer' or NoT process.¹⁰¹ This specifies a mandated period of 10 days before a switchover to a new CP, this 10 day period allows the existing CP to write to the customer to confirm that they have requested a switch and it provides the opportunity for the customer to prevent the switch if necessary (e.g. if they have been slammed).¹⁰² Therefore when a consumer is switching CP there will always be a ten day minimum period for provisioning the line because of these consumer protection measures.
- A9.114 As set out in Table A9.1 earlier, the current SLA for the first available appointment for LLU and WLR is 13 working days (reducing to 12 working days from November this year). In our market research we specifically asked consumers and SMEs about their attitudes towards how long they should wait for an appointment for provisioning when an engineer was required. There is, nevertheless, a risk that the responses we received indicate SME and consumer attitudes to how long any provisioning should take (i.e. they would not necessarily have taken into account in

¹⁰⁰ See pages 4 to 6 of BT Retail's response to the 2012 FAMR Call for Inputs.

¹⁰¹ See our switching consultation for details of this process:

<http://stakeholders.ofcom.org.uk/binaries/consultations/switching-fixed-voice-broadband/summary/condoc.pdf>

¹⁰² 'Slamming' involves a customer being switched from one company to another without the customer's knowledge or consent. In 2009 we introduced General Condition 24 which set out specific requirements designed to prevent customer's being slammed or mis-sold fixed line services: http://stakeholders.ofcom.org.uk/binaries/consultations/protecting_consumers_misselling/statement/statement.pdf

their responses that where an engineer appointment is required, provisioning will require more time than a non-appointed provisioning).

A9.115 In comparing the attitudes of consumers and SMEs to the current situation we have considered not just the SLAs for appointed provisioning (the 13 working days) but also the average experience those end-users are likely to have (i.e. the ATTI which we defined above – see paragraph A9.11). As set out earlier, following the service problems in 2012 lead times were as high as 25 working days (and even higher in some locations) in late 2012. However, more recent evidence suggests that average lead times have fallen and in May this year the average time for the FAD was just over 8 days.¹⁰³

A9.116 We have divided the discussion of the market research results into the following areas below:

- ‘reasonable’ and ‘expected’ provisioning timescales;
- provisioning timescales leading to consideration of switching;
- relative importance of provisioning timescale; and
- value placed on provisioning timescales.

‘Reasonable’ and ‘expected’ provisioning timescales

A9.117 We asked participants what they considered was a ‘reasonable’ timescale to wait for an appointment for an engineer to complete an installation either when they were moving home/premises or when switching supplier. We also asked participants about what they ‘expected’ these timescales to be (rather than what they considered to be ‘reasonable’).¹⁰⁴ Respondents were not presented with any information on the prices associated with provisioning timescales (e.g. that faster lead times might be more expensive) and therefore the results should be viewed in that context.

A9.118 The full results, including bar charts for each result are set out in the final report (which we have published separately today).¹⁰⁵ There was a wide range of responses from both consumers and SMEs on the number of working days they either considered ‘reasonable’ or ‘expected’ for the two different provisioning scenarios. The Table below summarises the results – including the mean average number of working days from the responses as well as the proportions for up to 3 and 5 working days, as well as the proportion that indicated up to 10 working days or over.

¹⁰³ Note that FAD is a different measure to ATTI - see paragraph A9.25 above for an explanation of FAD. Figure A9.5 sets out the number of working days for the FAD.

¹⁰⁴ In the research we specifically noted that where respondents were indicating what was ‘reasonable’ this did not have to be “their ideal situation but one that would be generally satisfactory”. For what they ‘expected’, we noted that this “did not necessarily have to reflect their ‘ideal’ or ‘satisfactory’ situation, but the time that you feel would be likely to be offered in these circumstances”. The aim of asking about both ‘reasonable’ and ‘expected’ timescales was to compare whether there was any differences between respondents views.

¹⁰⁵ <http://stakeholders.webstage.intra.ofcom.local/binaries/research/telecoms-research/telecoms-market-data/fault-repair-research.pdf>

Table A9.25: Summary of QoS research on timescales considered reasonable and expected for provisioning

		Mean average working days		% up to 3 working days		% up to 5 working days		% 10 working days or over	
		Consumer	SME	Consumer	SME	Consumer	SME	Consumer	SME
Reasonable	Moving	4.2	5.2	57%	53%	76%	75%	7%	12%
	Switching	4.9	5.4	53%	53%	73%	73%	14%	14%
Expected	Moving	4.0	5.7	66%	56%	80%	72%	7%	17%
	Switching	4.3	5.4	62%	56%	77%	70%	8%	18%

Source: Q1/Q2/Q3 2013 QoS research. Base: All businesses (500), all consumers (2011)

A9.119 As the table indicates, amongst consumers there was on average no significant difference between the time considered ‘reasonable’ for home moving and switching. Most consumers (73-76%) express the view that it is reasonable for an appointment for an installation (for either home moving or switching CP) to take place in 5 working days or less. In fact a majority of consumers (53-57%) considered that an installation should take place in 3 working days or fewer.¹⁰⁶ Only a small minority (7% for moving home and 14% for switching CP) considered that 10 or more working days was a reasonable timescale.

A9.120 These results were largely consistent with what they considered to be ‘reasonable’, although many expected a shorter timescale (for example the average expected timescale for switching CP was 4.3 working days).¹⁰⁷ Breaking down the results further indicated that consumers who had recently had a new line connected were more likely to consider a longer timescale was reasonable (as well as expecting a longer timescale) – the average number of working days considered reasonable by these consumers was 5.9 working days for moving home and 10.5 for switching CP.¹⁰⁸

A9.121 As might be expected, given the likely additional complexity of installations for SME customers, SMEs had expectations of slightly longer timescales for installation involving an engineer appointment. In general, SMEs’ expected installation times were in line with what they considered to be reasonable (although for moving premise the average expected time was slightly longer at 5.7 working days). For

¹⁰⁶ 2013 QoS research, Q1: “You have moved into new home/premises and call a communications provider to set up your fixed telephone line and/or internet connection. They advise you that an engineer will need to come out to your house in order to activate the line. How long do you think it is reasonable for the maximum wait until the first suitable appointment for an engineer to visit and activate your service?” and Q3 “You have decided to change communications provider for your household telephone line and/or internet connection. Your new provider advises that it is necessary for an engineer to visit to perform the switch over. How long do you think it is reasonable for the maximum wait for a suitable appointment for the engineer to attend and the change to occur?”

¹⁰⁷ 2013 QoS research, Q2 and Q4: “And how long would you expect it to take?”

¹⁰⁸ Q1-Q4 of the 2013 QoS research: In relation to expected timescales, consumers who had recently had a new line connected expected provisioning to take 7 days when moving home and 10.2 days when switching CP.

larger SMEs (with over 100 employees) the timescale considered reasonable increased to nearly seven days for either moving premises or switching CP.¹⁰⁹ Again, however, the market research indicated that most businesses (73-75%) consider that installation (either for moving premises or switching CP) in less than five working days is reasonable, and a majority (53%) consider that within three working days is reasonable.¹¹⁰ The proportion of SMEs that consider 10 or more working days to be reasonable was also small, with only 12/14% selecting this time period.

Installation timescales leading to consideration of switching

A9.122 We also asked respondents to indicate what level of wait for an installation would lead them to start considering switching to an alternative supplier. Again there was a wide range in the responses provided – the average working days and proportions are summarised in the Table below. It is important to bear in mind that this question was asked only of those respondents who indicated they would start considering switching supplier where the installation time was deemed ‘unreasonable’ and therefore the results may be overstated compared to the whole sample.

Table A9.26: Level of installation timescale likely to trigger consideration of switching

	Mean average number of working days	% up to 3 working days	% up to 5 working days	% up to 7 working days
Consumers	6.5	33%	59%	77%
SMEs	6.4	45%	61%	67%

Source: Q9b 2013 QoS research. Base: All consumers would consider switching if installation seemed unreasonable (483) and all business would consider switching if installation seemed unreasonable (128).

A9.123 In general the responses indicated that both consumers and SMEs would start considering a switch to a different supplier even where installation times were only slightly above (e.g. around 2 days over) what they considered reasonable. A greater proportion of SMEs (45% compared to 33% of consumers) said they would start considering switching even if installation was up to three working days.

Relative importance of installation timing

A9.124 We also asked respondents to rate the importance of different components of service installation in order to understand how important the timing of installation is relative to other aspects of the installation (for example the availability of different appointment slots).¹¹¹

¹⁰⁹ Q1/2 of the 2013 QoS research.

¹¹⁰ Q1/2 of the 2013 QoS research.

¹¹¹ In particular the research asked about five different aspects: “how soon the appointment is”, “appointment confirmation”, “appointment offered”, “engineer turns up as scheduled” and “work complete on a single visit”.

- A9.125 In relation to consumers, the responses supported the finding outlined above that most consumers view a five day period for an appointment for installation as reasonable. A five day wait for an appointment (and to a lesser extent a 10 day period) was more likely to lead to a scenario being considered reasonable by consumers – in particular, consumers attributed 36% importance to the time taken to get an appointment for installation in their decision about whether an installation scenario was reasonable and a period of five working days was more likely to make that factor more important to their decision. Where respondents felt that a particular scenario was not reasonable and that it would push them to consider switching to a different provider, a majority (57%) said that it was the installation time in particular that was the important factor driving that decision.¹¹²
- A9.126 The results for SMEs to this question were similar – SMEs attributed 34% importance to the time taken to get an appointment. However, for SMEs, the time taken to get an appointment was more important in their switching decisions, in particular this contributed to 67% of a SMEs decision as to whether they would switch supplier if a particular installation scenario was not what they considered to be reasonable (compared 57% for consumers).
- A9.127 For both consumer and SME respondents, however, the key factor in their views of whether a particular installation scenario was reasonable was that the work was completed in a single visit (rather than multiple visits being required) – this had 52% importance for SMEs and 51% for consumers, compared to 34% and 36% importance respectively for the timing of the appointment.¹¹³

Value placed on installation timescales

- A9.128 Our market research also provides some indication of the value that consumers and SMEs place on installation timescales. We asked respondents about their willingness to pay extra for faster installation times. Amongst consumers there was little willingness to pay - only 13% of consumers said they would be likely to consider taking up a premium service which offered faster installation. When asked specifically about how much they would consider reasonable to pay for an appointment sooner than the one they were originally offered only 18% of consumers indicated a willingness to pay – 73% said they would not be willing to pay anything.¹¹⁴
- A9.129 Amongst SMEs there was slightly more willingness to pay for faster installation but still not a significant amount – 24% indicated a willingness to pay for an appointment slot sooner than the one initially offered but 55% were not willing to pay anything. However when asked about willingness to pay for a ‘premium service’ (which included both faster installation and priority fault repair) a greater proportion of SMEs (35%) indicated a willingness to pay, with the median amount indicated at £24.¹¹⁵
- A9.130 The value of provisioning times is also indicated through the results of the research question which asked about the factors consumers and SMEs considered important when selecting their CP. For consumers, ‘speed of installation’ was ranked very low as a factor. As might be expected, ‘price’ was the most important factor for

¹¹² Q7A, 2013 QoS research.

¹¹³ Q7a, 2013 QoS research.

¹¹⁴ Q12ai and Q15, 2013 QoS research.

¹¹⁵ 2013 QoS research, Q13.

consumers.¹¹⁶ For SMEs, ‘speed of installation’ was also ranked as one of the lowest factors when selecting their CP. Unlike consumers, however, price was not the key factor and instead (as we will discuss further below) ‘responsiveness to faults’ was the main factor.¹¹⁷

Summary of results on provisioning timescales and comparison to current performance/existing SLAs

A9.131 Table A9.27 below summarises the conclusions that we draw from our market research on the timescales that consumers and SMEs consider reasonable for installation.

Table A9.27: Summary of time considered reasonable for provisioning

	Optimal provisioning timescales - likely to maximise consumer satisfaction (including switching or moving home/premises)	Upper end of acceptable timescales (including switching or moving home/premises)
Consumers	3 to 5 working days	10 working days
SMEs	5 to 6 working days	10 working days

A9.132 Taken at face value, this research indicates that satisfaction with installation service is likely to be maximised if timescales for consumer installations are around three to five working days and SME installations are around five to six working days. There was also a lower stated propensity to consider switching to other suppliers with these timescales. At the other end of the scale, only a small minority of consumers and SMEs considered installation timescales of ten days or more to be acceptable.

A9.133 In considering these results we recognise that what consumers and SMEs consider reasonable may be unrealistic and/or disproportionate for a range of other reasons and that respondents would not necessarily have taken into account all the different factors involved when choosing a number of days for their response. For example, the 10 day period involved as part of the NoT process when switching CP is unlikely to have been a factor in these responses but this process is designed to protect consumers from potential harm and therefore is an important factor which restricts the timescale available for those specific installation scenarios.

A9.134 We also consider it is important to balance these views on installation times against the value which consumers and SMEs place on these timescales. It is clear that speed of installation is not the most important factor in either consumers’ or SMEs’ decision when choosing a CP. SMEs in particular place considerably more weight on responsiveness to faults. When considering the actual installation scenario, both consumers and SMEs place more importance on the installation being carried out successfully on the first appointment. Therefore, it seems likely that they would be

¹¹⁶ Q1A 2013 QoS research “When selecting your CP we would like to know what factors are important to you”.

¹¹⁷ Q1A, 2013 QoS research.

more willing to accept a longer lead time beyond five days provided that that installation can be guaranteed and delays are reduced.

A9.135 In comparing the “reasonable” provisioning timescales set out above to the current situation in terms of the level of SLAs and the actual level of performance, it is important to bear in mind the various factors outlined in paragraphs A9.111 to A9.115 above. In particular, it is not necessarily appropriate to compare the timescales above with the current SLAs, because the SLAs represent the maximum target for installation, rather than the average experience a customer will have when getting a line installed. In addition, as noted earlier, the questions in the market research were specifically about appointed provisioning, however, participants responses may reflect attitudes to how long any type of provisioning should take (i.e. they would not necessarily have taken into account in their responses that where an engineer appointment is required, the installation will require more time than a non-appointed installation). Currently Openreach’s overall transaction lead times for provisioning (for both non-appointed and appointed) are several days lower than the 8 days for appointed only set out in Figure A9.5 above, and therefore are likely to be more closely in line with the consumer and SME expectations set out above. Nevertheless, it is clear that the lead times being experienced in 2012 in relation to provisioning and repair were considerably out of line with both consumer and SME expectations.

Timescales for repair – research results

A9.136 Openreach provides a number of care levels, which offer differing committed timescales to fix faults. The SLA for repairs depends (in the majority of cases) on the care level selected by the particular CP with whom the consumer or SME has contracted. The most commonly used care levels result in an SLA of either next working day plus one day (for WLR) or next working day (for SMPF and MPF). Therefore consumers or SMEs should normally have repairs completed within one or two working days depending on the underlying wholesale access product on which their retail service is based. However, as indicated earlier, in 2012 there was a marked decrease (to as low as 55%) in the number of repairs which were completed within the SLA (see Figure A9.9 above).

A9.137 The discussion below is divided into the following areas:

- ‘reasonable’ and ‘expected’ timescales for repair;
- repair timescales leading to consideration of switching; and
- value placed on repair timescales.

‘Reasonable’ and ‘expected’ timescales for repair

A9.138 The evidence provided by our market research indicates that consumer views on the timescale for repair are in line with that offered by the current SLAs. The Figure below sets out consumer views on both the reasonable timescale for repair, and the timescale they expect:

Table A9.28: Consumer and SME views on repair timescales

		Mean average number of working days	% up to 1 working day	% up to 2 working days	% up to 3 working days
Reasonable	Consumers	2.6	39%	70%	84%
	SMEs	1.6	83%	89%	91%
Expected	Consumers	2.5	47%	70%	82%
	SMEs	1.6	77%	82%	87%

Source: Q5/Q6 2013 QoS research. Base: All consumers (2011) and all businesses (500)

A9.139 As the Table indicates, there was a noticeable difference in timescales indicated by consumers compared to SMEs – in fact on average there was a one day difference between the average reasonable and expected timescales. Most consumers (84%) considered that a repair within three working days was reasonable, whereas the vast majority (80%) of SME respondents considered it reasonable for faults to be repaired within one working day.

A9.140 Separately we also prompted respondents with different repair timescales and asked them how ‘reasonable’ they considered those timescales to be. The results are summarised in the table below.

Table A9.29: Consumer and SME views on repair timescales (prompted)

		1 working day	2 working days	3 working days	5 working days
Consumers	‘Reasonable’ ¹¹⁸	95%	76%	43%	16%
	‘Only just reasonable’	2%	12%	23%	17%
	‘Unreasonable’ ¹¹⁹	3%	11%	34%	68%
SMEs	‘Reasonable’	79%	38%	16%	7%
	‘Only just reasonable’	11%	21%	17%	7%
	‘Unreasonable’	10%	42%	67%	87%

Source: Q7D 2013 QoS research. Base: All consumers (2011) and all businesses (500)

A9.141 These results further emphasise that SMEs consider a one day timescale (or shorter) to be reasonable, whereas a greater proportion of consumers are more

¹¹⁸ For these (and the equivalent SME) results we have combined the ‘very reasonable’ and ‘quite reasonable’ responses.

¹¹⁹ For these (and the equivalent SME) results we have combined the ‘very unreasonable’ and ‘quite unreasonable’ responses.

likely to consider a two day period to be acceptable (76% of consumers considered 2 working days to be reasonable in this instance).

Installation timescales leading to consideration of switching

A9.142 This difference between consumer and SME expectations of fault repair timescales was also evidenced in the responses on consideration of switching. We specifically asked consumers and SMEs what level of fault repair would lead them to consider switching to an alternative supplier – again there was quite a wide range of responses provided but Table A9.30 below provides a summary.

Table A9.30: Level of wait for fault repair likely to trigger consideration of switching

	Mean average number of working days	% up to 2 days	% up to 3 days	% up to 5 days
Consumers	7.1	33%	55%	70%
SMEs	4.3	46%	65%	83%

Source: Q9b 2013 QoS research. Base: All consumers would consider switching if fault repair seemed unreasonable (409) and all businesses would consider switching if fault repair seemed unreasonable (133)

A9.143 As the Table indicates, the mean average number of days which would trigger consideration of switching supplier was significantly lower for SMEs compared to consumers – 4.3 working days for SMEs compared to 7.1 working days for consumers. Nearly half of SME respondents (46%) indicated that even if a repair took up to two working days they would consider switching supplier compared to around a third of consumers (33%). Interestingly those consumers who had previously had an engineer visit to repair a fault indicated slightly more tolerance, with a mean average of 8.6 working days before they would consider switching supplier.¹²⁰

Value placed on installation timescales

A9.144 SMEs also appear to place greater value on their fixed line/broadband connection compared to consumers. For example, as indicated earlier (see paragraphs 9.85) four in five business said they would struggle to function without either their landline or internet and this was primarily because they relied on it for communicating with their customers (for their landline) and for sales (for internet).¹²¹ Therefore any loss in service resulting from a fault is more likely to create difficulties for SMEs, including lost revenues, and as a consequence they expect, and consider it reasonable, for repairs to be carried out more quickly than consumers.

A9.145 The greater weight that SMEs place on reliability and speed of fault repair is also reflected in the factors they consider when selecting their CP. Our research found

¹²⁰ See p.53 of the 2013 QoS research, <http://stakeholders.webstage.intra.ofcom.local/binaries/research/telecoms-research/telecoms-market-data/fault-repair-research.pdf>

¹²¹ 2013 QoS 2013 research, Q8. 62% said they would struggle to function without their landline and 64% would struggle to function without the internet.

that “responsiveness to faults” was rated as the most important factor by SMEs when considering which CP to select, with “performance” ranked as second.¹²² This is notably different from consumer responses to the same question where ‘price’ was by far the most important factor. Consumers do appear, however, to place more weight on a CP’s responsiveness to faults compared to installation times when they are choosing their CP, although it is still less important to consumers than other factors such as price.¹²³ SMEs with the highest spend on their telephony package ranked ‘responsiveness to faults’ even higher on average than other SMEs.¹²⁴

A9.146 In terms of willingness to pay for faster fault repair, despite the increased importance of fault repair, the research did not indicate that SMEs are willing to pay extra for faster appointments. Only 17% of SMEs indicated any willingness to pay extra for an earlier appointment for a fault repair and 63% said they were unwilling to pay anything.¹²⁵ This was actually a lower proportion than that willing to pay for faster installation appointments, despite the greater weight that SMEs place on fault repair. In contrast as indicated earlier, when SMEs were asked more generally about paying extra for a ‘premium service’ which offered a ‘fast-track’ or ‘priority service’ on any installation or fault repair, a much greater proportion (35%) indicated that they would be willing to pay for such a service.¹²⁶ Consumers were also unwilling to pay any extra for quicker fault repair with only 15% of consumers indicating any willingness to pay extra.¹²⁷

Summary of consumer and SME views on repair timescales

A9.147 In summary, the conclusions that we draw from our market research on the timescales that consumers and SMEs consider reasonable for repairs are:

- for consumers a timescale of up to 2 working days is likely to be considered reasonable; and
- for SMEs a timescale of no more than 1 working day is likely to be considered reasonable.

A9.148 The current SLAs for repairs are therefore, unlike the installation timescales, much more clearly in line with the customer’s expectations, particularly for consumers who are more tolerant towards a slightly longer repair time. For SMEs, the current SLA appears broadly in line with expectations.

Other potentially relevant benchmarks

Comparison with other European countries

A9.149 We contacted other European national regulatory authorities (‘NRAs’) in order to find out what SLAs are in place in those countries, how operators are performing

¹²² 2013 QoS 2013 research, Q1A. ‘Responsiveness to faults’ received a score of 29.6 and performance 26.6, compared to 15.07 for price. In contrast, consumer respondents scored price at 30.4 and responsiveness to faults was given 11.66.

¹²³ Q1A, 2013 QoS research.

¹²⁴ See p.30 of the QoS research report.

¹²⁵ Q12ai, QoS 2013 research.

¹²⁶ Q13, QoS 2013 research.

¹²⁷ Q12ai, 2013 QoS research.

against those SLAs, and how they compare to the Openreach SLAs. The Tables A9.31 to A9.33 below show the different SLAs in place for each product in a number of European jurisdictions, and where the data was available, the average performance against that SLA in 2012.

Installation

- A9.150 With regards to SLAs for installation, there are quite a lot of similarities between the countries. As Table A9.31 below demonstrate, SLAs for shared LLU (SMPF) new provide, full LLU (MPF) new provide, and WLR migration are all quite similar with each other; an SLA of seven to eight working days appears to be the average for SMPF and MPF new provides, and five or six working days is a common SLA for WLR migration. MPF migration and WLR new provide is where more variation can be seen, with most SLAs ranging from three to 11 working days and two to eight working days respectively. It is important to note, however, that some countries do take the complexity of the order into consideration, and as such, Italy extends its SLAs for WLR new provide and WLR migration to 45 working days in complex cases, whilst Switzerland's SLA for general installations is up to 90 working days for cases where a physical change is required.
- A9.151 Overall, the majority of installation SLAs range from three working days up to 11 working days. Most operators tend to have provision targets of between five and eight working days, however three or four working days does appear to be a relatively common target in situations where there is a pre-existing access network connection to the property.
- A9.152 Where the information has been provided, it can be seen that only in Austria, France, Portugal and Switzerland was the average time to provide often below or equal to the SLA in those Member States. In cases where the average time to provide was above the SLA, this was often by quite a significant amount.

Table A9.31: Shared/full LLU Installation SLAs¹²⁸

Country	SLA	Average/median time to provide in 2012
Austria	11 days	9.2 days
Cyprus	5 days (shared LLU) 6 days (full LLU)	not provided
France	7 to 8 days depending on whether appointment required	3 days (shared LLU) 3 days (full LLU) without appointment 8.6 days (full LLU) with appointment
Greece	8 days	not provided
Italy	8 days	not provided
Poland	7 days	not provided
Portugal	5 days (migration) 7 days (new provide)	9.2 days in Q4 (new provide)
Romania	3 or 8 days depending on the work required	10 days (Shared LLU new provide) 10 days (Full LLU migration)
Slovenia	8 days	14.24 days (Shared LLU new provide) 18.79 days (full LLU migration)
Switzerland	4 days for 95% of cases (no physical change) 90 days for 95% cases (physical change required)	4 days in 95% of cases (no physical change) 54 days in 95% of cases (physical change required)
Turkey	3 to 4 days	not provided
UK ¹²⁹	13 days (moving to 12 by November 2013) for installation appointment availability	MPF: appointed - 15.0 working days (mean), non-appointed – 11.7 working days (mean) SMPF: 9.0 working days (mean)

¹²⁸ Results are stated in working days/hours unless indicated otherwise.¹²⁹ Based on s.135 data provided by Openreach.

Table A9.32: WLR Installation SLAs¹³⁰

Country	SLA	Average/median time to provide in 2012
Cyprus	6 days (migration) 8 days (new provide)	not provided
France	7 days without appointment (new provide) 8 days with appointment (new provide) 6 weeks (WLR migration)	3 days without appointment 10 days with appointment
Greece	5 to 10 days depending on whether the end user is the incumbent's subscriber or not	not provided
Italy	6 to 8 days for a standard line, then up to 45 days for more complex orders	not provided
Poland	7 days	not provided
Portugal	5 days	0.8 days in Q4 (migration)
Romania	3 days	not provided
Switzerland	4 days for 95% of cases (no physical change) 90 days for 95% cases (physical change required)	4 days in 95% of cases (no physical change) 54 days in 95% of cases (physical change required)
Turkey	2 to 4 days (new provide) 5 days (migration)	not provided
UK	13 days (moving to 12 by November 2013) for installation appointment availability	Appointed - 17.6 working days (mean), Non-appointed – 9.6 working days (mean)

Repairs

A9.153 A greater level of variation can be seen across the countries with regards to the SLAs they have in place for repairs. All three products have differing SLAs by country, with some stating that repairs must be carried out within one day, others giving up to five days, and Switzerland giving the longest SLA period of 168 hours (seven days). Both Romania and Switzerland specifically attach performance targets to their SLAs, i.e. a requirement for the target to be met in 95% of cases.

A9.154 Taking into consideration the different metrics that have been used for repair SLAs (working hours and days), it would appear that the average SLA is around two to three working days. This is similar to Openreach's current repair SLAs: WLR repairs should be completed within the next working day plus one day (for care level 1),

¹³⁰ Results are stated in working days/hours unless indicated otherwise.

and LLU repairs (care level 2) should be completed within the next working day (including Saturdays).

A9.155 Five countries were able to provide information of the average time to repair for certain products. On average, Cyprus, Switzerland and Turkey's operators were able to repair faults within the target SLA, whereas Romania and Slovenia's were not.

Table A9.33: Repair SLAs¹³¹

Country	SLA		Average/median time to provide in 2012
	LLU	WLR	
Austria	24 hours	not provided	not provided
Cyprus	2 days	3 days	1.71 days (Full LLU line)
France	2 days	2 days	not provided
Greece	1 day	3 days	not provided
Italy	2 days in 95% of cases or 12 hours (premium service)	Consumers: 3 hours after second day Business: 1 hour after first day in 95% of cases or 12 hours (premium service)	not provided
Poland	24 hours	26 hours	not provided
Portugal	8 hours on average	48 consecutive hours	not provided
Romania	19 hours	not provided	37 hours (Full LLU line)
Slovenia	3-5 days	not provided	74 hours (Full LLU line)
Switzerland	168 hours for 95% of cases (General line repair)		96.11%
Turkey	18 hours	48 hours	not provided
UK	SLA dependent on care level selected by CP. Most used care level is for repair within next working day.	SLA dependent on care level selected by CP. Most used care level is for repair within next working day + 1.	28 hours (for WLR and LLU services combined)

¹³¹ Results are stated in working hours/days.

Other international comparisons

- A9.156 We have also looked into the types of SLAs in place outside of Europe, in particular those in Australia and New Zealand. Whilst Australia does not have any SLAs in place between the incumbent provider and other CPs, it does have SLAs for end customers, known as customer service guarantees. These are similar to the types of SLAs in place across Europe, ranging between two and 15 working days for installation (depending on whether there is already a connection in place and on the location of the premises) and one and three working days for repairs (depending on the location of the premises).¹³² In situations where the service provider does not reach these agreements, the customer is entitled to compensation.
- A9.157 In New Zealand, there are SLAs in place between the incumbent and the CPs with the provision of its unbundled copper local loop ('UCLL') services, where the incumbent is required to be expected to be completed within five consecutive working days in 90% of cases.¹³³ Repair SLAs, on the other hand, are less specific, although the incumbent is required to notify the expected time for repair to the access operator within six working hours and is required to meet the repair time they have notified within 90% of cases.

Other related services

- A9.158 We have also looked at other installation targets for other communication services and other industries. However, we consider that the comparisons that can be drawn between these services are limited, given that the nature of the installation can be very different to that required for LLU and WLR products. Nevertheless, they provide an illustration of the type of targets that can be in place, as well as illustrating the type of timescales end-users may have experienced when using other services (and these experiences may influence their expectations in relation to Openreach services).

SLAs in other industries

- A9.159 In terms of other industries we have found limited comparable benchmarks. Ofgem publishes a list of standards for electricity and gas distribution networks which it monitors and enforces.¹³⁴ These include SLAs such as a requirement for electricity supply to be restored within 18 hours if there is an interruption to supply under normal conditions, and within 48 hours when there are severe weather conditions, keeping to timed appointments, as well as a requirement to provide two days notice for a planned interruption of an electricity supply and five working days for gas supply. If the networks do not meet these conditions they are required to pay penalties to the customer.
- A9.160 Ofwat also sets out guaranteed service standards for water supply companies and where the suppliers do not meet these service levels they are required to pay compensation to their customers.¹³⁵ These standards include making and keeping

¹³² http://www.acma.gov.au/WEB/STANDARD/pc=PC_1712

¹³³ <http://www.comcom.govt.nz/assets/Telecommunications/STD/UCLL/Final/Final-UCLL-Standard-Terms-Determination-Service-Level-Terms.pdf>

¹³⁴ <http://www.ofgem.gov.uk/Networks/ElecDist/QualofServ/GuarStandds/Pages/GuarStandds.aspx> and <http://www.ofgem.gov.uk/Networks/GasDistr/QoS/Pages/QoS.aspx>

¹³⁵ <http://www.ofwat.gov.uk/consumerissues/rightsresponsibilities/standards/>

appointments, notification of any interruption to supply at least 48 hours in advance, restoring service within 48 hours if it is due to a leak or burst pipe.

A9.161 The most meaningful comparison between these types of service and the service offered by Openreach is possibly around timescales for restoring service (where a comparison could be drawn to timescales for repair) and the timescales here are therefore similar to consumer's expectations of repair timescales, i.e. one to two days. However, as mentioned above the value of this comparison is limited given the different types of infrastructure involved.

Historical Oftel Comparable performance indicators

A9.162 Oftel previously published a set of comparable performance indicators for telecoms services during the 1990s and early 2000's. This included information on service provision and fault repairs for BT and the cable companies operating at that time. The aim of this information was to allow consumers to compare the performance of different telephone companies.

A9.163 The Table below gives a snapshot of the service BT was providing at that time in relation to service provision and fault repairs for both residential and business consumers as well as a comparison with the service provided by Kingston (now known as KCom).

Table A9.34: Oftel comparable performance indicator data 1996

		Service provision - % of orders completed by date committed to the customer	Fault repair target	% of faults repaired in target time
BT	Residential	98%	9 working hours	92%*
	Business	98%	5 working hours	89%*
Kingston	Residential	99%	End of next working day	99%
	Business	98%	End of next working day	98%

Source: Oftel Comparable Performance indicator data January-June 1996 – Q4

*these BT results only include those cases where no appointment was made.

A9.164 This information does not indicate the specific targets for installation given that it only refers to the "date committed to the customer". However, in relation to fault repairs it is notable that the BT targets for fault repair were significantly lower than current targets, with a fault repair service offering of five working hours for business customers (albeit the data does not indicate whether BT was meeting this target for appointed repairs).

Other Openreach services

A9.165 As discussed in Section 10, SLAs / SLGs applying to GEA are similar to those applying to WLR and LLU. The one exception is that there is no SLA/SLG for appointed lead times for GEA – see Section 10 where we discuss GEA (paragraphs 10.162 to 10.163).

Table A9.35: Provision for GEA

SLA	SLG
For provision orders completion of work by midnight on CCD	£8 per day (or part thereof) for each line late versus SLA. Capped at 60 days per line
For orders requiring an end user engineering visit, requirement for engineer to arrive during the appointment period (AM/PM)	£40 per missed appointment
Disconnection in error	<p>If Openreach is notified in writing within 6 working days of disconnection in error 1 month rental per day (or part thereof) from time of disconnection to service restoration. Capped at 60 days per line</p> <p>If Openreach is not notified in writing within 6 working days then SLG applies from date Openreach receives notification</p>

Table A9.36: Repair for GEA

SLA	SLG
Completion of repair work within contractual the timescales set out in the relevant service maintenance level the CP has specified for the service	1 month line rental per day (or part thereof) for each line late versus the SLA. Capped at 60 days per line

A9.166 Openreach also have SLAs in place for a range of other connectivity services, which provide a further benchmark.¹³⁶ For example, Openreach's Ethernet products have a repair SLA of five hours from receipt of a fault. SLGs are payable for each hour of delay in repairing the fault: 15% of the monthly line rental per hour (or part thereof) for each circuit delivered late versus the SLA. Openreach's SLG exposure is capped at 200 hours.

A9.167 There is no equivalent SLA for appointment lead times in Ethernet as there is more variability in the types of installations required (e.g. there is typically a need for a survey to identify how much work would be required to install a new service and there may then be a need to extend fibre to a customer which requires construction work). As is the case for LLU and WLR there is an SLA for completion of work

¹³⁶ See: Openreach Connectivity Services at http://www.openreach.co.uk/orpg/home/products/ethernet/services/contracts/contracts/notification_connectivity_services_schedule4_issue9.pdf.

against CDD but lead times are typically over 30 working days due to the fact that these are more complex installations than standard services such as WLR and LLU.

- A9.168 Whilst the repair SLA for Ethernet is superior to the standard care levels for WLR and LLU, it is worth noting that Ethernet products are priced at a significant premium and typically support a variety of business critical downstream applications such as banking transaction systems and datacentre applications hosting e-commerce and other clients for whom outage tolerance is very low and hence willingness to pay a premium is higher. We note also that CPs can purchase higher care level packages for WLR and LLU (for example Care Level 4 has an SLA of 6 hour repair, 365 days a year).
- A9.169 Where Openreach does not meet these SLAs it will pay compensation to CPs. For example if the target installation date is 1 to 5 days late it will pay out 5% of the total connection charge whereas if the delay is more than 20 days it will pay 20% of the connection charge.
- A9.170 In conclusion, we do not consider Ethernet to be a relevant benchmark. GEA is a more relevant benchmark as it is a product targeted for the mass market although we note that with the exception of appointed lead times, SLAs / SLGs for GEA are broadly similar to WLR/LLU.

Summary of assessment of what constitutes a reasonable service

- A9.171 Taking the above analysis together, we consider that a number of conclusions can be drawn about what consumers and SMEs consider constitutes reasonable quality of service.
- A9.172 Specifically, in relation to provisioning timescales it seems that, absent a price benchmark (i.e. how much more expensive shorter provisioning timescales might be) both consumers and SMEs were of the view that a period of five days would be reasonable. As explained in paragraphs A9.133 to A9.135 above, this five day period would relate to the average experience for end-users, there will always be some provisioning which necessarily takes longer and in the case of switching scenarios the extra time needed for consumer protection measures has also to be taken into account. It is interesting, nevertheless, that a five day period is in line with some of the more challenging SLAs set in other countries, albeit a slightly longer 7-8 day period is also quite common.
- A9.173 As already noted, the expectations and preferences for shorter installation timescales have to be balanced against the value that consumers and SMEs place on provisioning timescales compared to other factors involved with either moving home/premises or switching supplier and the fact that there appears to be little willingness to pay extra for faster provisioning times. In particular, consumers and SMEs appear to place more importance on provisioning work being completed in a single visit compared to how soon the appointment for provisioning is – the frequency with which this is achieved could also therefore form an important factor in the overall quality of service provided. In contrast to some of the views expressed by stakeholders in response to the FAMR Call for Inputs, the availability of an appointment slots seems less important, particularly for SMEs and therefore this does not appear to be a driving factor in considering what constitutes a reasonable level of service albeit we recognise it may remain important for some consumers.

- A9.174 However, it is nonetheless clear that where provisioning times go beyond 10 days there is a significant drop in the number of consumers and SMEs that consider the timescale to be reasonable. Therefore, where provisioning times have been significantly above this (for example during the second half of 2012), end-user expectations were likely to be met and, by this measure, the level of service being provided was not meeting end-user needs. We discuss this further in Section 10.
- A9.175 In relation to repair, there is a distinction between what is considered to be reasonable for consumers compared to SMEs. Consumers are slightly more tolerant of longer repair times and therefore the evidence indicates that a timescale of two days is reasonable. This is also consistent with consumers' likely experience with repair timescales for other industries, for example gas and electricity repair timescales, although we recognise that these benchmarks are of limited assistance in our assessment. In addition, the current SLAs appear largely consistent with those operating in other countries as well. This further supports the view that the current repair SLAs for consumers are set at the appropriate level, provided that they are met consistently.
- A9.176 For SMEs, responsiveness to repair is the most important factor in selecting their CP and they therefore expect more immediate response to a fault, with a one day timescale being the maximum considered to be reasonable. The fact that BT has in the past operated to targets which were a matter of hours rather than days may have been a function of that demand, and expectation, of SMEs in relation to repair timescales

Annex 10

Quality of service: Analysis of recent Openreach performance

Introduction

- A10.1 In Annex 9 we set out our analysis of Openreach's recent installation order and fault repair performance. In this annex, we set out our analysis and conclusions on the reasons for the recent service performance problems.
- A10.2 We first summarise the FAMR Call for Inputs responses relating to the potential causes of the service problems and then summarise our own analysis.

FAMR Call for Inputs responses relating to the quality of service problems

- A10.3 Most of the respondents to the FAMR Call for Inputs commented on the reasons for the QoS problems.

Openreach

- A10.4 Openreach said that the recent QoS problems had been driven by the extreme weather in 2012. It emphasised that the weather had been wholly exceptional. In 2012 England and Wales had the wettest April and June since records began in 1766 and rainfall in the autumn and December remained well above average. In 2012 rainfall had been above average across a large part of England and Wales and many locations in the south-west and north-east had rainfall over 135% of the average of the last 30 years.
- A10.5 Openreach said that at the beginning of April 2012, before the bad weather started, it had a repair work stack consistently below 16,000 faults¹³⁷, a very low level that allowed provisions to be completed with short lead times of 4 to 6 days. Although bad weather in April nearly doubled the overall work stack it was able to recover to near normal by the end of May. Further bad weather from June onwards maintained fault volumes throughout the summer and autumn at levels previously only encountered as occasional spikes during periods of severe winter weather. In all, Openreach received 200,000 more faults than expected in the summer period and autumn (equating to between [X] and [X] additional engineer working days) making it impossible to recover quickly.
- A10.6 Openreach also noted that storm damage to overhead networks and water damage to underground networks is more complex to repair than normal faults, requiring specialist staff and typically taking twice as long as normal faults. Underground fault levels peaked at 25% of faults compared with 15% normally and stayed high for months because underground water levels remained high.

¹³⁷ The repair work stack is the number of repair jobs outstanding at any given time.

- A10.7 Openreach said that it had responded to the bad weather by prioritising fault repair over provision (with industry agreement) and also by expanding its engineering capacity by about 20% from circa 120,000 provision and repair completions per week in December 2011 to circa 145,000 completions per week by December 2012. This had been achieved by overtime, productivity improvements and by deploying additional resources (both full time and contractor), [§]. In the preceding three years to December 2011 it had also increased its capacity from [§] to [§] provision and repair completions per week. It had also made a number of productivity improvements such as its R15k programme¹³⁸, which was estimated to have delivered in excess of 600,000 fault visit savings in 2012/13.
- A10.8 Openreach also noted that in addition to poor weather, other factors are driving up demand on its engineering resources. These are:
- The growth of MPF, which is offered at care level 2 and therefore has a significantly more demanding repair target than WLR which is offered at care level 1 as standard (repair by end of next working day rather than end of next working day + 1). Between April 2010 and January 2013, volumes had risen from 3 million to 6.5 million placing a considerable additional demand on Openreach and also reducing its flexibility to cope with demand fluctuations. With volumes forecast to reach 10 million by March 2017 this pressure would continue to increase.
 - Broadband premium – consumer expectations of broadband services are higher than for telephony services, for example in relation to outages and speed variations, leading to higher incidence of fault reports.
- A10.9 Openreach also said that it would be better able to manage performance if the largest CPs could provide accurate regional demand forecasts. It suggested that as a minimum, CPs should work with Openreach to provide medium term demand for the size of their installed base (split by product) and short term forecasts if they are planning activities likely to cause a demand spike (such as marketing activity). It cited the Copper Appointment Availability SLA/SLG as a positive template. With this scheme, the largest CPs agreed to provide accurate demand forecasts in exchange for enhanced SLA/SLGs.

Other respondents

- A10.10 Sky, [§] and BT Retail acknowledged that exceptional rainfall had been the immediate cause of poor QoS in 2012. Openreach had struggled to cope with exceptional fault volumes and provision performance had also suffered because Openreach had prioritised repair activities.
- A10.11 TalkTalk and FCS considered that the QoS problems were caused by workforce reductions in previous years. FCS argued that the experience and skills lost had proved difficult to replace when needed. It also considered that the problems had been compounded by poor jeopardy management and escalation procedures. TalkTalk argued that Openreach should have been able to cope with the additional volumes in 2012 (which it estimated at about 20%) through efficient resource management but had found itself unable to cope due to workforce reductions in the preceding 2-3 years. TalkTalk also noted that when lead times for copper services

¹³⁸ An improvement programme to reduce repeat faults by 15,000 per week by end of 2012/13.

were at 20-25 days, Openreach had focused its resources on GEA provision for which lead times were kept at 5-10 days.

A10.12 Vodafone considered that Openreach had failed to invest in quality systems and processes to deliver good QoS and KCOM considered there were serious problems with Openreach's service delivery organisation and processes.

A10.13 BT Retail considered that recruitment of new and inexperienced permanent and temporary staff had led to further problems such as more 'dead on arrival' orders, missed appointments and long lead times for re-appointments.

A10.14 Several respondents argued that the recent QoS problems were a symptom of a more deep-seated problem. One respondent ([36]) described Openreach performance [37]. Vodafone noted that Openreach had suffered two separate service crises in recent years and Sky noted that Openreach had failed to meet its performance targets since it was created.

A10.15 Respondents considered that the current arrangements do not give Openreach sufficient incentives to offer good QoS. A number of related points were made:

- some services have no SLA/SLGs so Openreach is not incentivised to maintain QoS;
- SLG payments are not large enough to incentivise good performance, so poor service is a profit maximising strategy;
- the MBORC process further reduces Openreach's incentives to take preventative measures to maintain QoS; and
- the charge controls give Openreach an incentive to cut costs at the expense of QoS in order to maximise profits. Conversely, service improvement incentives such as hiring more staff cannot be recovered, nor can longer term investments.

Our approach to the analysis

A10.16 In this section we describe our approach to the analysis. In the light of the issues raised by stakeholders, we sought to understand the reasons for the levels of service observed.

We have focused our analysis on activities involving a field engineering activity as these appear to be the main problem

A10.17 Although some of the activities that Openreach undertakes are automated, most faults and a significant proportion of orders require an engineering activity in the access network, at customer premises or in an exchange.¹³⁹ Openreach therefore employs a large engineering workforce across Great Britain.

A10.18 It is clear from the analysis presented in Annex 9 that the primary focus of the service problems are the activities that require field engineering activities such as a

¹³⁹ For example, installation of a new line might require an exchange jumpering activity, jumpering at a cabinet (PCP) and a visit to the customer's premises to install a drop-wire, lead-in and Network Terminating Equipment (NTE).

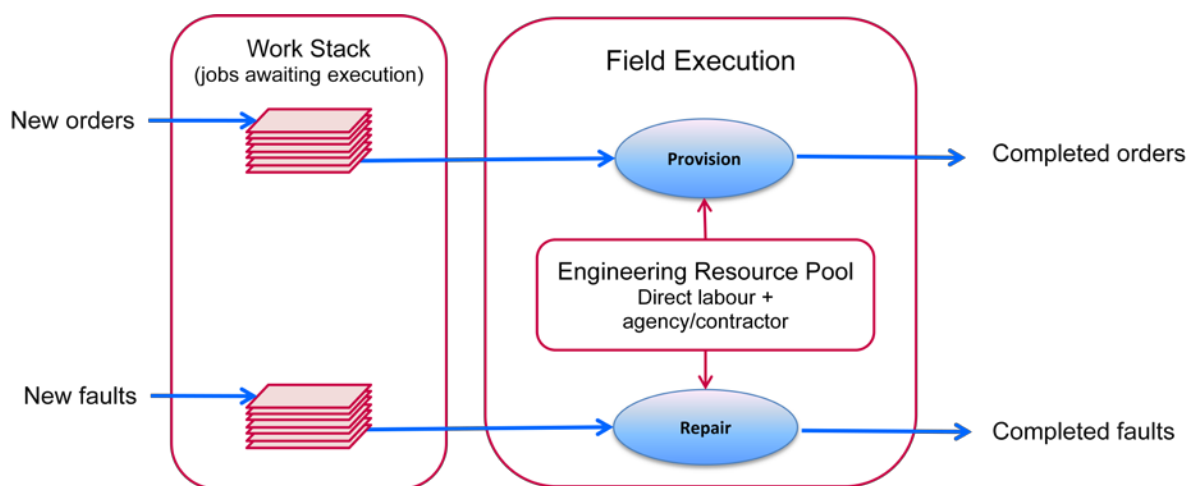
site visit for an installation or repair rather than those that require only exchange activity. We have therefore focused our analysis on these activities.

We obtained information from Openreach to enable us to examine key aspects of Openreach's operational processes

A10.19 The primary determinant of the process performance of field service operations of organisations such as Openreach is the balance between the volume of work to be undertaken and the resources available to undertake it. If work volumes exceed the capacity of the engineering resources available then performance will inevitably suffer. For example faults may not all be repaired within the target time or provisioning lead times may be extended.

A10.20 Figure A10.1 shows a simplified process model for Openreach.

Figure A10.1: Simplified process model for Openreach



Source: Ofcom

A10.21 A particular feature of such processes is that after a period of excess demand, performance will not be fully restored until the backlog of work in the work stack has been cleared. Whilst the backlog exists all incoming work will spend longer than normal in the work stack waiting for field resources to become available. This means that even a relatively short period of excess demand can have a more persistent impact on service delivery lead times.

A10.22 If demand falls below capacity, a backlog may be cleared with existing resources, otherwise a temporary increase in resource capacity is necessary.

A10.23 As noted above, Openreach's position is that the service problems in the second half of 2012 were caused by exceptional fault volumes as a result of bad weather, which had an impact on provisioning because of the pooled engineering workforce, whereas some other respondents consider that the primary cause was insufficient resources due to reductions in Openreach's workforce.

A10.24 We have therefore focused our analysis on order, fault and resourcing trends in order to seek to understand the reasons for the recent service problems. We have also examined potential underlying drivers of demand cited by respondents such as weather patterns and broadband usage.

A10.25 We obtained information from Openreach using our formal information gathering powers that would allow us to examine each of the key process variables discussed above. In particular, we obtained a time series for each of the following:

- volume of new faults and orders received each month – this enabled us to examine the underlying demand for Openreach’s provision and repair services;
- volume of faults and orders completed each month – this enabled us to examine Openreach’s throughput and trends affecting the volume and mix of orders and faults processed;
- engineering resource data by activity (e.g. man hours by order types and by field repair activity) – this enabled us to examine the resources deployed by Openreach and also efficiency trends; and
- preventative maintenance activity – this enabled us to examine trends in preventative maintenance activity.

A10.26 We sought information from Openreach for the period April 2008 to December 2012 to allow us to examine trends since the 2008 SLG Review¹⁴⁰ and to allow us to compare installation/repair volumes and resources in 2012 with previous years. Openreach was able to provide order volume and resource data for this period but was not able to provide fault volume data prior to April 2009.

A10.27 Some of the Openreach performance data we obtained was previously supplied to the OTA which, compared to the data prepared specifically for us, has less granular product content, contains consideration of repeat faults and early life failures and covers a longer time period typically 2009-2012 with slightly different reporting periods. Consequently we have restricted use of the OTA data to analysing trends rather than mixing it with other data to derive relationships.

A10.28 We also obtained financial information from Openreach (again using our formal information gathering powers) about costs and profitability in view of the concerns that Openreach had degraded performance in order to increase or maintain profitability.

A10.29 We also obtained detailed information on weather patterns and water tables from the Met Office and the Environment Agency.

A10.30 In the following sub-sections we describe the findings of our analysis of the information supplied by Openreach as listed above. In the analysis below we include WLR (PSTN), SMPF, MPF and GEA. ISDN2 and ISDN30 are excluded.

Openreach’s throughput

A10.31 We first review Openreach’s throughput i.e. the volume of activities completed.

Volume of installation orders completed

A10.32 Figure A10.2 below shows the volume of provision orders completed each month by Openreach. This shows that whilst there is volatility in the volume of orders

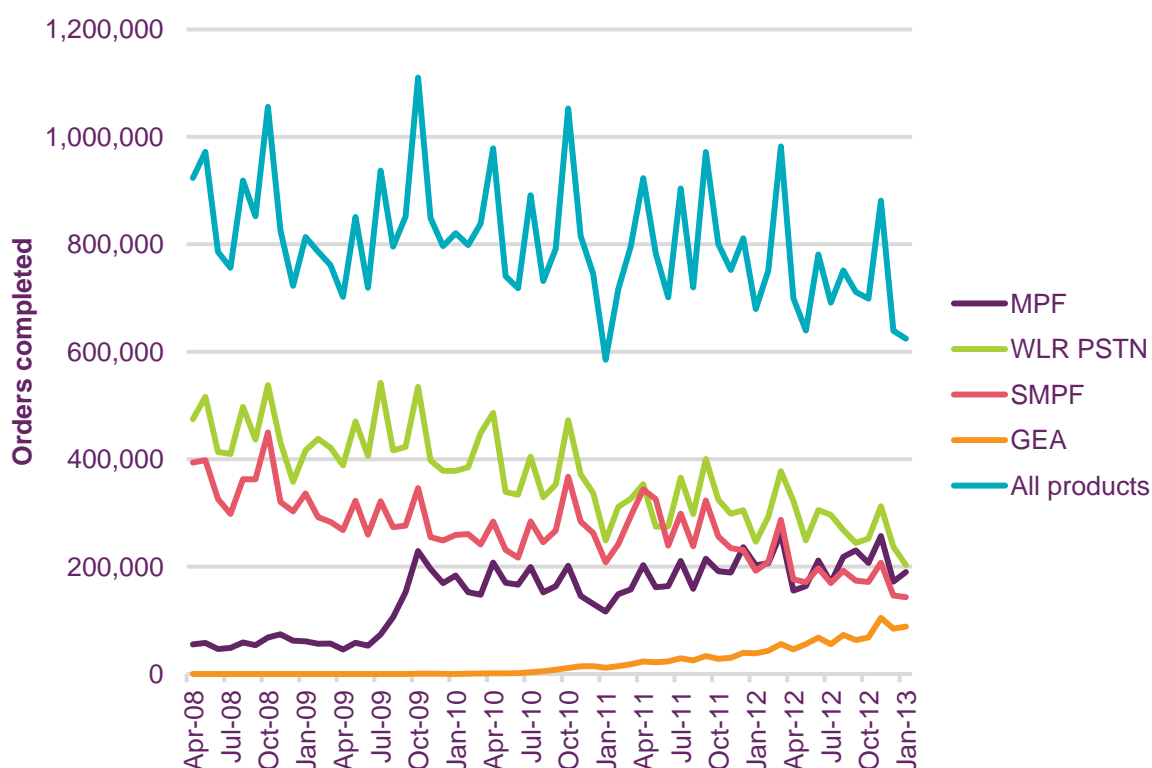
¹⁴⁰ Ofcom, *Service level guarantees: Consultation*, 2008, <http://stakeholders.ofcom.org.uk/consultations/slg/?a=0>

completed from month to month, overall there has been a steady decline in the volume of orders that Openreach completes each month over the last 5 years. Order volumes have fallen by 17% from a peak of 2.7 million in Quarter 1 2007/8 to 2.2 million in Quarter 3 2012/13.

A10.33 Although volumes in the second half of 2012 are likely to have been reduced by the diversion of resources to repair activities, this downward trend appears to have been driven mainly by the transition of major CPs from WLR PSTN & SMPF to MPF. MPF volumes have increased to about 200k per month during this period and WLR PSTN and SMPF volumes have each fallen by a roughly corresponding amount.

A10.34 The other notable trend in figure A10.2 is that GEA volumes have increased to about 85k per month or about 14% of orders.

Figure A10.2: Order completed volumes by product



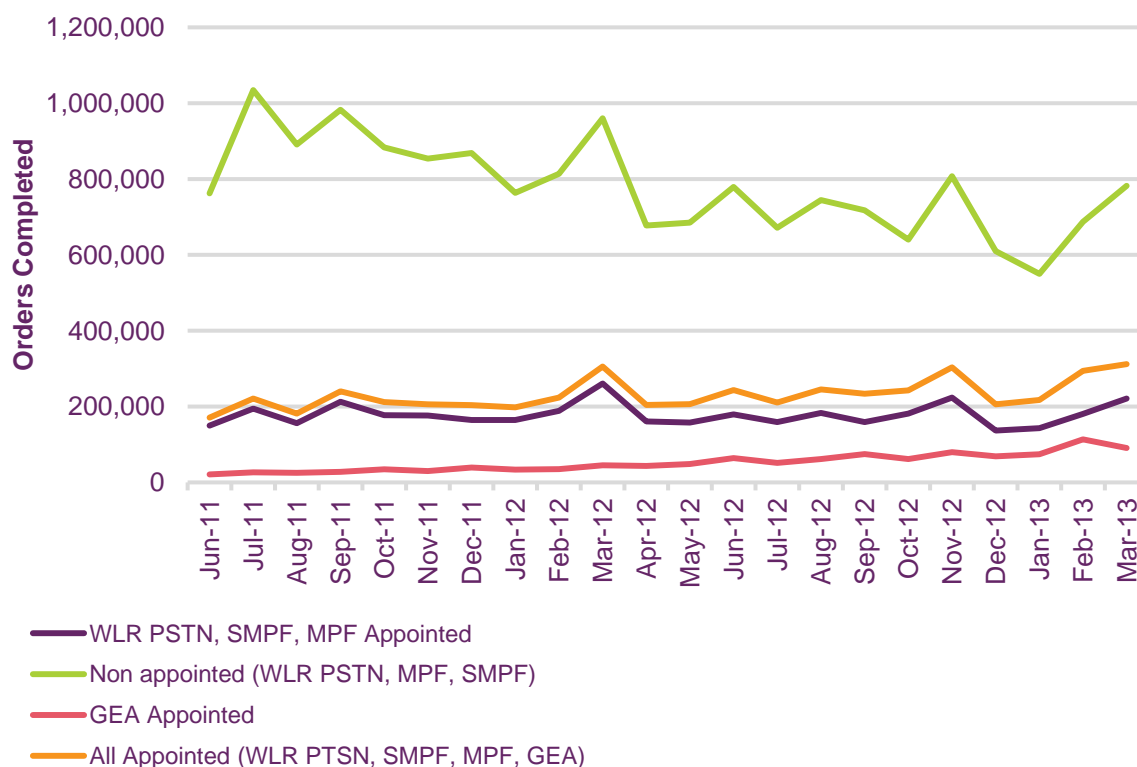
Source: Ofcom analysis of Openreach data

A10.35 Figure A10.3 shows the volume of appointed orders and non appointed orders completed from February 2011 to December 2012. It shows:

- Strong growth of about 80% in the volume of appointed orders driven by the increase in the volume of GEA orders. Appointments for copper products (WLR PSTN, SMPF and MPF) by comparison are approximately stable.
- A steady decline in the volume of non-appointed orders.

A10.36 The increase in the volume of appointed orders is significant because appointed orders require a field engineering activity (i.e. a customer site visit) rather than just exchange activities. This trend therefore indicates an increase in the workload on Openreach's field engineering resources.

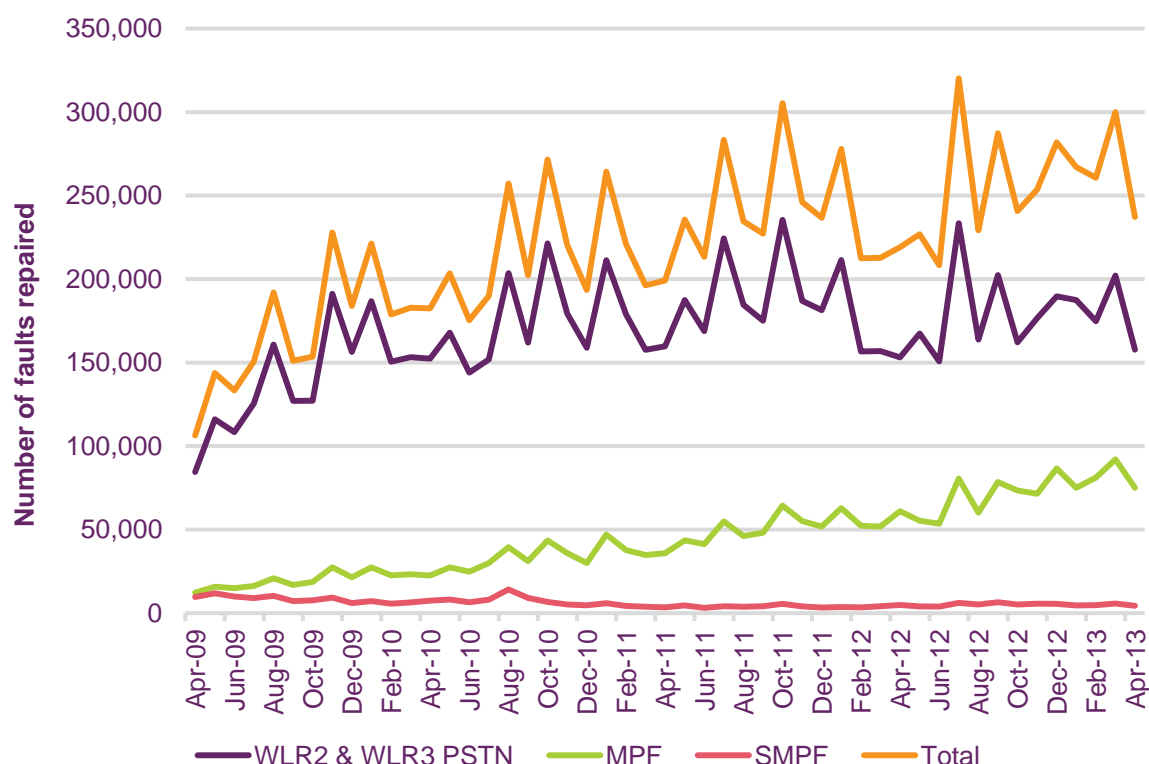
Figure A10.3: Volume of appointed and non-appointed WLR PSTN, SMPF, MPF and GEA orders completed



Source: Ofcom analysis of Openreach data

Volume of fault repairs completed

A10.37 Figure A10.4 shows the volumes of faults completed by Openreach each month between April 2009 and April 2013. This shows the volume has approximately doubled over the period predominantly due to (i) a continuous steady increase in MPF fault repairs and (ii) an increase in WLR PSTN repairs in the first third of the period. SMPF volumes reduced very slightly throughout the period.

Figure A10.4: Volume of fault repairs completed

Source: Ofcom analysis of data supplied by Openreach to the OTA

A10.38 Figure A10.5 below shows the volume of faults completed by Openreach in each of the last 4 years. This shows that Openreach completed about 107,000 or about 4% more faults in 2012 than in 2011.¹⁴¹

Figure A10.5: Volume of faults completed

Year (millions)	WLR PSTN	SMPF	MPF	GEA	Total
2009 ¹⁴²	1.6	0.1	0.2		1.9
2010	2.0	0.09	0.4		2.5
2011	2.3	0.05	0.6	0.1	2.9
2012	2.1	0.06	0.8	0.1	3.0

Source: Ofcom analysis of data supplied by Openreach to the OTA

A10.39 Figure A10.6 below shows that from February 2011 to March 2013 the proportion of faults with Care Level 2 and above rose from 39% to 44% of faults. This change was driven mainly by the growth in the installed base of MPF services, which are

¹⁴¹ This does not mean that there were only 4% more faults in 2012 – Openreach built up a backlog of uncompleted faults over that year.

¹⁴² Jan 2009 to March 2009 pro-rated.

offered with Care Level 2 as standard and the decline in WLR PSTN volumes, which are offered at Care Level 1 as standard.

A10.40 This trend is potentially significant because Care Level 2 services have a more demanding repair target than Care Level 1 services.¹⁴³ This limits Openreach's flexibility in the deployment of its field resources and consequently Openreach may require more resources to complete a comparable volume of faults.

Figure A10.6: Proportion of WLR PSTN, MPF, SMPF and GEA faults at Care Level 2 and above



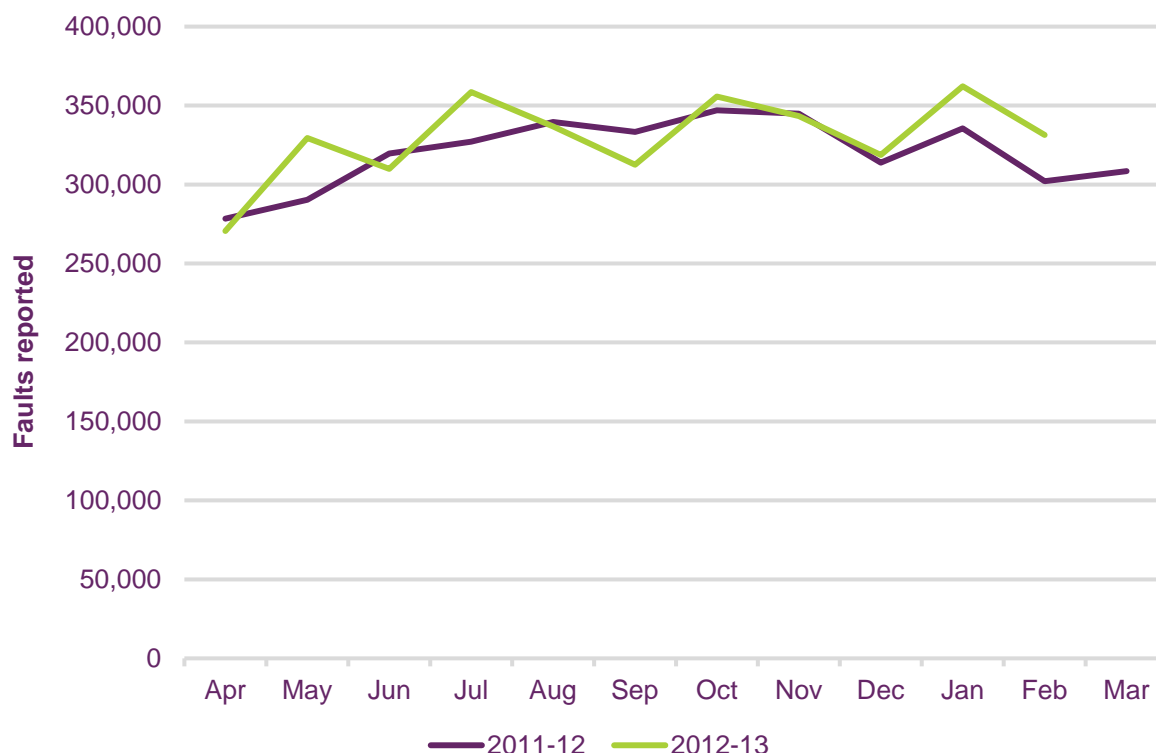
Source: Ofcom analysis of Openreach data

Demand for Openreach services

New fault report volumes

A10.41 Figure A10.7 below, which shows the volume of new faults reported to Openreach each month from April 2011 to April 2013, gives a more direct view of the repair demand faced by Openreach and the difference between the years commencing April 2011 and April 2012.

¹⁴³ The target for repair of Care Level 2 services is the end of the next working day. The target for Care Level 1 services is the end of the next working day + 1 day.

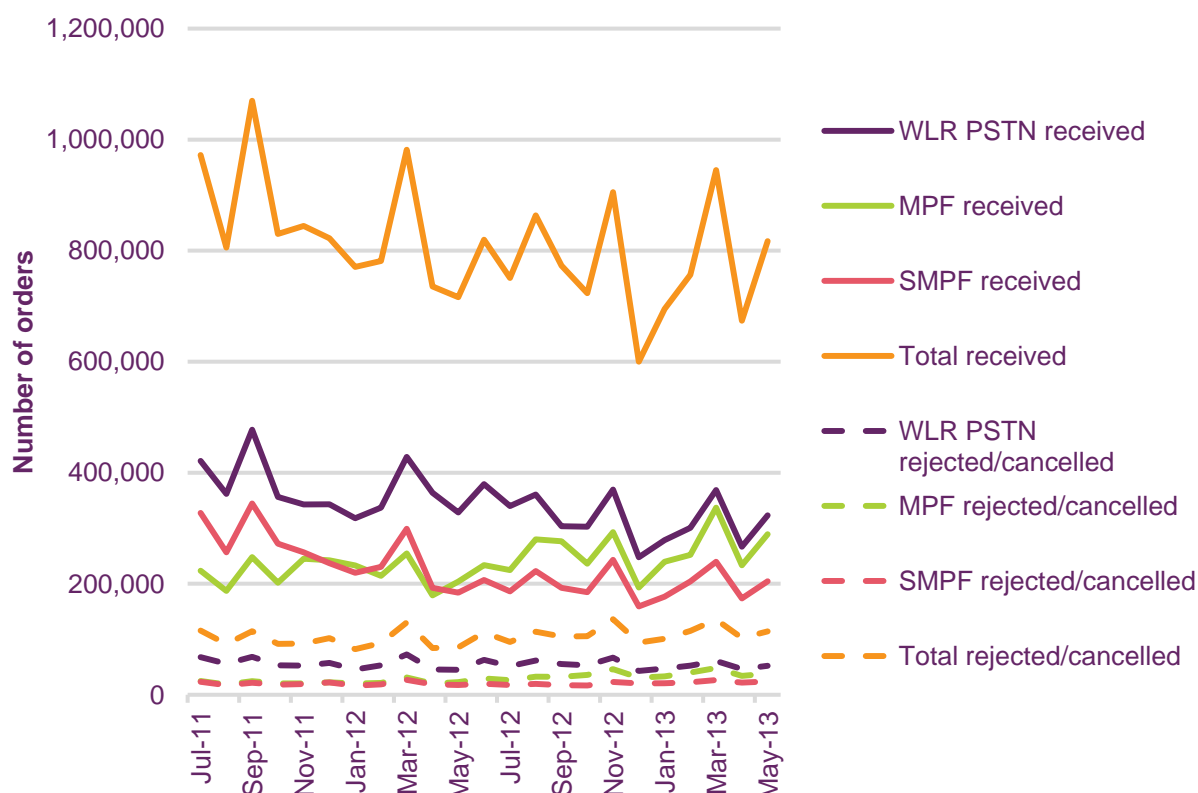
Figure A10.7: Volume of new faults reported to Openreach

Source: Ofcom analysis of Openreach fault report data

A10.42 Figure A10.7 shows that during this period fault reports were generally in the range of 300,000 to 350,000 per month with a peak variation between 270,000 to 360,000 per month. Perhaps the most notable aspect is that whilst peak volumes in 2012-13 are higher, in other respects the fault report patterns for 2011-12 and 2012-13 appear somewhat similar. This suggests that in terms of the overall volume of fault reports, 2012-13 was similar to 2011-12, with approximately 3% more faults reported for the period April 2012 to February 2013 compared with the same period in 2011-12. Pro-rata this is equivalent to about ten days additional repair work.

New order volumes

A10.43 Figure A10.8 below shows the volume of orders received by Openreach each month from April 2011 to February 2013.

Figure A10.8: Volume of orders received by Openreach¹⁴⁴

Source: Ofcom analysis of Openreach order data

A10.44 Figure A10.8 shows that the overall volume of new orders received by Openreach each month decreased by about 15% from July 2011 to April 2013 due to a fall in order volumes in WLR PSTN and SMPF products. Only the MPF product exhibits a rise in order volumes. Rejected and cancelled order volumes are reasonably constant throughout the period. Total order volumes also exhibited increased volatility towards the end of the period potentially leading to periods of high demand on the Openreach engineering workforce and the increased possibility of periods of delays in order completion.

Openreach's resourcing

A10.45 We have reviewed Openreach resource trends from information given within BT's annual report and accounts and from staffing and engineering data obtained under our formal powers. The data shows a slight decline in total Openreach resource (FTE), which is mirrored by the number of Openreach engineers. However the decline implicit within the top level data does not appear to be sufficient to explain the decline in performance. However it should be noted that the data provided excludes agency staff which from BT's Annual Report we see has declined significantly over the past few years. Further an analysis of top level resource could be misleading as it does not indicate how the resources are deployed.

A10.46 There is some evidence that resource levels engaged in WLR and LLU may have declined as a result of Openreach prioritising other areas of work. A top level review of Openreach provision and maintenance costs allocated to WLR and LLU

¹⁴⁴ The volume of orders is before rejected and cancelled orders are subtracted.

(from BT's regulatory accounts) shows a decline in costs of around 10% per annum for the period 2007/8 to 2011/12 despite relatively flat volumes in aggregate (LLU plus WLR rentals). Total Openreach provision and maintenance costs declined over the same period by 2%.

- A10.47 Resources deployed on LLU and WLR may well be impacted by the continuation of Openreach's roll out of its fibre network and in growth in other areas such as ethernet. In BT's 2012 Annual Report and Accounts, BT stated "*We recruited around 1,600 engineers into the group to help accelerate our fibre broadband rollout*". Further in BT's 2011 Annual Report and Accounts, BT explained the increase in the repair work stack as being a result of "*increased provision volumes coupled with very poor winter weather conditions and a 134% increase in faults relating to cable theft and vandalism*".
- A10.48 In conclusion, the evidence is not conclusive as to whether Openreach has cut its resource for access services. However, there appears to have been an increase in the activities Openreach has had to resource in part due to increased demand in the copper area but also in other areas such as ethernet and fibre. The increased demand and potential prioritisation of the non copper network appear to be likely contributory factors to the recent decline in QoS in LLU and WLR.

Effective field engineering resources

- A10.49 In order to get a more detailed view of resourcing trends we asked Openreach to supply a detailed time series of the effective man-hours booked to provision and repair activities relating to WLR PSTN, SMPF, MPF and GEA. Openreach records provision man hours against specific products but most repair activities are not recorded against products, therefore the information presented below relates to repair activities for all products, other than payphones, which were separately identified.
- A10.50 Figure A10.10 below shows the field engineering resources Openreach deployed between April 2008 and December 2012 for order provision and fault repairs and is drawn from bookings made by Openreach technicians and contractors/agency staff. Although there is volatility on a month by month basis certain trends are discernible:
- repair resourcing declined by about [X] from the start of the period to a low point between April and July 2010. Resources then rose steadily to the end of the period finishing at about [X] higher than at the beginning of the period;
 - provision resourcing was roughly flat to about July 2010 and then rose to the end of the period finishing at about [X] above the beginning of the period; and
 - there was a decline in the overall level of resourcing (provision and repair combined) from the start of the period to a low point between April and July 2010 followed by a subsequent steady rise to the end of the period, finishing at about [X] higher than at the beginning of the period, an increase of approximately [X] KMH¹⁴⁵ evenly spread over a period of 18 months..
 - In 2012, overall field resourcing (provision and repair combined) was about [X] higher than in 2011.

¹⁴⁵ KMH is Kilo Man Hours, a measure of effort expended by Openreach engineering staff.

A10.51 These increases, particularly those near the end of 2012/13, reflect the response by Openreach to the increased demand for repairs.

Figure A10.10: Openreach field engineering resources

[X]

Source: Ofcom analysis of Openreach data

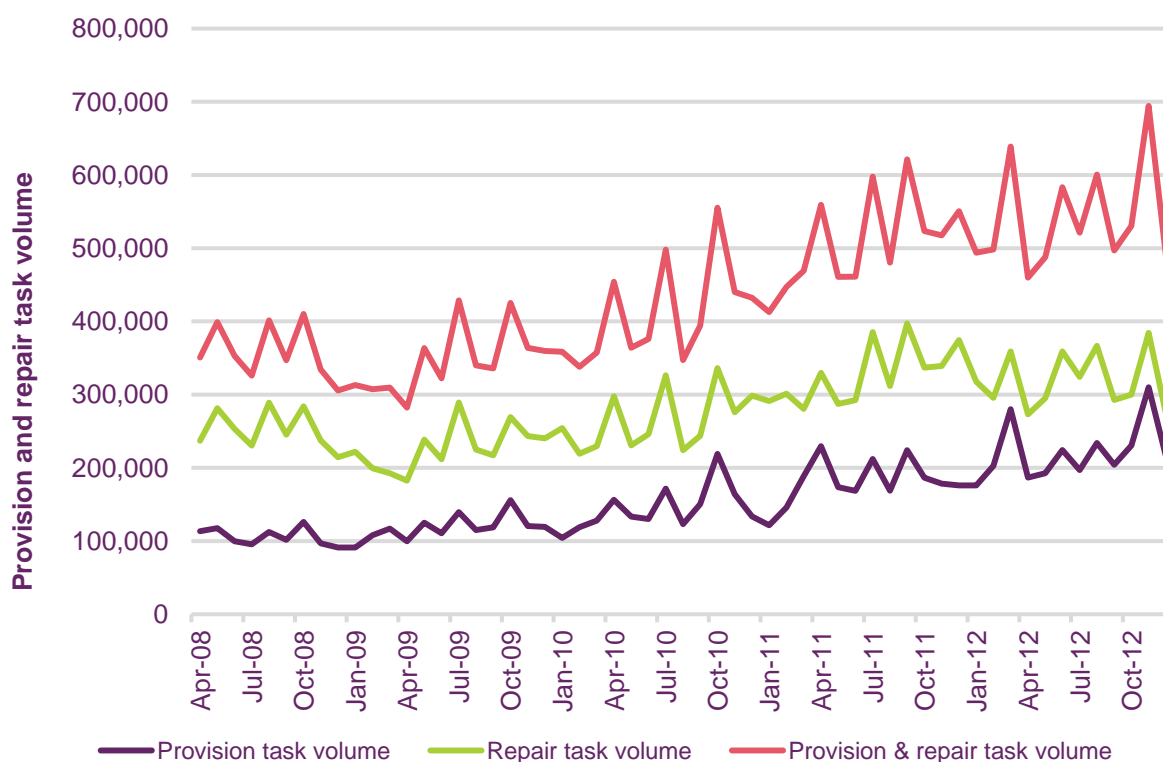
Task times

A10.52 We have also reviewed the task times for provision and repair activities to gain an understanding of Openreach's efficiency trends.

A10.53 During the last 4 years Openreach appears to have improved the efficiency of provision field activities as illustrated by Figure A10.12 and Figure A10.13 below.

A10.54 Figure A10.11 shows that within the overall decline in orders (figure A10.2) and the overall increase in faults repaired (figure A10.4) the volume of provision and repair work for field engineers increased steadily after the end of 2008 due to an increase in both provision and repair tasks.¹⁴⁶ Figure A10.10 shows that during 2009 the field engineering resource deployed to perform the work was gradually reduced but from 2010 onwards it was increased and tracks the increase in the volume of tasks almost exactly.

¹⁴⁶ The fall in orders primarily affected frame engineering tasks and produced a correspondingly large decline in frame engineering tasks.

Figure A10.11 Field engineer provision and repair completed task volumes

Source: Ofcom analysis of Openreach data

A10.55 Figure A10.12 shows that between April 2008 and April 2011 Openreach gradually reduced the average provision task times for WLR PSTN, MPF and SMPF combined orders, with task times remaining relatively flat between April 2011 and December 2012. A number of factors can affect task times including job mix, factors that affect average travel times, proportion of appointed jobs and engineering booking practices.

Figure A10.12: Average field provision task times for WLR PSTN, MPF and SMPF

[X]

Source: Ofcom analysis of Openreach data

A10.56 Figure A10.13 shows that between April 2008 and January 2012 there was a reduction in the average repair task times for WLR PSTN, MPF and SMPF products combined with average task times increasing between January 2012 and December 2012. A number of factors can also affect repair task times including job mix, average travel times, proportion of appointed jobs, fault location in the network and fault types and complexity.

Figure A10.13: Average field repair task times (all products)

[X]

Source: Ofcom analysis of Openreach data

Impact of weather

A10.57 In this section we describe weather patterns, particularly rainfall, for the past few years and consider the consequences for the Openreach network. In particular we consider whether rainfall in 2012 was particularly high and likely to be a significant contributory factor to poor provisioning and repair performance.

A10.58 We obtained general UK rainfall data from the Met Office web site¹⁴⁷ and environmental information, specifically water situation reports for England, from the Environment Agency web site.¹⁴⁸ We also commissioned a specific report from the Met Office¹⁴⁹ containing total rainfall per month and the number of days per month with rainfall greater than 10mm for each of the Openreach product forecasting regions.

2012 was the second wettest since 1910 but is not without precedent in recent years

A10.59 Total UK rainfall for 2012 of 1336mm was the second highest recorded since 1910 only marginally lower than the highest of 1337mm experienced in the year 2000 and 22% greater than the long term average for 1910 to 2012 of 1093mm. However the high rainfall experienced in 2012 is not without precedent as illustrated by Figure A10.14 for rainfall since 1910 and a more detailed view in Figure A10.15 for the period since the year 2000. Whilst there have only been three instances where the annual UK rainfall has exceeded 1300mm there have been 17 instances where it has exceeded 1200 mm (mean value plus one standard deviation for the period 1910 to 2012 inclusive). Seven of these have occurred between the years 2000 and 2012 inclusive, perhaps indicating a longer term trend, indicated by the 10 year moving average in Figure A10.14, of increasing annual rainfall since a low point around 1976-77.

¹⁴⁷ Met Office, *Ranked ordered statistics*,
<http://www.metoffice.gov.uk/climate/uk/summaries/datasets>

¹⁴⁸ Environment Agency, *Water Situation Reports*,
<http://www.environment-agency.gov.uk/research/library/publications/33995.aspx>

¹⁴⁹ Commissioned report, *Analysis of 2008-2012 rainfall in Ofcom Regions*, April 2013, to be published separately.

Figure A10.14: UK annual rainfall since 1910¹⁵⁰

Source: Ofcom analysis of Met Office data

¹⁵⁰ Ofcom analysis of: Met Office, *Rank ordered statistics*,
<http://www.metoffice.gov.uk/climate/uk/summaries/datasets>

Figure A10.15: UK annual rainfall since 2000¹⁵¹

Source: Ofcom analysis of Met Office data

A10.60 More detailed analysis of weather patterns for recent years shows that:

- between April 2010 and March 2012, central, eastern and southern England experienced drought conditions with below average rainfall (2010 was the eleventh driest year since 1910) although heavy rain and floods were experienced in Cornwall in November 2010, and the summer of 2011 was wetter than average for the UK as a whole;¹⁵²
- 2007 to 2009 also had very high rainfall of 1200mm or greater;
- in 2007 UK rainfall for the periods May to July were the highest levels recorded since 1766 and resulted in severe floods affecting over 55,000 premises, transport systems and roads;¹⁵³ and
- severe flooding and disruption was also experienced in September 2008, following a wetter than average August, when between 50% and 300%, depending on region, of September's long term average (1971-2000) rainfall was experienced in just three days (4th to 6th inclusive).

¹⁵¹ Ofcom analysis of: Met Office, *Rank ordered statistics*, <http://www.metoffice.gov.uk/climate/uk/summaries/datasets>

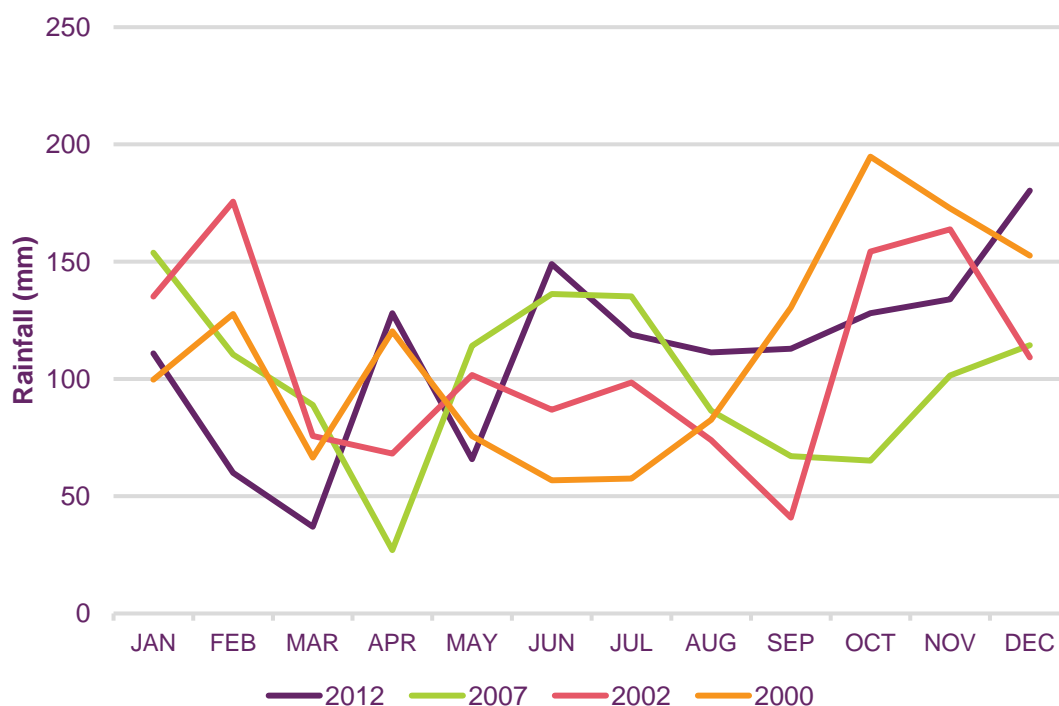
¹⁵² Met Office, *Past weather events*, <http://www.metoffice.gov.uk/climate/uk/interesting>

¹⁵³ Environment Agency, *Review of 2007 summer floods*, December 2007, <http://www.environment-agency.gov.uk/research/library/publications/33995.aspx>

The main distinguishing feature of 2012 was an unusually long period of high rainfall

A10.61 Figure A10.16 shows that the highest levels of rainfall per month in 2012 were not higher than the levels of rainfall experienced in other months in other years with high rainfall since 2000. This was also the case with monthly rainfall levels in Openreach forecast regions.

Figure A10.16: UK monthly rainfall¹⁵⁴



Source: Ofcom analysis of Met Office data

A10.62 However, 2012 was unusual in several respects and was characterised by the following distinguishing features:

- record levels of rainfall in April and June, the highest since records began in 1766;
- the period April to July also exceeded the 2007 records where rain and its effects were widespread instead of just affecting some regions as in other years;¹⁵⁵
- a summer period when the rainfall remained relatively high compared to other years; and

¹⁵⁴ Ofcom analysis of: Met Office, *Rank ordered statistics*, <http://www.metoffice.gov.uk/climate/uk/summaries/datasets>

¹⁵⁵ Met Office, *Record rainfall*, April to July 2012, <http://www.metoffice.gov.uk/climate/uk/interesting/april-july2012>

- this was followed by an unusually long period of equally high rainfall in the autumn that lasted 4 months. Although there was also a 4 month period of high rainfall in 2000, unlike 2012 it followed a dry period.

Saturated soil and raised ground water levels may have contributed to fault levels

A10.63 The Environment Agency's Water Situation Reports provides further potential reasons for the rise in fault rates. These indicate ground water and soil saturation levels were much higher than normal in most places for much of the autumn of 2012 confirming the cumulative effect of the rain.¹⁵⁶ Flooding in the spring and early summer tended to be localised and due to very high levels of persistent rain over a few days, often exceeding the average rainfall for the month and overwhelming the capacity of drainage systems, whereas later in the year flooding was more widespread and due to rain falling on saturated ground.¹⁵⁷ Whilst water-logging and floods caused difficulties accessing land and extensive disruption to road and rail infrastructure was reported, only a few thousand properties were flooded compared to the much more damaging floods of 2007 when 55,000 properties were flooded, primarily as a consequence of flood defence work undertaken in response to the 2007 floods.¹⁵⁸

A10.64 It seems likely that higher ground water levels and soil saturation levels may have contributed to the rise in the volume of underground network faults encountered by Openreach in 2012. Although the underground cables and joints in Openreach's access network are designed to be waterproof, it is likely that these conditions could have led to more underground structures flooding and more faults due to water ingress into failed joints and cables.

A10.65 Soil moisture deficit levels have returned to normal levels and ground water levels are reducing due to below average rainfall for the first four months of 2013.¹⁵⁹

There is clearly a relationship between rainfall and fault report volumes

A10.66 We have also compared fault report volumes with rainfall patterns. Visual inspection of Figure A10.17 below shows that whilst there is not an exact correlation, peaks in fault report volumes often follow peaks in rainfall levels in the preceding month suggesting a relationship with rainfall or perhaps stormy weather.

¹⁵⁶ The two parameters considered were "soil moisture deficit level" (where a lower number indicates greater saturation with zero indicating soil that cannot absorb any more water) and "ground water level" (where a higher number indicates higher ground water levels) obtained from water situation reports,

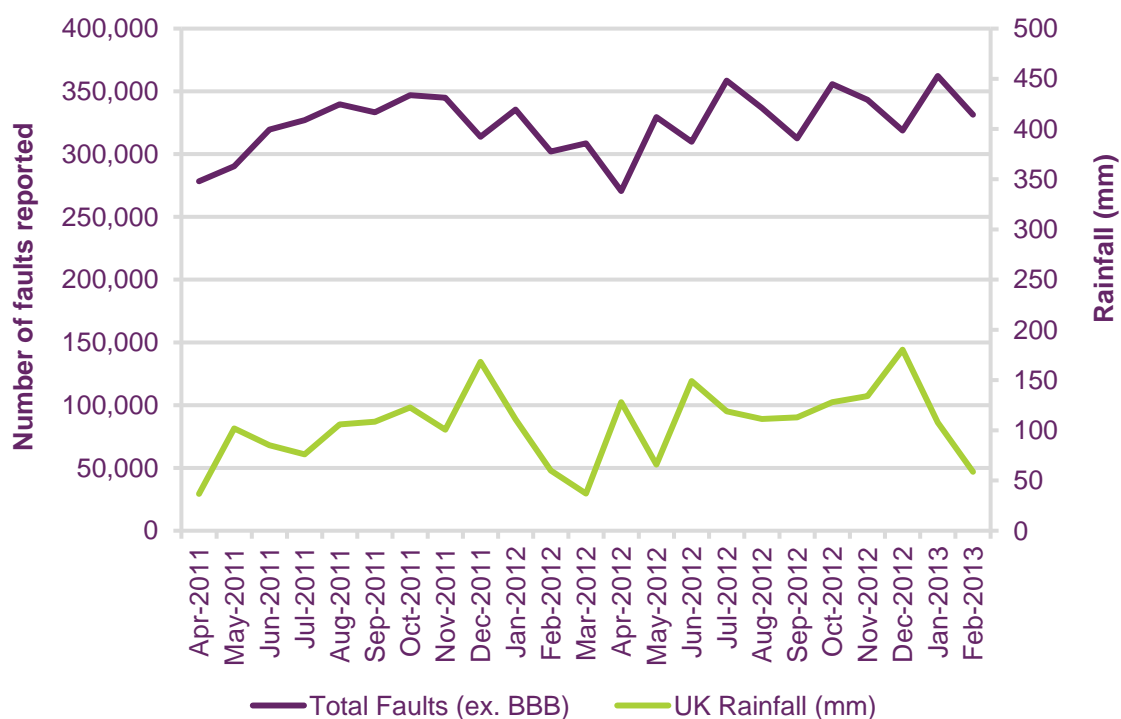
See <http://www.environment-agency.gov.uk/research/library/publications/33995.aspx>

¹⁵⁷ Commissioned report, *Analysis of 2008-2012 rainfall in Ofcom Regions*, April 2013, to be published separately.

¹⁵⁸ Met Office, *Record rainfall*, April to July 2012,

See, <http://www.metoffice.gov.uk/climate/uk/interesting/april-july2012>

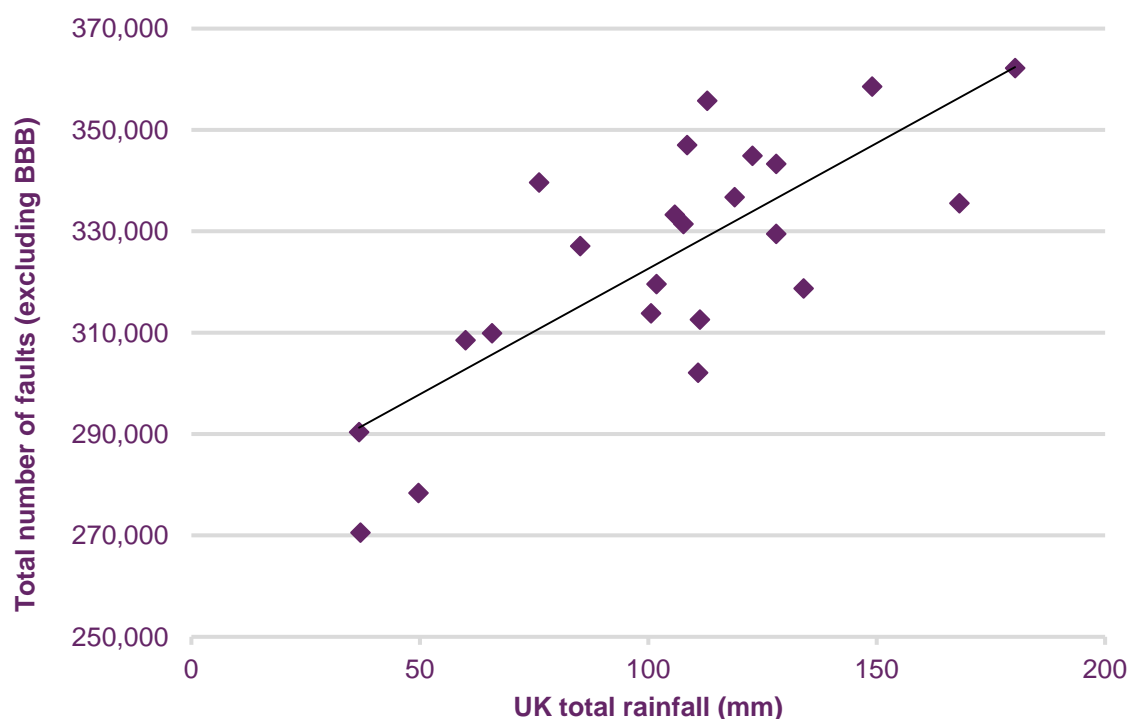
¹⁵⁹ Environment Agency, *Monthly water situation report*, April 2013, <http://www.environment-agency.gov.uk/research/library/publications/33995.aspx>

Figure A10.17: Comparison of fault reports volumes and rainfall levels¹⁶⁰

Source: Ofcom analysis of Openreach fault report volumes and Met Office rainfall data

A10.67 More detailed analysis as illustrated in Figure A10.18 shows that there is a strong correlation between rainfall and fault report volumes in the following month.

¹⁶⁰ Faults reported to Openreach for WLR PSTN (basic and premium), SMPF and MPF products. BBB is the Broadband Boost product.

Figure A10.18 Correlation between rainfall and fault report volumes¹⁶¹

Source: Ofcom analysis of Openreach and Met Office data for April 2011 to Feb 2013

A10.68 Figure A10.18 suggests that the increase in the volume of faults reported to Openreach between a dry period (defined as a rainfall of around 50mm in a month) and a particularly wet period (defined as a rainfall of around 150mm in a month) would be of the order of 50,000 faults or 15%.

Summary

A10.69 Although 2012 was in several respects a record year, in other respects it was not without precedent. High levels of annual rainfall have occurred in seven years since 2000 and individual monthly rainfall levels were comparable with levels encountered in previous years.

A10.70 The particular feature of 2012 that appears to have caused problems for Openreach was the persistence of the wet weather rather than the absolute levels of rainfall. In previous years, periods of high rainfall have more commonly been short lived and have followed a dry period. In 2012, rainfall was higher than in previous years from June to August and was followed by a period of high rainfall from September to December. This weather pattern led to a sustained rise in fault reports. Whilst fault report volumes was only slightly higher than 2011 (also a year with high rainfall), average fault repair times also increased causing the repair workload to exceed Openreach's resource capacity, thereby leading to the drop in performance. Also, in previous years periods of high rainfall have been short lived allowing Openreach to recover more quickly.

¹⁶¹ Figure A10.18 illustrates the derived relationship between rainfall and fault report volumes in the following month, correlation coefficient 0.77, significance 99%.

A10.71 We have not been able to establish for certain that water ingress has been the primary cause of the increase in reported faults and if it was, whether the design parameters relating to waterproofing were exceeded in 2012, whether there were shortcomings in terms of Openreach's regular preventative maintenance programme or whether external plant was obsolete and should have been replaced.

CP forecasting

A10.72 Openreach requires CPs to forecast order volumes quarterly in advance on a regional basis to help it plan its.

A10.73 We asked Openreach for data summarising the accuracy of CP regional forecasts for appointed provisions. Openreach provided forecast data for three CPs [X] for the period April to November 2012 resources and it specifically relates to the Copper Appointment Availability SLA/SLG regime that covers appointed provision jobs for WLR, MPF, and ISDN2. We also consulted the OTA for their views and understanding of the CP forecasts.

A10.74 CPs provide forecasts for their overall net order volumes (i.e. total order volume less cancellations) and also the proportion of orders that will be appointed. The OTA has told us that CPs forecasts for overall order volumes are generally very accurate but that historically forecasts for appointed order volumes have been less accurate.

A10.75 In the event that the actual volume of orders submitted by a CP in any region is above or below the forecast amount by more than a specified limit, Openreach dis-applies the SLGs for appointment availability in that region. The specified limit prevailing during the period April to October 2012 was +/- 10%. This was increased to +/- 15% from 1 November 2012 and will revert to +/- 10% from 1 November 2013.

A10.76 Figure A10.19 below summarises the accuracy of forecasts for appointed orders submitted by three CPs for the period April to November 2012. It displays the maximum and average values of the proportion of regions each CP successfully forecast within the limit of +/- 10% each month (except November 2012 which was +/- 15%). Forecasting clearly improves throughout the period displayed.

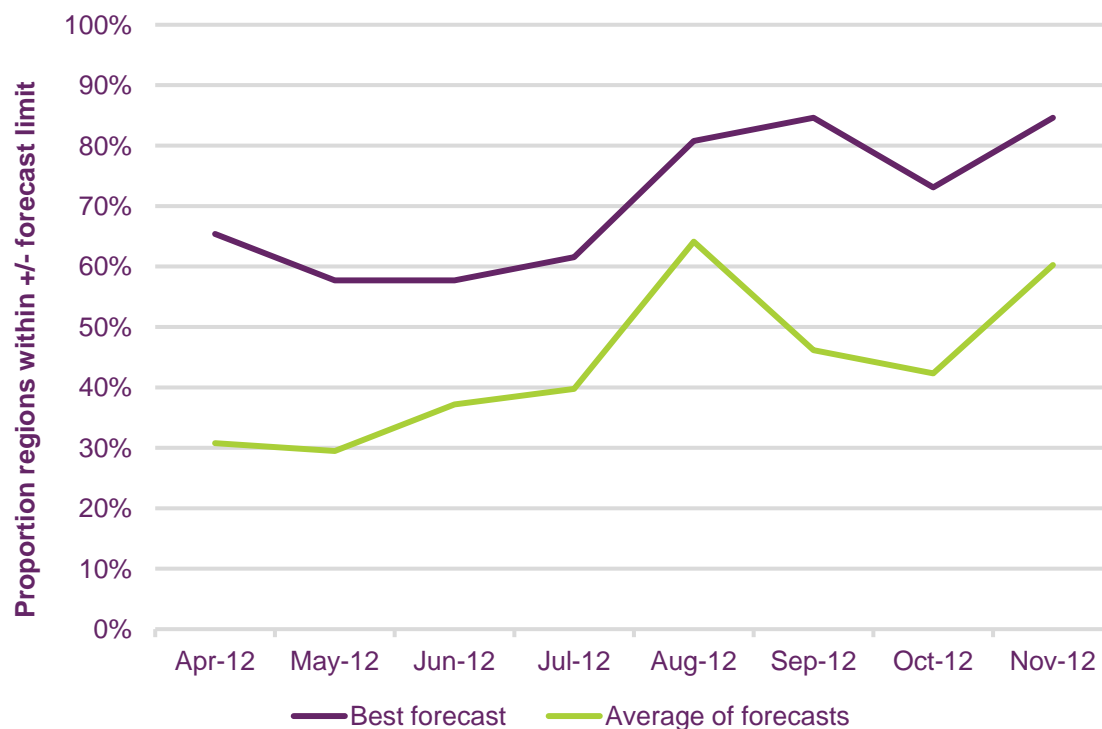
A10.77 We understand from the OTA that forecasts continued to improve after the period displayed in Figure A10.19 until the introduction of the 'start of stopped line' process for MPF and WLR products caused a three month disruption (January to March 2013 inclusive forecasts for April 2013) while the CPs adjusted to this change.¹⁶² Improved forecasting returned after April 2013 once the forecasts contained none of the superseded products.

A10.78 The OTA has reported that overall the introduction of forecasting has delivered benefits both in terms of improved accuracy but also in terms of enabling a more constructive dialogue between Openreach and its customers regarding CPs' future demand requirements and Openreach's resource planning.

¹⁶² We understand from the OTA that forecasts are made three months in advance with limited adjustment permitted in the months up to and including the month being forecast.

A10.79 We do not consider that the level of forecasting accuracy for appointed orders was a major factor in the decline in installation order performance in 2012 which was apparently due mainly to the diversion of resources to repair activities.

Figure A10.19: Regional forecasting accuracy for appointed orders



Source: Ofcom analysis of Openreach data

More complex faults/more demanding customers

A10.80 We have also considered whether broadband usage may have contributed to the rise in fault rates as Openreach has suggested. From the information available to us we have not been able to definitively determine whether this is the case.

A10.81 It seems possible to us that consumers may be more likely to experience and report faults as broadband usage, particularly that relating to video and IPTV, increases their expectations of high quality interruption-free delivery. For example, consumers may report faults if video playback is erratic or if line speed is significantly lower than advertised rates.

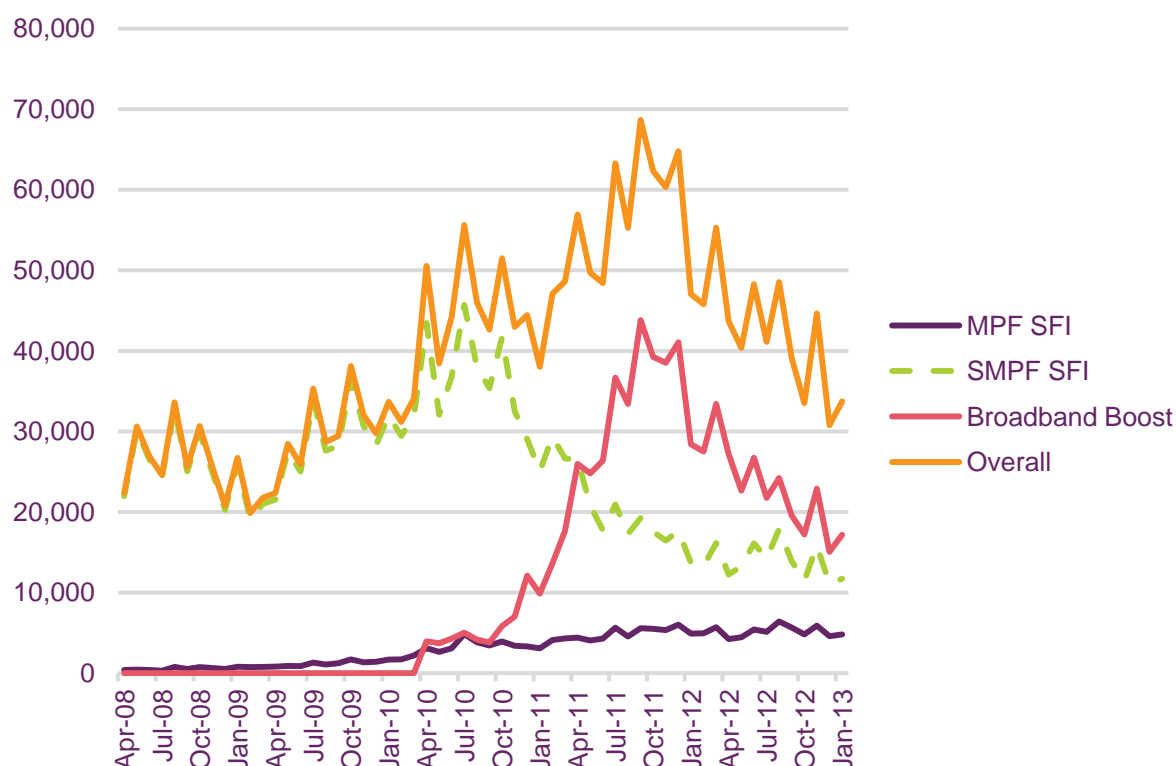
A10.82 It also seems possible to us that consumers may be more likely to experience and report faults because broadband usage is likely to increase the length of time they use the access line, particularly when consuming video and IPTV content. Longer periods of relatively continuous use, compared to the relatively short length of most telephone calls or the intermittent activity of web browsing or email sessions, greatly increases the likelihood of the broadband service experiencing interference arising from repetitive electrical induced noise (REIN), crosstalk from other users (in the access line cables) and other electrical noise sources, e.g. bad joints. Another factor is the mutual interference between multiple consumers in a premise wanting to use the available but limited bandwidth of a single access line at the same time. Also if there are multiple users at a premise using bandwidth-hungry applications at

the same time this is likely to lead to a deterioration in end-users' experience as each broadband connection has a physical limit in terms of traffic throughput.

- A10.83 Whereas interference may cause tolerable background noise on a conventional telephone call which users may not even notice or may be tolerant to, similar interference could result in broadband quality degradations that are more likely to be reported by a consumer to their service provider. It also seems likely to us that consumers will more readily complain to their service provider about such issues if they are pushing the limits of the capacity of their broadband connection.
- A10.84 Real time audio and video applications such as VoIP and video telephony are likely to be particularly susceptible to interference due to the content coding techniques used by providers. In contrast providers of video over IPTV often use buffering techniques which allow content to be stored on the consumer's viewing device thus allowing for error correction without deterioration in consumer experience. In the event though that there is either very severe electrical interference (REIN, crosstalk, noise, etc.) on the line or the available bandwidth of the access line is insufficient to deliver the content at the required rate, then consumers can expect their experience to be impacted adversely.
- A10.85 Further, issues with the internet more broadly (i.e. independent of the consumer's line performance), such as capacity constraints in the backhaul network or at the server where the content is hosted are not always transparent to consumers who may think the problem lies with their physical connection.
- A10.86 Whilst consumers are probably more likely to complain to their service provider about issues with their broadband, this does not automatically lead to faults being registered by Openreach, as the CP would only pass a fault to Openreach if initial diagnostic tests indicate the line does not satisfy the requirements of SIN 349.¹⁶³
- A10.87 Openreach has also told us that a study last year revealed a proportion of non broadband working telephone lines that failed SIN 349 tests which did not subsequently result in a customer reported fault. Such lines would potentially deliver unacceptable broadband service if converted without rectification. Openreach has not yet sized this potential problem.
- A10.88 Openreach and one other CP [X] have also made us aware of a further proportion of lines that have defects that affect broadband services and which can only be detected with more sophisticated tests than the standard TAM¹⁶⁴ test.
- A10.89 Openreach offers two chargeable broadband performance investigation services, Broadband Boost and Special Faults Investigation. These are generally used in cases where there are broadband performance problems but no apparent line fault. The rise in volume in these activities (as shown in Figure A10.20 below) supports the view that consumer expectations about broadband performance may be increasing.

¹⁶³ SIN 349 is suppliers information note describing the technical characteristics of the metallic path facility (MPF), i.e. copper access line, between a customer's premise and either the local exchange or street cabinet (sub-loop FTTC case). It is available at <http://www.sinet.bt.com/sinlist1.htm>.

¹⁶⁴ Test access matrix (TAM) is equipment Openreach uses to remotely test customer access lines.

Figure A10.20: Volume of Broadband Boost and Special Faults Investigation activities

Source: Ofcom analysis of Openreach data

A10.90 Our initial view is that increasing broadband usage may be causing fault rates to rise somewhat. However with the information currently available to us we are unable to quantify this increase and we are also unable to confirm and quantify the predominant causes.

Preventative maintenance

A10.91 Openreach has provided us with some information on its preventative maintenance expenditure. In the last two years (2011/12 and 2012/13) this was equivalent to about [3<] FTE, about [3<] lower than in the two years (2007/08 and 2008/09). We understand from Openreach that a significant proportion of this relates to its pole replacement programme but we have not been able to establish the proportion of expenditure specifically on activities relating to reducing the susceptibility of network plant to water ingress.

A10.92 We have also not been able to obtain any benchmark information against which to assess the level of Openreach's expenditure or the effectiveness of its preventative maintenance activities. However, the apparent susceptibility of the underground network to water ingress (as demonstrated by the rise in underground faults observed by Openreach in the wet summer of 2012) suggests there may be further scope to drive down fault rates with preventative maintenance activities (such as waterproofing activities).

Other issues / concerns

Use of MBORC¹⁶⁵

A10.93 In view of the concerns expressed by FAMR Call for Inputs respondents about the MBORC provisions in Openreach's contracts we asked Openreach to provide us with information about MBORC events.

A10.94 Openreach declares MBORC events when external events that it considers to be beyond its reasonable control prevent it from fulfilling its SLAs. Orders and faults associated with MBORC events are not subject to SLAs and SLGs. MBORC incidents are generally classified as follows:

- **local incidents or events** covering occurrences such as cable theft, which are of limited or local impact;
- **major incidents or events** affecting more than 2,000 lines or a wider geographic area, typically due to severe weather such as floods or storms, major fires or terrorist attacks.

A10.95 Figure A10.21 below shows the number of MBORC events in the last 4 years.

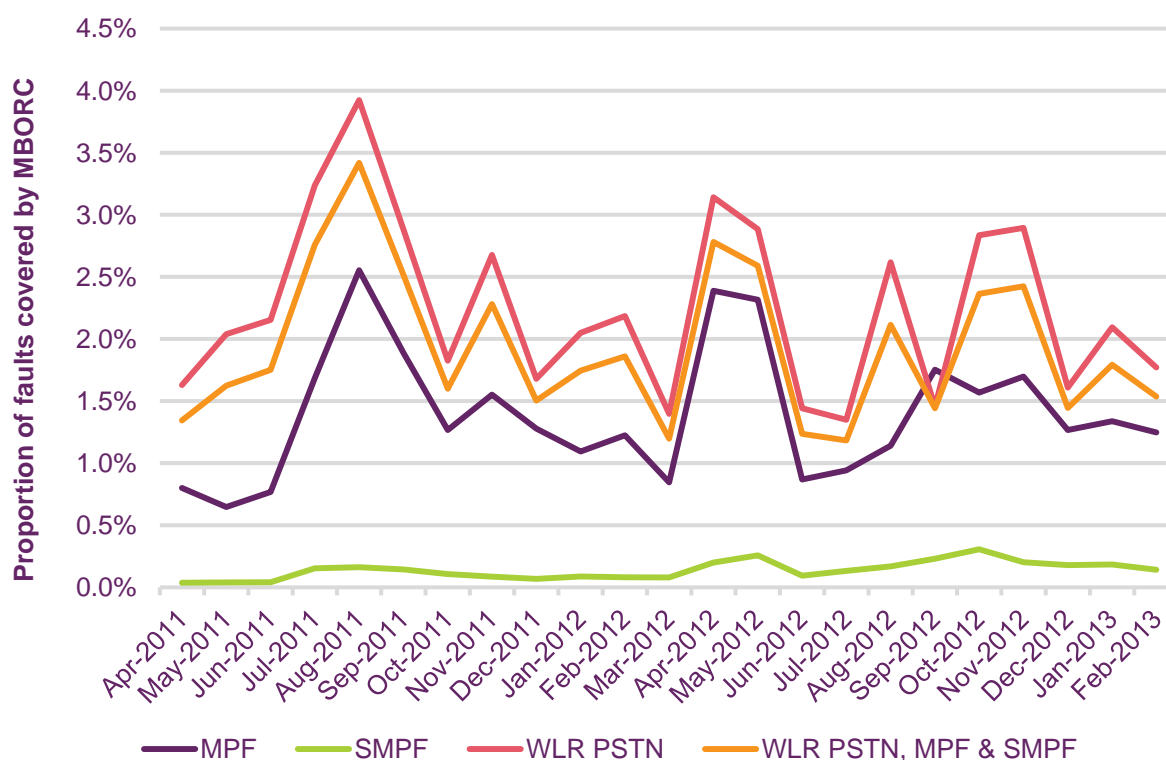
Figure A10.21: Number of MBORC events

	Major Events	Local Events
2009	73	2821
2010	61	1547
2011	17	1764
2012	123	1220

Source: Openreach data

A10.96 Figure A10.22 below shows the number of orders and faults that were subject to MBORC events.

¹⁶⁵ MBORC is measures beyond our reasonable control

Figure A10.22: Proportion of faults affected by MBORCs

Source: Ofcom analysis of Openreach data

A10.97 Figure A10.22 shows that between 0.6% and 3.9% of faults reported were subject to MBORC events, depending on product, around an overall average of 1.9% for all three products. This compares with SLG payments being made on 10% or less of the faults reported for the majority of the period April 2011 to October 2012, rising to about 15% of the faults reported by the end of 2012 (Figure A9.13, Annex 9). Openreach estimate that for the year 2011/12 approximately 46% of all repairs affected by MBORCs were completed within the SLA target suggesting that up to just over 2% of all repairs would otherwise have incurred an SLG payment because they were covered by MBORCs and simultaneously exceeded the SLA. Openreach expect the figures to be higher for 2012/13.

A10.98 We were unable to obtain comparable information concerning how MBORCs affected completed orders.

Best practice initiatives

A10.99 Recent work led by the OTA has shown that CPs operating practices have led to some inefficiency in the utilisation of Openreach's field engineering resources, particularly in relation to abortive visits ("visited late cancellations"¹⁶⁶) and unnecessary appointments. Areas of weakness have also been identified within some Openreach processes i.e. different practices between MPF and WLR.

¹⁶⁶ Visited late cancellations is where an engineer visits the customer but the appointment has previously been cancelled by the customer and the cancellation has not reached the engineer in time or the customer cancels on the doorstep.

A10.100 Whilst we do not have any evidence that these inefficiencies contributed to the recent service problems (e.g. by worsening significantly), there is potential for industry-wide best practice initiatives to contribute to service performance by reducing the pressure on Openreach's field engineering resources. They could also reduce costs and improve customer satisfaction.

A10.101 The OTA is currently leading a programme that has identified best practices that could potentially reduce the number of appointed engineering visits by 10% to 15%. The programme includes the following initiatives:

- greater use of the 'working line takeover' process to reduce the number of appointed provisions and improve delivery times;
- reduction in late notice cancellations that cause abortive site visits;
- optimised address matching to reduce the need for manual intervention;
- reduction in the use of 'forced provides' (WLR only) i.e. only sending a technician to the site if specifically requested by the customer;
- reducing the number of late notice repair appointment cancellations that result in abortive journeys; and
- reducing the number of 'no access' abortive repair site visits.

A10.102 There is also an industry group known as the Business Market Service Improvement Programme which is working on initiatives specifically for the business market. The group has defined a set of business specific KPIs and will be reporting performance to the OTA Service Management Forum. It has set up working groups to implement process improvements to address business specific requirements. These include:

- better jeopardy management processes;
- a new process for 'high risk' orders;
- best practice for booking engineering visits; and
- trial of more focused appointments.

A10.103 In its response to the FAMR Call for Inputs, Openreach said that by adopting best practice initiatives such as those identified by the OTA, CPs could significantly reduce the number of unnecessary provision appointments and abortive visits. Openreach noted that it currently makes around 130,000 site visits per week of which around 20,000 are abortive visits. It estimated that improvement activities could reduce the number of site visits to around 95,000 per week.

A10.104 It is clearly in everyone's interest to adopt working practices that deploy Openreach's resources as efficiently as possible and we therefore support these initiatives.

Summary of assessment

A10.105 During the last 4 years, Openreach's field engineering workload has increased significantly:

- the provisioning workload has been increased by an increase in the volume of appointed orders of about 80%, equating to about 80,000 more appointments per month, of which GEA rollout has been a significant contributory factor;
- the repair workload has been increased by the rise in MPF volumes, increasing the proportion of lines with repair level 2 and above (rather than repair level 1 with its less challenging repair target) by about 5% to about 44%;
- broadband - increasing usage of broadband services may be contributing somewhat to fault rates;
- fault volumes have risen steadily since mid 2010 driven apparently mainly by higher rainfall than in previous years; and
- 2012 was not particularly exceptional for rainfall with very similar levels also recorded in 7 of the last 12 years. The particular problem with 2012 was not so much the absolute level of rainfall but rather the persistent nature of the wet weather.

A10.106 While there appears to be little or no change in Openreach's overall resource levels, there is evidence of redeployment of resource away from the legacy products, at least for significant periods of time over the last few years. These together suggest that while there is no specific attempt by BT to reduce resources to increase returns on services, BT has reacted to overall cost and work priority pressure by resource re-allocation. In the absence of a clear incentive to maintain quality of service standards there has been no mechanism to ensure resources are maintained in this area.

A10.107 We consider it likely that the increasing workload, combined with reductions in the resources committed to repair activities from 2008 to 2010 contributed to the fall in repair QoS observed in 2010 when completion against repair targets fell by about 10% (for example, prior to April 2010 MPF repair performance ranged from 85% - 90% and from May 2010 to mid 2012 it ranged from 60% - 85%, a period which also exhibited large increases in the MPF product volumes and installed estate).

A10.108 The prolonged period of poor performance in 2012 shows that Openreach lacked the resource capacity (either in house or with agency staff/contractors) to quickly expand its capacity to deal with such a large increase in fault volumes particularly when it persisted for more than a month. While Openreach ultimately reacted to the rise in fault volumes and repair times by expanding its resource capacity by a combination of overtime, contractors and recruitment to levels that were [X] higher in 2012 than in 2011, in the absence of a sustained focus on performance it is likely that resources will again be diverted.

Annex 11

Draft legal instruments

PART I - NOTIFICATION OF PROPOSALS UNDER SECTIONS 48A AND 80A OF THE COMMUNICATIONS ACT 2003

Proposals for identifying markets, making market power determinations and setting SMP services conditions in relation to BT and KCOM under section 45 of the Communications Act 2003

Background

1. On 15 September 2009 Ofcom published a statement entitled “*Review of the fixed narrowband services wholesale markets - Statement on the markets, market power determinations and remedies including further consultation*” (referred to for present purposes as the “**2009 Narrowband Wholesale Statement**”).¹⁶⁷ Amongst other fixed narrowband services wholesale markets, the 2009 Narrowband Wholesale Statement identified markets for wholesale ISDN2 exchange line services in the UK excluding the Hull Area and in the Hull Area, made determinations that BT and KCOM had SMP in those respective markets, and determined that appropriate SMP conditions should be imposed on each of BT and KCOM. The relevant SMP conditions, together with provisions modifying and revoking certain SMP conditions previously imposed, were contained in a notification dated 15 September 2009 (the “**2009 Narrowband Wholesale Notification**”).
2. Also on 15 September 2009 Ofcom published a statement entitled “*Fixed Narrowband Retail Services Markets - Identification of markets and determination of market power*” (referred to for present purposes as the “**2009 Narrowband Retail Statement**”).¹⁶⁸ Amongst other fixed narrowband services retail markets, the 2009 Narrowband Retail Statement identified markets for retail ISDN2 exchange line services in the UK excluding the Hull Area and in the Hull Area and for retail fixed analogue exchange line services in both those areas. The 2009 Narrowband Retail Statement made determinations that BT and KCOM had SMP in the markets for retail ISDN2 exchange line services in the UK excluding the Hull Area and in the Hull Area, respectively, and that KCOM had SMP in the market for retail wholesale fixed

¹⁶⁷ http://stakeholders.ofcom.org.uk/binaries/consultations/wnmr_statement_consultation/summary/main.pdf

¹⁶⁸ http://stakeholders.ofcom.org.uk/binaries/consultations/retail_markets/statement/statement.pdf

analogue exchange line services in the Hull area. It also determined that appropriate SMP conditions should be imposed on KCOM in those markets in the Hull area (with BT in those markets outside the Hull area being subject only to relevant wholesale SMP conditions that were imposed under the 2009 Narrowband Wholesale Notification). The relevant SMP conditions, together with provisions modifying and revoking certain SMP conditions previously imposed, were contained in a notification dated 15 September 2009 (the “**2009 Narrowband Retail Notification**”).

3. On 20 August 2010, Ofcom published a statement entitled “*Review of retail and wholesale ISDN30 markets - Statement on the markets, market power determinations and remedies*” (the “**2010 ISDN30 Statement**”).¹⁶⁹ The 2010 ISDN30 Statement identified markets for wholesale ISDN30 exchange line services in the UK except the Hull Area and in the Hull Area, made determinations that BT and KCOM had SMP in those respective markets, and determined that appropriate SMP conditions should be imposed on each of BT and KCOM. The 2010 ISDN30 Statement also identified markets for retail ISDN30 exchange line services in the UK except the Hull Area and in the Hull Area, made determinations KCOM had SMP in the latter market, and determined that appropriate SMP conditions should be imposed on KCOM. The relevant SMP conditions, together with provisions revoking certain SMP conditions previously imposed, were contained in a notification dated 20 August 2010 (the “**2010 ISDN30 Notification**”).
4. On 7 October 2010, Ofcom published a statement entitled “*Review of the wholesale local access market - Statement on market definition, market power determinations and remedies*” (the “**2010 WLA Statement**”).¹⁷⁰ The 2010 WLA Statement identified among others markets for wholesale local access services for the UK excluding the Hull Area and in the Hull Area, made determinations that BT and KCOM had SMP in those respective markets, and determined that appropriate SMP conditions should be imposed on each of BT and KCOM. The relevant SMP conditions, together with provisions modifying and revoking certain SMP conditions previously imposed, were contained in a notification dated 7 October 2010 (the “**2010 WLA Notification**”).
5. On 20 December 2010 Ofcom published a statement entitled “*Review of the wholesale fixed analogue exchange lines markets - Statement on market definition,*

¹⁶⁹ <http://stakeholders.ofcom.org.uk/binaries/consultations/isdn30/statement/statement.pdf>

¹⁷⁰ http://stakeholders.ofcom.org.uk/binaries/consultations/wla/statement/WLA_statement.pdf

market power determinations and remedies” (the “**2010 WFAEL Statement**”).¹⁷¹ The 2010 WFAEL Statement identified markets for wholesale fixed analogue exchange line services for the UK excluding the Hull Area and in the Hull Area, made determinations that BT and KCOM had SMP in those respective markets, and determined that appropriate SMP conditions should be imposed on each of BT and KCOM. The relevant SMP conditions, together with provisions modifying and revoking certain SMP conditions previously imposed, were contained in a notification dated 20 December 2010 (the “**2010 WFAEL Notification**”).

6. On 7 March 2012, Ofcom published a statement entitled “*Charge control review for LLU and WLR services*” (the “**2012 LLU and WLR Charge Control Statement**”).¹⁷² The 2012 LLU and WLR Charge Control Statement determined that there had been no material change in either of the wholesale local access services market for the UK excluding the Hull Area or the wholesale fixed analogue exchange lines services market for the UK excluding the Hull Area since the 2010 WLA Notification and the 2010 WFAEL Notification, respectively, and that appropriate SMP conditions setting charge controls should be imposed on BT. The relevant SMP conditions, together with provisions modifying certain SMP conditions already imposed on BT, were contained in a notification dated 7 March 2012 (the “**2012 LLU and WLR Charge Control Notification**”).
7. On 12 April 2012, Ofcom published a statement entitled “*Wholesale ISDN30 price control*” (the “**2012 ISDN30 Charge Control Statement**”). The 2012 ISDN30 Charge Control Statement determined that there had been no material change in the market for wholesale ISDN30 exchange line services in the UK except the Hull Area since the 2010 ISDN30 Notification and that appropriate SMP conditions should be imposed on BT. The relevant SMP conditions, together with provisions revoking certain SMP conditions already imposed on BT, were contained in a notification dated 12 April 2012 (the “**2012 ISDN30 Charge Control Notification**”).
8. On 3 July 2013 Ofcom published a consultation document entitled “*Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 - Consultation on the proposed markets, market power determinations and remedies*” consulting on new proposals identifying markets,

¹⁷¹ <http://stakeholders.ofcom.org.uk/binaries/consultations/review-wholesale-fixed-exchange/statement/statement.pdf>

¹⁷² <http://stakeholders.ofcom.org.uk/binaries/consultations/wlr-cc-2011/statement/statementMarch12.pdf>

making certain market determinations and setting SMP services conditions. It is proposed that, if adopted, these will replace the determinations and (to the extent still extant) conditions set out in the 2009 Narrowband Wholesale Notification, the 2010 ISDN30 Notification, the 2010 WLA Notification and the 2010 WFAEL Notification. These proposals also include proposals for charge controls on wholesale ISDN30 exchange line services when the current charge control conditions set out in the 2012 ISDN30 Charge Control Notification expire on 31 March 2013. They will also revoke the conditions set out in the 2009 Narrowband Retail Notification (to the extent still extant). A consultation and corresponding notification will be published shortly with proposals for charge controls when the charge control conditions set out in the 2012 LLU and WLR Charge Control Notification expire on 31 March 2014.

Determinations for the United Kingdom excluding the Hull Area

Proposals for services market identifications and market power determinations

9. Ofcom is proposing to identify the following markets listed in Column 1 of Table A below for the purpose of making a determination (if any) that the person specified in the corresponding row in Column 2 of that Table has significant market power in that identified services market.

Table A: Market identifications and market determinations in the UK excluding the Hull Area

Column 1: Market identification	Column 2: Market power determination (if any)
(a) The supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location in the United Kingdom excluding the Hull Area	BT
(b) Wholesale fixed analogue exchange line services in the United Kingdom excluding the Hull Area	BT
(c) Wholesale ISDN30 exchange line services in the United Kingdom excluding the Hull Area	BT
(d) Wholesale ISDN2 exchange line services in the United Kingdom excluding the Hull Area	BT
(e) Retail ISDN2 exchange line services in the United Kingdom excluding the Hull Area.	[-]

10. The effect of, and Ofcom's reasons for making, the proposals for identifying the markets and making the market power determinations referred to in paragraph 9 above are set out in the consultation document accompanying this notification.

Proposals to set and apply, modify and revoke SMP service conditions

11. Ofcom is proposing to set, in relation to each of the services markets in which Ofcom is proposing to make the market power determinations as listed at **(a), (b), (c)** and **(d)** in **Table A** above, the SMP conditions as set out in Schedule 1 to this notification to be applied to BT to the extent specified in that Schedule, which SMP conditions shall, unless otherwise stated in that Schedule, take effect from the date of any notification under sections 48(1) and 79(4) of the Act adopting the proposals set out in this notification.
12. Ofcom is also proposing to set, in relation to each of the services markets in which Ofcom is proposing to make the market power determinations as listed at **(a), (b), (c)**

and **(d)** in **Table A** above, the SMP conditions OA1 to OA28, OA32 and OA33 to be applied to BT as set out in Schedule 2 to the July 2004 (BT) Notification. These are to be read in light of the proposed modifications to that notification set out in paragraph 13 below. We propose that those SMP conditions shall, unless otherwise is stated in that Schedule, take effect on the date of publication of any subsequent notification under section 48(1) of the Act setting those conditions.

13. Ofcom is also proposing to modify the July 2004 (BT) Notification by substituting in the Column entitled 'Date' in Part 1 (entitled 'Wholesale Markets') of Schedule 1 "[the date of publication of the final statement]" for the dates specified in relation to paragraphs 1 and 18 and for the words "As above" in paragraphs 4 and 5 .
14. Ofcom is (to the extent still extant) revoking the SMP conditions applied to BT as set out in the 2009 Narrowband Wholesale Notification, the 2010 ISDN30 Notification, the 2010 WLA Notification and the 2010 WFAEL Notification on the date of publication of any subsequent notification under section 48(1) of the Act revoking those conditions.
15. The effect of, and Ofcom's reasons for making, the proposals in relation to the SMP conditions referred to in paragraphs 11 to 14 above are set out in the consultation document accompanying this notification.

Determinations for the Hull Area

Proposals for services market identifications and market power determinations

16. Ofcom is proposing to identify the following markets listed in Column 1 of **Table B** below for the purpose of making a determination (if any) that the person specified in the corresponding row in Column 2 of that Table has significant market power in that identified services market.

Table B: Market identifications and market determinations in the Hull Area

Column 1: Market identification	Column 2: Market power determination (if any)
(a) The supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location in the Hull Area	KCOM
(b) Wholesale fixed analogue exchange line services in the Hull Area	KCOM
(c) Wholesale ISDN30 exchange line services in the Hull Area	KCOM
(d) Wholesale ISDN2 exchange line services in the Hull Area	KCOM

17. The effect of, and Ofcom's reasons for making, the proposals for identifying the markets and making the market power determinations referred to in paragraph 16 above are set out in the consultation document accompanying this notification.

Proposals to set and apply, modify and revoke SMP service conditions

18. Ofcom is proposing to set, in relation to each of the services markets in which Ofcom is proposing to make the market power determinations as listed at **(a), (b), (c)** and **(d)** in **Table B** above, the SMP conditions as set out in Schedule 2 to this notification to be applied to KCOM to the extent specified in that Schedule, which SMP conditions shall, unless otherwise stated in that Schedule, take effect from the date of the notification under sections 48(1) and 79(4) of the Act adopting the proposals set out in this notification.
19. Ofcom is also proposing to set, in relation to each of the services markets in which Ofcom is proposing to make the market power determinations as listed at **(a), (b), (c)** and **(d)** in **Table B** above, the SMP conditions set out in Schedule 2 to the July 2004 (KCOM) Notification, but excluding subparagraphs (a) to (c) and (f) of SMP condition OB23, conditions OB28 – 30 and condition OB33. These are to be read in light of the proposed modifications to that notification set out in paragraph 20 below. We

propose that those SMP conditions shall, unless otherwise is stated in that Schedule, take effect on the date of publication of any subsequent notification under section 48(1) of the Act setting those conditions.

20. Ofcom is also proposing to modify the July 2004 (KCOM) Notification by:
- (a) substituting in the Column entitled 'Date' in Part 1 (entitled 'Wholesale Markets') of Schedule 1 "[the date of publication of the final statement]" for the date specified in relation to paragraph 1 and for the words "As above" in paragraphs 4 and 5;
 - (b) in paragraph 4(a)(i) of the July 2004 (KCOM) Notification, adding reference to the wholesale market numbered "4"; and
 - (c) in paragraph 4(a)(iii) of the July 2004 (KCOM) Notification, adding "4," after "numbered 2,".
21. Ofcom is (to the extent still extant) revoking the SMP conditions to be applied to KCOM as set out in 2009 Narrowband Wholesale Notification, the 2009 Narrowband Retail Notification, the 2010 ISDN30 Notification, the 2010 WLA Notification and the 2010 WFAEL Notification on the date of publication of any subsequent notification under section 48(1) of the Act revoking those conditions.
22. The effect of, and Ofcom's reasons for making, the proposals in relation to the SMP conditions referred to in paragraphs 18 to 21 above are set out in the consultation document accompanying this notification.

Charge Controls

23. Insofar as our proposals regarding network access pricing are concerned, these SMP conditions (other than those set out in proposed conditions 6, 7B, 7D and 7E in Part 3 of Schedule 1 to this notification) are contained in a separate notification under sections 48A and 80A of the Act.

Ofcom's duties and legal tests

24. In identifying and analysing the markets referred to in this notification, and in considering whether to make the corresponding proposals set out in this notification, Ofcom has, in accordance with section 79 of the Act, taken due account of all applicable guidelines and recommendations which have been issued or made by the European Commission in pursuance of the provisions of a European Union instrument, and which relate to market identification and analysis or the

determination of what constitutes significant market power. In doing so, pursuant to Article 3(3) of Regulation (EC) No 1211/2009, Ofcom has also taken utmost account of any relevant opinion, recommendation, guidance advice or regulatory practice adopted by BEREC.

25. Ofcom considers that the proposed SMP conditions above comply with the requirements of sections 45 to 47, 87 and 88 of the Act, as appropriate and relevant to each such SMP condition, and further that the proposed modifications and revocations of the SMP conditions referred to above comply with the requirements of sections 45 to 47, 87 and 88 of the Act as appropriate and relevant to them.
26. In making all of the proposals referred to in this notification, Ofcom has considered and acted in accordance with its general duties set out in section 3 of the Act and the six Community requirements in section 4 of the Act. In accordance with section 4A of the Act Ofcom has also taken due account of all applicable recommendations issued by the European Commission under Article 19(1) of the Framework Directive.

Making representations

27. Representations may be made to Ofcom about any of the proposals set out in this notification and the accompanying explanatory statement by no later than 27 September 2013.
28. Copies of this notification and the accompanying consultation document have been sent to the Secretary of State in accordance with sections 48C(1) and 81(1) of the Act.

Interpretation

29. For the purpose of interpreting this notification—
 - (a) except in so far as the context otherwise requires, words or expressions have the meaning assigned to them in paragraph 30 below, and otherwise any word or expression has the same meaning as it has in the Act;
 - (b) headings and titles shall be disregarded;
 - (c) expressions cognate with those referred to in this notification shall be construed accordingly; and

- (d) the Interpretation Act 1978 (c. 30) shall apply as if this notification were an Act of Parliament.

30. In this notification:

- (a) **“2009 Narrowband Retail Notification”** means the notification described in paragraph 2 above, as subsequently amended by Ofcom;
- (b) **“2009 Narrowband Retail Statement”** means the statement described in paragraph 2 above;
- (c) **“2009 Narrowband Wholesale Notification”** means the notification described in paragraph 1 above, as subsequently amended by Ofcom;
- (d) **“2009 Narrowband Wholesale Statement”** means the statement described in paragraph 1 above;
- (e) **“2010 ISDN30 Notification”** means the notification described in paragraph 3 above, as subsequently amended by Ofcom;
- (f) **“2010 ISDN30 Statement”** means the statement described in paragraph 3 above;
- (g) **“2010 WFAEL Notification”** means the notification described in paragraph 5 above, as subsequently amended by Ofcom;
- (h) **“2010 WFAEL Statement”** means the statement described in paragraph 5 above;
- (i) **“2010 WLA Notification”** means the notification described in paragraph 4 above, as subsequently amended by Ofcom;
- (j) **“2010 WLA Statement”** means the statement described in paragraph 4 above;
- (k) **“2012 LLU and WLR Charge Control Notification”** means the notification described in paragraph 6 above;
- (l) **“2012 LLU and WLR Charge Control Statement”** means the statement described in paragraph 6 above;
- (m) **“2012 ISDN30 Charge Control Notification”** means the notification described in paragraph 7 above;

- (n) **“2012 ISDN30 Charge Control Statement”** means the statement described in paragraph 7 above;
- (o) **“Act”** means the Communications Act 2003 (c. 21), as amended;
- (p) **“BT”** means British Telecommunications plc, whose registered company number is 1800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined in section 1159 of the Companies Act 2006;
- (q) **“Framework Directive”** means Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services, as amended;
- (r) **“Hull Area”** means the area defined as the 'Licensed Area' in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc, (now known as “KCOM”);
- (s) **“July 2004 (BT) Notification”** means the notification Ofcom published on 22 July 2004 in a statement entitled *“The regulatory financial reporting obligations on BT and Kingston Communications Final statement and notification”*¹⁷³ imposing various regulatory financial reporting obligations on BT, as subsequently amended by Ofcom;
- (t) **“July 2004 (KCOM) Notification”** means the notification Ofcom published on 22 July 2004 in a statement entitled *“The regulatory financial reporting obligations on BT and Kingston Communications Final statement and notification”*¹⁷⁴ imposing various regulatory financial reporting obligations on KCOM, as subsequently amended by Ofcom;
- (u) **“KCOM”** means KCOM Group plc, whose registered company number is 2150618, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined in section 1159 of the Companies Act 2006;
- (v) **“Ofcom”** means the Office of Communications as established pursuant to section 1(1) of the Office of Communications Act 2002; and

¹⁷³ *The regulatory financial reporting obligations on BT and Kingston Communications Final statement and notification*, 22 July 2004

(http://www.ofcom.org.uk/consult/condocs/fin_reporting/fin_report_statement/finance_report.pdf)

¹⁷⁴ *The regulatory financial reporting obligations on BT and Kingston Communications Final statement and notification*, 22 July 2004

(http://www.ofcom.org.uk/consult/condocs/fin_reporting/fin_report_statement/finance_report.pdf)

(w) **“United Kingdom”** has the meaning given to it in the Interpretation Act 1978 (c. 30).

31. The Schedules to this notification form part of this notification.

Signed

A handwritten signature in blue ink, appearing to read 'D. Clarkson'.

Dave Clarkson

Competition Policy Director

**A person duly authorised in accordance with paragraph 18 of the Schedule to the
Office of Communications Act 2002**

3 July 2013

Schedule 1: SMP conditions (BT)

Part 1: Application

1. The SMP conditions in Part 3 of this Schedule 1, except where specified otherwise, apply to the Dominant Provider in each of the relevant markets listed in Column 1 of Table 1 below to the extent specified in Column 2 of Table 1. Save as otherwise specified in any condition, each condition will enter into force on [*date of final notification*].

Table 1: Relevant markets for the purposes of this Schedule

Column 1: Relevant market	Column 2: Applicable SMP conditions as set out in Part 3 of this Schedule 1
The supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location in the UK excluding the Hull Area	Conditions 1 (except 1.7), 2 (except 2.1B), 3, 4, 5, 6 (except 6.6), 7A and 7B, 8 (except 8.2F, 8.2G and 8.2H), 9.1A, 9.2A, 9.3A, 9.4A, 9.5A, 9.6A, 9.7A, 10, 11 and 12
Wholesale fixed analogue exchange line services in the United Kingdom excluding the Hull Area	Conditions 1 (except 1.6), 2 (except 2.1A), 3, 4, 5, 6.6 and 6.7, 7C, 8 (except 8.2A, 8.2B, 8.2C, 8.2D, 8.2E, 8.2G, 8.2H and 8.2I), 9.1B, 9.2B, 9.3B, 9.4B, 9.5B, 9.6B, 9.7B, 10, 11 and 12
Wholesale ISDN30 exchange line services in the United Kingdom excluding the Hull Area	Conditions 1 (except 1.6), 2 (except 2.1A), 3, 4, 5, 7D, 8 (except 8.2A, 8.2B, 8.2C, 8.2D, 8.2E, 8.2F, 8.2H and 8.2I), 9.1B,

	9.2B, 9.3B, 9.4C, 9.5B, 9.6B, 9.7B, 10, 11 and 12
Wholesale ISDN2 exchange line services in the United Kingdom excluding the Hull Area	Conditions 1 (except 1.6), 2 (except 2.1A), 3, 4, 5, 7E, 8 (except 8.2A, 8.2B, 8.2C, 8.2D, 8.2E, 8.2F, 8.2G, and 8.2I), 9.1B, 9.2B, 9.3B, 9.4C, 9.5B, 9.6B, 9.7B, 10, 11 and 12

The conditions referred to in Column 2 of Table 1 are entitled as follows—

Condition 1	Network access on reasonable request
Condition 2	Specific forms of network access
Condition 3	Requests for new forms of network access
Condition 4	No undue discrimination
Condition 5	Equivalence of Inputs basis
Condition 6	Basis of charges
Condition 7	Charge controls [<i>LLU and WLR charge controls to follow in separate notification</i>]
Condition 8	Publication of a Reference Offer
Condition 9	Notification of charges and terms and

	conditions
Condition 10	Notification of technical information
Condition 11	Quality of service
Condition 12	Minimum standards for quality of service

Part 2: Interpretation

1. In addition to the definitions set out above in this notification, in this Schedule 1—

- (a) **“Access Charge Change”** means any amendment to the Dominant Provider’s charges for the provision of network access or for new network access;
- (b) **“Access Charge Change Notice”** means a notice given by the Dominant Provider of an Access Charge Change;
- (c) **“Access Agreement”** means an agreement entered into between the Dominant Provider and a Third Party for the provision of network access in accordance with condition 1 and, in relevant cases, condition 2;
- (d) **“Committed Date”** means the date agreed between the Dominant Provider and a Third Party for an Order to become a Completed Order;
- (e) **“Communications Provider”** means a Third Party purchasing from BT Virtual Unbundled Local Access;
- (f) **“Completed Order”** means an Order that has been provisioned and for which all other related work has been carried out;
- (g) **“DDI”** means Direct Dial Inward;
- (h) **“Dominant Provider”** means BT;
- (i) **“Electricity Charge”** means the charge on a usage per kWh basis for electricity purchased by Third Parties to provide power for equipment used in connection with Local Loop Unbundling Services;
- (j) **“Equivalence Management Platform”** means the Dominant Provider’s operation support system designed to handle the majority of transactions

for Equivalence of Inputs and network access;

- (k) **“Equivalence of Inputs basis”** means that the Dominant Provider must provide, in respect of a particular product or service, the same product or service to all Third Parties and itself on the same timescales, terms and conditions (including price and service levels) by means of the same systems and processes, and includes the provision to all Third Parties and itself of the same Relevant Commercial Information about such products, services, systems and processes as the Dominant Provider provides to its own divisions, subsidiaries or partners subject only to: (a) trivial differences; and (b) differences relating to; (i) credit vetting procedures, (ii) payment procedures, (iii) matters of national and crime-related security (which for the avoidance of doubt includes for purposes related to the Regulation of Investigatory Powers Act 2000), physical security, security required to protect the operational integrity of the network, (iv) provisions relating to the termination of a contract, or (v) contractual provisions relating to requirements for a safe working environment. For the avoidance of any doubt, unless seeking Ofcom’s consent, the Dominant Provider may not show any other reasons in seeking to objectively justify the provision in a different manner. In particular, it includes the use by the Dominant Provider of such systems and processes in the same way as Third Parties and with the same degree of reliability and performance as experienced by Third Parties;
- (l) **“Exchange Line”** means apparatus comprised in the Dominant Provider’s electronic communications network and installed for the purpose of connecting a telephone exchange run by the Dominant Provider to a Network Termination Point comprised in Network Termination and Testing Apparatus installed by the Dominant Provider for the purpose of providing electronic communications services at the premises at which the Network Termination and Testing Apparatus is located;
- (m) **“Fault”** means a degradation or problem or with network access that is identified by the Dominant Provider or a Third Party and which is registered on the Dominant Provider’s operational support system;

- (n) **“First Relevant Year”** means the period beginning on 1 April 2014 and ending on 31 March 2015;
- (o) **“ISDN”** means the integrated services digital network which is an electronic communications network that provides for digital end-to-end connectivity to support a wide range of public electronic communications services, including voice and non-voice services, to which end-users have access by a limited set of standard multipurpose customer interfaces;
- (p) **“ISDN2 Connection Services”** means the charges for the connection of a new ISDN2 line to a premises;
- (q) **“ISDN2 Exchange Line”** means an Exchange Line used to provide ISDN2 Services;
- (r) **“ISDN2 Services”** means the following services provided by the Dominant Provider in the market for wholesale ISDN2 exchange line services:
 - i. ISDN2 Rental Services; and
 - ii. ISDN2 Connection Services;
- (s) **“ISDN2 Rental Services”** means the rental of an ISDN2 access channel for control and billing purposes;
- (t) **“ISDN2 Transfer Service”** means any of the following ISDN2 transfer services:
 - i. transfer of BT ISDN2e Standard to Digital Standard (BT to gaining communications provider);
 - ii. transfer of BT ISDN2e System to Digital System (BT to gaining communications provider) (For transfer pricing purposes system installations are classed as one line);
 - iii. transfer of BT ISDN2e System to Digital System (BT to

gaining communications provider) (For transfer pricing purposes system installations are classed as one line);

- iv. transfer of Digital Standard to Digital Standard (communications provider 1 to gaining communications provider 2);
- v. transfer of Digital Standard to Digital Standard (communications provider 1 to gaining communications provider 2);
- vi. transfer of Digital System to Digital System (communications provider 1 to gaining communications provider 2) (For transfer pricing purposes system installations are classed as one line); and
- vii. transfer of Digital System to Digital System (communications provider 1 to gaining communications provider 2) (For transfer pricing purposes system installations are classed as one line);

(u) **“ISDN30 Connection Services”** means the charges for the connection of a new ISDN30 line to a premises comprised of;

- i. the new installation charge charged per end user on a single installation basis; and
- ii. the installation per channel charge;

(v) **“ISDN30 Direct Dial Inward Connection Service”** means the connection charge per DDI number at a DDI installation;

(w) **“ISDN30 Direct Dial Inward Planning Service”** means the charge per DDI installation or change to numbers at a DDI installation;

(x) **“ISDN30 Direct Dial Inward Services”** means the ISDN30 Direct Dial Inward Planning Service, Direct Dial Inward Connection Service and the

Direct Dial Inward Rental Service, giving recipients of the services the capability to allow incoming calls to be routed directly rather than routing via a central switchboard number;

- (y) **“ISDN30 Direct Dial Inward Rental Charge”** means the rental charge per number at a DDI installation;
- (z) **“ISDN30 Enhanced Care Services”** means the products described as “Service Maintenance Level 3” and “Service Maintenance Level 4” in Openreach’s price list¹⁷⁵ correct at the date of this statement, or any such product that, from time to time, wholly or partially replaces those products;
- (aa) **“ISDN30 Exchange Line”** means an Exchange Line used to provide ISDN30 Services;
- (bb) **“ISDN30 Rental Services”** means the rental of an ISDN30 access channel for control and billing purposes;

“ISDN30 Services” means the following services provided by BT in the market for wholesale ISDN30 exchange line services:

- i. ISDN30 Rental;
- ii. ISDN30 Transfer Services
- iii. ISDN 30 Enhanced Care Services;
- iv. ISDN30 Connection Services; and
- v. ISDN30 Direct Dial Inward Services;

- (cc) **“ISDN30 Transfer Services”** means the charges for the transfer of control of an ISDN30 line levied per 30 channel access bearer and does not include charges for pre-validation of transfer order for wholesale

¹⁷⁵<http://www.openreach.co.uk/orpg/home/products/pricing/loadProductPriceDetails.do?data=o1GUUZA4oSGmoXU5lc%2BgZQD265lt6W32TNnfEUU7w1FZ6rNZujnCs99NblKJZPD9hXYmijxH6wr%0ACQm97GZMyQ%3D%3D>

ISDN30 installation types;

- (dd) **“Level 1 Care”** means the level of care provided by the Dominant Provider which provides the standard level of response to a Fault on an Exchange Line, provided as part of the basic line rental;
- (ee) **“Level 2 Care”** means the level of care provided by the Dominant Provider which provides an enhanced level of response to a Fault on an Exchange Line, guaranteeing a response within a specified time;
- (ff) **“Local Access Node”** means either:
 - i. an MDF Site;
 - ii. an ODF Site;
 - iii. an operational building designated by the Dominant Provider for use as an ODF Site in future; or
 - iv. an operational building of the Dominant Provider which is reasonably equivalent to one of the above in terms of the distance between the operational building and the Network Termination Points and in terms of the number of Network Termination Points served;
- (gg) **“LLU Ancillary Services”** mean an associated facility or services associated with an electronic communications network and/or an electronic communications service which enable and/or support the provision of services via that network and/or service or have the potential to do so, which include at a minimum (but without limitation) the following:
 - (i) power;
 - (ii) LLU Co-Location;
 - (iii) LLU Co-Mingling;

- (iv) LLU Site Access;
 - (v) LLU Internal Tie Circuits; and
 - (vi) LLU External Tie Circuits;
- (hh) **“LLU Co-Location”** means the provision of space permitting a Third Party to occupy part of an MDF Site reasonably sufficient to permit the use of Local Loop Unbundling Services, and in particular to permit the connection of the Dominant Provider’s electronic communications network with the electronic communications network of a Third Party at that location;
- (ii) **“LLU Co-Mingling”** means the provision of LLU Co-Location having the following characteristics:
 - (i) the Third Party’s electronic communications network is situated in an area of the MDF Site which:
 - A. is a single undivided space;
 - B. after proper performance by the Dominant Provider of its obligation to provide Local Loop Unbundling Services pursuant to conditions 1 and 2, would permit the normal operation of the Third Party’s electronic communications network (or would permit if the Dominant Provider removed any object or substance whether toxic or not, which might reasonably prevent or hinder the occupation of the MDF Site for such use); and
 - C. if so requested by the Third Party, is not unreasonably distant from the Dominant Provider’s electronic communications network within the MDF site;

- (ii) no permanent physical partition is erected in the space between the Third Party's electronic communications network and the Dominant Provider's electronic communications network; and
 - (iii) the Third Party's electronic communications network is neither owned nor run by the Dominant Provider or by any person acting on the Dominant Provider's behalf;
- (jj) **"LLU External Tie Circuit"** means a link that connects Local Loop Unbundling Services to the electronic communications network of a Third Party at a location outside the MDF Site;
- (kk) **"LLU Internal Tie Circuit"** means a link, the whole of which is contained within an MDF Site, that connects Local Loop Unbundling Services to the electronic communications network of a Third Party;
- (ll) **"LLU Site Access"** means access (including the right of entry) to the Dominant Provider's MDF Sites in order to install and operate an electronic communications network to provide electronic communications services over Local Loop Unbundling Services;
- (mm) **"Local Loop Unbundling Services"** means network access to Metallic Path Facilities or Shared Access;
- (nn) **"Local Serving Exchange"** means the site of an operational building of the Dominant Provider, where interconnection is made available by the Dominant Provider to a Third Party for Network Termination Points served by that site for the provision of Virtual Unbundled Local Access;
- (oo) **"MDF Site"** means the site of an operational building of the Dominant Provider that houses a main distribution frame;
- (pp) **"Metallic Path Facilities"** means a circuit comprising a pair of twisted

metal wires employing electric, magnetic, electro-magnetic, electro-chemical or electro-mechanical energy to convey signals when connected to an electronic communications network;

- (qq) **MPF Connection**” shall be construed as having the same meaning as “MPF Connection charge - Singleton migrations (Transfer from WLR/SMPF or Change of CP migrations)” as provided by the Dominant Provider on its website for definitions and explanations of its products;
- (rr) **“MPF Rental**” shall be construed as the annual rental of access to Metallic Path Facilities;
- (ss) **“Network Termination and Testing Apparatus”** means an item of apparatus comprised in an electronic communications network installed in a fixed position on served premises which enables:
- i. approved apparatus to be readily connected to, and disconnected from, the network;
 - ii. the conveyance of signals between such approved apparatus and the network;
 - iii. the due functioning of the network to be tested, but the only other functions of which, if any, are:
 - A. to supply energy between such approved apparatus and the network;
 - B. to protect safety or security of the operation of the network; or
 - C. to enable other operations exclusively related to the running of the network to be performed or the due functioning of any system to which the network is or is to be connected to be tested (separately or together with the network);

- (tt) **“Network Termination Point”** means the physical point at which a Relevant Subscriber is provided with access to a public electronic communications network;
- (uu) **“ODF Site”** means the site of an operational building of the Dominant Provider housing an optical distribution frame for optical fibre access networks;
- (vv) **“Order”** means a request for network access submitted to the Dominant Provider by a Third Party;
- (ww) **“Ordinary Maintenance”** means maintenance which is part of the service provided by the Dominant Provider in consideration of the charge for an Exchange Line and includes normal fault repair, as defined in the Dominant Provider’s standard terms and conditions;
- (xx) **“PIA Ancillary Services”** mean an associated facility or services associated with an electronic communications network and/or an electronic communications service which enable and/or support the provision of services via that network and/or service or have the potential to do so, which include at a minimum (but without limitation) the following:
- i. power;
 - ii. PIA Co-Location;
 - iii. PIA Co-Mingling; and
 - iv. PIA Site Access;
- (yy) **“PIA Co-Location”** means the provision of space permitting a Third Party to occupy part of an MDF Site reasonably sufficient to permit the use of Physical Infrastructure Access;

(zz) **“PIA Co-Mingling”** means the provision of PIA Co-Location having the following characteristics:

- i. the Third Party’s electronic communications network is situated in an area of the MDF Site which:
 - A. is a single undivided space;
 - B. after proper performance by the Dominant Provider of its obligation to provide Physical Infrastructure Access pursuant to conditions 1 and 2, would permit the normal operation of the Third Party’s electronic communications network (or would permit if the Dominant Provider removed any object or substance whether toxic or not, which might reasonably prevent or hinder the occupation of the MDF Site for such use); and
 - C. if so requested by the Third Party, is not unreasonably distant from the Dominant Provider’s electronic communications network within the MDF site;
- ii. no permanent physical partition is erected in the space between the Third Party’s electronic communications network and the Dominant Provider’s electronic communications network; and
- iii. the Third Party’s electronic communications network is neither owned nor run by the Dominant Provider or by any person acting on the Dominant Provider’s behalf;

(aaa) **“PIA Site Access”** means access (including the right of entry) to the Dominant Provider’s MDF Sites in order for a Third Party to install and operate an electronic communications network to provide electronic

communications services;

- (bbb) **“Physical Infrastructure”** includes any conduit, tunnel, subway, pipe, structure, pole or other thing in, on, by or from which an electronic communications network is or may be installed, supported, carried or suspended;
- (ccc) **“Physical Infrastructure Access”** means network access comprising predominantly of the provision of space, anchorage, attachment facilities and/or such other facilities as may be reasonably necessary to permit a Third Party to occupy parts of the Dominant Provider’s Physical Infrastructure located between Network Termination Points and Local Access Nodes serving those Network Termination Points, sufficient to facilitate the establishment, installation, operation and maintenance of the electronic communications network of a Third Party at that location;
- (ddd) **“Point of Connection”** means a point at which the Dominant Provider’s electronic communications network and a Third Party’s electronic communications network are connected;
- (eee) **“Prior Year”** means the period of 12 months ending on 31 March immediately preceding the Relevant Year;
- (fff) **“Reference Offer”** means the terms and conditions on which the Dominant Provider is willing to enter into an Access Agreement;
- (ggg) **“Relevant Commercial Information”** means information of a commercially confidential nature relating to products and services to which condition 5 applies, and which relates to any or all of the following in relation thereto—
 - i. product development;
 - ii. pricing;

- iii. marketing strategy and intelligence;
- iv. product launch dates;
- v. cost;
- vi. projected sales volumes; or
- vii. network coverage and capabilities;

save for any such information in relation to which Ofcom consents in writing is to be treated as falling outside this definition;

- (hhh) **“Relevant Financial Year”** means the period of 12 months ending on 31 March immediately preceding the Relevant Year in question;
- (iii) **“Relevant Region”** means the 26 geographic areas specified in Schedule 3 to this Notification and Northern Ireland;
- (jjj) **“Relevant Subscriber”** means any person who is party to a contract with a provider of public electronic communications services for the supply of such services;
- (kkk) **“Relevant Year”** means a defined period covered by either of the First Relevant Year, the Second Relevant Year or the Third Relevant Year;
- (III) **“Second Relevant Year”** means the period of 12 months beginning on 1 April 2015 and ending on 31 March 2016;
- (mmm) **“Service Level Commitment”** means the quality standards that the Dominant Provider must meet when performing its obligations;
- (nnn) **“Service Level Guarantees”** means a commitment specifying the amount payable by the Dominant Provider to a Third Party for a failure to adhere to a Service Level Commitment;

- (ooo) **“Shared Access”** means the non-voice band frequency of Metallic Path Facilities;

- (ppp) **“SLU Ancillary Services”** mean an associated facility or services associated with an electronic communications network and/or an electronic communications service which enable and/or support the provision of services via that network and/or service or have the potential to do so, which include at a minimum (but without limitation) SLU Tie Circuit;

- (qqq) **“SLU MPF Connection”** shall be construed as having the same meaning as “Sub Loop MPF Connection charge - New Provide – Standard” as provided by the Dominant Provider on its website for definitions and explanations of its products;

- (rrr) **“SLU MPF Rental”** shall be construed as having the same meaning as “Sub Loop MPF Rental” as provided by the Dominant Provider on its website for definitions and explanations of its products;

- (sss) **“SLU SMPF Connection”** shall be construed as having the same meaning as “Sub Loop - Shared MPF Connection (including SMPF Transfer)” as provided by the Dominant Provider on its website for definitions and explanations of its products;

- (ttt) **“SLU Tie Circuit”** means a link that connects Sub-Loop Unbundling Services to the electronic communications network of a Third Party;

- (uuu) **“SMPF Connection”** shall be construed as having the same meaning as “SMPF Connection charge, Basic Provide on existing narrowband, Simultaneous Provide of SMPF with narrowband, Singleton Migration (Transfer or change of CP migrations) from Narrowband, MPF, SMPF and ISDN,” as provided by the Dominant Provider on its website for definitions and explanations of its products;

- (vvv) **“Special Fault Investigation”** means a chargeable fault investigation service which shall be construed as having the same meaning as “Special

Fault Investigation 2 (SF12)” as provided by the Dominant Provider on its website for definitions and explanations of its products, and shall apply to services provided in connection with both Metallic Path Facilities and Shared Access

- (www) “**Special Offer**” means a temporary price reduction for a particular product or service, applicable to all customers on a non-discriminatory basis, which is stated to apply for a limited and predefined period and where the price immediately on expiry of that period is no higher than the price immediately before the start of that period;
- (xxx) “**Standard Fault**” means a Fault reported to the Dominant Provider by a Third Party which fails a line test performed by the Dominant Provider;
- (yyy) “**Sub-Loop Unbundling Services**” means access to Metallic Path Facilities or Shared Access at an intermediate point prior to the main distribution frame;
- (zzz) “**Third Party**” means a person providing a public electronic communications service or a person providing a public electronic communications network;
- (aaaa) “**Third Relevant Year**” means the period of 12 months beginning on 1 April 2016 and ending on 31 March 2017;
- (bbbb) “**Time Related Charges**” means those charges raised by the Dominant Provider in respect of certain services performed by its engineers and shall be construed as having the same meaning as provided by the Dominant Provider on its website for definitions and explanations of its products;
- (cccc) “**Virtual Unbundled Local Access**” means network access comprising of a virtual circuit between a Point of Connection at the Local Serving Exchange and a Network Termination Point, which circuit provides such specified capacity as is agreed between the Dominant Provider and the

Third Party for the Third Party's exclusive use;

(dddd) **“VULA Ancillary Services”** mean an associated facility or services associated with an electronic communications network and/or an electronic communications service which enable and/or support the provision of services via that network and/or service or have the potential to do so, which include at a minimum (but without limitation) the following:

- i. power;
- ii. VULA Co-Location;
- iii. VULA Co-Mingling; and
- iv. VULA Site Access;

(eeee) **“VULA Co-Location”** means the provision of space permitting a Third Party to occupy part of a Local Serving Exchange reasonably sufficient to permit the use of Virtual Unbundled Local Access, and in particular to permit the connection of the Dominant Provider's electronic communications network with the electronic communications network of a Third Party at that location;

(ffff) **“VULA Co-Mingling”** means the provision of VULA Co-Location having the following characteristics:

- i. the Third Party's electronic communications network is situated in an area of the Local Serving Exchange which:
 - A. is a single undivided space;
 - B. after proper performance by the Dominant Provider of its obligation to provide Virtual Unbundled Local Access pursuant to conditions 1 and 2, would permit the normal operation of the Third Party's electronic communications network (or would permit if the

Dominant Provider removed any object or substance whether toxic or not, which might reasonably prevent or hinder the occupation of the Local Serving Exchange for such use); and

C. if so requested by the Third Party, is not unreasonably distant from the Dominant Provider's electronic communications network within the Local Serving Exchange;

ii. no permanent physical partition is erected in the space between the Third Party's electronic communications network and the Dominant Provider's electronic communications network; and

iii. the Third Party's electronic communications network is neither owned nor run by the Dominant Provider or by any person acting on the Dominant Provider's behalf;

(gggg) **"VULA Migration"** means the transfer of control of a Virtual Unbundled Local Access service between Communications Providers;

(hhhh) **"VULA Site Access"** means access (including the right of entry) to the Dominant Provider's Local Serving Exchange in order to install and operate an electronic communications network to provide electronic communications services over the Virtual Unbundled Local Access;

(iiii) **"Wholesale Analogue Line Rental"** means an electronic communications service provided by the Dominant Provider to a Third Party for the use and Ordinary Maintenance of an analogue Exchange Line;

(jjjj) **"Wholesale ISDN2 Line Rental"** means an electronic communications service provided by the Dominant Provider to a Third Party for the use and Ordinary Maintenance of an ISDN2 Exchange Line;

- (kkkk) **“Wholesale ISDN30 Line Rental”** means an electronic communications service provided by the Dominant Provider to a Third Party for the use and Ordinary Maintenance of an ISDN30 Exchange Line;
- (llll) **“Wholesale Line Rental”** means any and all of the following provided by the Dominant Provider:
- (a) Wholesale Analogue Line Rental;
 - (b) Wholesale ISDN30 Line Rental; and
 - (c) Wholesale ISDN2 Line Rental;
- (mmmm) **“Wholesale Line Rental Charge”** means the annual charge levied by the Dominant Provider for Wholesale Analogue Line Rental including packages containing a line rental charge and any included levels of service sold as part of a single marketed product;
- (nnnn) **“WLA Access Change”** means any amendment to the charges, terms and conditions on which the Dominant Provider provides network access or in relation to any charges for new network access;
- (oooo) **“WLA Access Change Notice”** means a notice given by the Dominant Provider of a WLA Access Change;
- (pppp) **“WLR Ancillary Services”** mean an associated facility or services associated with an electronic communications network and/or an electronic communications service which enable and/or support the provision of services via that network and/or service or have the potential to do so; and
- (qqqq) references to the expression electronic communications network for the purposes of the expressions LLU Co-Location, LLU Co-Mingling, LLU Site Access, SLU Ancillary Services, PIA Co-Location, PIA Co-Mingling, PIA Site Access VULA Co-Location, VULA Co-Mingling and VULA Site

Access, as they apply in condition 2 of Part 3 shall be limited to those matters set out at section 32(1)(b)(i)-(iii) of the Act.

2. For the purpose of interpreting this Schedule—

- (a) except in so far as the context otherwise requires, words or expressions have the meaning assigned to them above in this notification or in paragraph 1 of this Part 2 (as the case may be), and otherwise any word or expression has the same meaning as it has in the Act;
- (b) headings and titles shall be disregarded;
- (c) expressions cognate with those referred to in this Schedule shall be construed accordingly; and
- (d) the Interpretation Act 1978 (c. 30) shall apply as if this Schedule were an Act of Parliament.

Part 3: SMP conditions**Condition 1 – Network access on reasonable request**

- 1.1 The Dominant Provider must provide network access to a Third Party where that Third Party, in writing, reasonably requests it.
- 1.2 Except where condition 1.3 applies, the provision of network access by the Dominant Provider in accordance with this condition must:
- (a) take place as soon as reasonably practicable after receiving the request from a Third Party; and
- (b) be on:
- (i) fair and reasonable terms, conditions and charges; and
- (ii) such terms, conditions and charges as Ofcom may from time to time direct.
- 1.3 In any case where any of conditions 6 or 7 apply, the provision of network access by the Dominant Provider in accordance with this condition must:
- (a) take place as soon as reasonably practicable after receiving the request from a Third Party; and
- (b) be on:
- (i) fair and reasonable terms and conditions (excluding charges); and
- (ii) such terms and conditions (excluding charges) as Ofcom may from time to time direct.
- 1.4 The provision of network access by the Dominant Provider in accordance with this condition must also include such associated facilities as are reasonably necessary for the provision of network

access and such other entitlements as Ofcom may from time to time direct.

- 1.5 The Dominant Provider must comply with any direction Ofcom may make from time to time under this condition.
- 1.6 (WLA) The direction dated 20 March 2008 concerning service level agreements, as published on the same day at Annex 2 of the statement entitled "*Service level guarantees: incentivising performance*,"¹⁷⁶ given by Ofcom under condition FA1.2, shall have force until such time as it is modified or withdrawn, as if it has been given under condition 1.3 from the date that this condition enters into force and that direction must be read accordingly.
- 1.7 (WFAEL, ISDN30 and ISDN2) The direction dated 20 March 2008 concerning service level agreements, as published on the same day at Annex 1 of the statement entitled "*Service level guarantees: incentivising performance*", given by Ofcom under condition AA1(a).2, shall have force until such time as it is modified or withdrawn, as if it has been given under condition 1.3 from the date that this condition enters into force and that direction must be read accordingly.

¹⁷⁶ <http://stakeholders.ofcom.org.uk/binaries/consultations/slg/statement/statement.pdf>

Condition 2 – Specific forms of network access

2.1A (WLA) Without prejudice to the generality of condition 1, the provision of network access under that condition must include, where the Third Party, in writing, reasonably requests, the following specific forms of network access–

(a) Local Loop Unbundling Services including such LLU Ancillary Services as may be reasonably necessary for the use of Local Loop Unbundling Services;

(b) Virtual Unbundled Local Access including such VULA Ancillary Services as may be reasonably necessary for the use of Virtual Unbundled Local Access;

(c) Sub Loop Unbundling Services including such SLU Ancillary Services as may be reasonably necessary for the use of Sub Loop Unbundling Services; and

(d) Physical Infrastructure Access for the use by the requesting Third Party for the purposes of deployment of broadband access networks serving multiple premises, including such PIA Ancillary Services as may be reasonably necessary for the use of Physical Infrastructure Access.

2.1B (WFAEL, ISDN30 and ISDN2) Without prejudice to the generality of condition 1, the provision of network access under that condition must include, where the Third Party, in writing, reasonably requests, Wholesale Line Rental including such WLR Ancillary Services as may be reasonably necessary for the use of Wholesale Line Rental.

Condition 3 – Requests for new forms of network access

- 3.1 The Dominant Provider must, for the purposes of transparency, publish guidelines, in relation to requests for new forms of network access made to it. Such guidelines must set out:
- (a) the form in which such a request should be made;
 - (b) the information that the Dominant Provider requires in order to consider a request for a new form of network access;
 - (c) the timescales in which such requests will be handled by the Dominant Provider; and
 - (d) any provisions directed by Ofcom.
- 3.2 The guidelines must meet the following principles:
- (a) the process for consideration of requests shall be documented end-to-end;
 - (b) the timescales for each stage of the process shall be reasonable;
 - (c) the criteria by which requests will be assessed shall be clearly identified;
 - (d) the reasons for rejecting any request shall be clear and transparent; and
 - (e) any changes to the guidelines shall be agreed between the Dominant Provider and other communications providers in an appropriate manner.
- 3.3 The Dominant Provider must, upon reasonable request from a Third Party considering making a request for a new form of network access, provide that Third Party with such information as may be reasonably required to enable that Third Party to make a request for a new form of network access. Such information must be provided within a reasonable period.

- 3.4 On receipt of a written request for a new form of network access, the Dominant Provider must deal with the request in accordance with the guidelines described in condition 3.1 above. A modification of a request for a new form of network access which has previously been submitted to the Dominant Provider, and rejected by the Dominant Provider, must be considered as a new request.
- 3.5 The Dominant Provider must comply with any direction Ofcom may make from time to time under this condition requiring amendments to the guidelines.

Condition 4 – No undue discrimination

- 4.1 The Dominant Provider must not unduly discriminate against particular persons or against a particular description of persons, in relation to the provision of network access in accordance with conditions 1 and 2, as applicable.
- 4.2 In this condition, the Dominant Provider may be deemed to have shown undue discrimination if it unfairly favours to a material extent an activity carried on by it so as to place one or more Third Parties at a competitive disadvantage in relation to activities carried on by the Dominant Provider.

Condition 5 – Equivalence of Inputs basis

- 5.1 Subject to condition 5.2, the Dominant Provider must provide network access in accordance with conditions 1 and 2 (as applicable) on an Equivalence of Inputs basis.
- 5.2 The obligation in condition 5.1 to provide network access on an Equivalence of Inputs basis shall not apply to—
- (a) the provision of Sub-Loop Unbundling Services in accordance with conditions 1 and 2;
 - (b) the provision of Physical Infrastructure Access in accordance with conditions 1 and 2;
 - (c) network access which the Dominant Provider was not providing on an Equivalence of Inputs basis as at [*date proposed condition comes into force*]; and
 - (d) such provision of network access as Ofcom may from time to time otherwise consent in writing.
- 5.3 Without prejudice to the generality of condition 5.1, the Dominant Provider must not provide (or seek to provide) network access for its own services (including for those of its retail divisions, subsidiaries or partners), unless at the same time the Dominant Provider provides and/or offers to provide such network access to Third Parties (other than its retail divisions, subsidiaries or partners) on an Equivalence of Inputs basis.
- 5.4 For the avoidance of doubt, the obligations set out in this condition 5 apply in addition to the obligations set out in condition 4.

Condition 6 – Basis of charges

6.1 (WLA – LLU) Unless Ofcom directs otherwise from time to time, the Dominant Provider must secure, and must be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered or payable when averaged over each Relevant Year for the following services relating to network access provided under conditions 1 and 2 is reasonably derived from the costs of provision calculated on a reasonable, forward looking fully allocated cost basis, including an appropriate return on capital employed:

(a) Time Related Charges; and

(b) Special Fault Investigations.

6.2 (WLA – LLU) Unless Ofcom directs otherwise from time to time, the Dominant Provider must secure, and must be able to demonstrate to the satisfaction of Ofcom, that the Electricity Charge when averaged over each Relevant Year is reasonably derived from the costs of provision based on the wholesale electricity charges paid by the Dominant Provider plus an appropriate mark-up to reflect the Dominant Provider's costs related to its wholesale purchase of electricity and the setting of Electricity Charges.

6.3 (WLA – SLU) Except where condition 6.4 applies, the Dominant Provider must secure, and must be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered or payable when averaged over each Relevant Year for Sub Loop Unbundling Services provided under conditions 1 and 2 is reasonably derived from the costs of provision calculated on a reasonable forward looking fully allocated cost basis, including an appropriate return on capital employed.

6.4 (WLA – SLU) The Dominant Provider must secure, and must be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered or payable when averaged over each Relevant Year:

(a) for SLU MPF Rental provided under conditions 1 and 2 is reasonably derived from the costs of provision calculated by reference to the charge for MPF Rental determined in accordance with condition 7A for the corresponding Relevant Year

adjusted to reflect the difference in the forward looking long run incremental costs of SLU MPF Rental;

(b) for SLU MPF Connection provided under conditions 1 and 2 is reasonably derived from the costs of provision calculated by reference to the charge for MPF Connection determined in accordance with condition 7A for the corresponding Relevant Year adjusted to reflect the difference in the forward looking long run incremental costs of SLU MPF Connection; and

(c) for SLU SMPF Connection provided under conditions 1 and 2 is reasonably derived from the costs of provision calculated by reference to the charge for SMPF Connection determined in accordance with condition 7A for the corresponding Relevant Year adjusted to reflect the difference in the forward looking long run incremental costs of SLU SMPF Connection.

6.5 (WLA – PIA) Unless Ofcom directs otherwise from time to time, the Dominant Provider must secure, and must be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered or payable when averaged over each Relevant Year for Physical Infrastructure Access provided under conditions 1 and 2 is reasonably derived from the costs of provision based on a forward looking long run incremental cost approach and allowing an appropriate mark up for the recovery of common costs including an appropriate return on capital employed.

6.6 (WFAEL) Unless Ofcom directs otherwise from time to time, the Dominant Provider must secure, and must be able to demonstrate to the satisfaction of Ofcom, that each and every charge offered or payable when averaged over each Relevant Year for Time Related Charges in respect of network access provided under conditions 1 and 2 is reasonably derived from the costs of provision calculated on a reasonable, forward looking fully allocated cost basis including an appropriate return on capital employed.

6.7 The Dominant Provider must comply with any direction Ofcom may make from time to time under this condition.

Condition 7 – Charge controls

Condition 7A – LLU charge control

[Ofcom's proposed SMP conditions for network access pricing (other than those set out in detail below) are contained in a separate notification under sections 48A and 80A of the Act]

7A.1 *[LLU charge control conditions – see separate notification]*

(WLA -

LLU)

Condition 7B – GEA migration charge control

- 7B.1 For each VULA Migration until this condition is revoked or Ofcom (WLA – otherwise directs the Dominant Provider must not charge the Third VULA Party to whom the control of a Virtual Unbundled Local Access (GEA) service is transferred more than £[10 - 15]. migration)
- 7B.2 The Dominant Provider must comply with the requirement in condition 7B.1 within 28 days of condition 7B coming into force.
- 7B.3 The Dominant Provider must record, maintain and supply to OFCOM in writing, no later than three months after the end of each Relevant Year, the data necessary for OFCOM to monitor the compliance of the Dominant Provider with the requirement in condition 7B.1. The data must include such data as Ofcom may from time to time direct.
- 7B.4 The Dominant Provider must comply with any direction Ofcom may make from time to time under this condition.

Condition 7C – WLR charge control

7C.1 [WLR *charge control conditions* – see *separate notification*]

(WFAEL

– WLR)

Condition 7D – Wholesale ISDN30 services charge control

7D.1 In each Relevant Year the Dominant Provider must not charge (ISDN30) more than:

- (a) £81.57 for the ISDN30 Transfer Service;
- (b) £81.57 for the ISDN30 Direct Dial In Planning Service;
- (c) £0.81 for the ISDN30 Direct Dial In Connection Service; and
- (d) £1.04 for the ISDN30 Direct Dial In Rental Service.

7D.2 The Dominant Provider must take all reasonable steps to secure that, at the end of each Relevant Year, the Percentage Change (determined in accordance with condition 7D.3 in each of the three categories of services specified in conditions 7D.2 (a) to (c) below):

- (a) the aggregate charges for:
 - i. ISDN30 Rental Services;
 - ii. ISDN30 Connection Services; and
 - iii. ISDN30 Enhanced Care Services;

(b) ISDN30 Connection Services; and

(c) ISDN30 Enhanced Care Services,

is not more than the Controlling Percentage (determined in accordance with condition 7D.4

7D.3 The Percentage Change for the purposes of the products and/or services specified in conditions 7D.2(a), 7D.2(b) and 7D.2(c) respectively (each of which is known as a “Basket”) shall be calculated for the purposes of complying with condition 7D.2 by employing the following formula:

$$C_t = \frac{\sum_{i=1}^n \left[(R_i) \frac{\{p_{t,i} - p_{t-1,i}\}}{p_{t-1,i}} \right]}{\sum_{i=1}^n [R_i]}$$

Where:

C_t is the Percentage Change in the aggregate of charges for the services in the Basket for Relevant Year t ;

n is the number of individual services in the Basket;

i is a number from 1 to n for each of the n individual services in the Basket;

R_i is the revenue accrued during the Prior Year in respect of the individual service i that forms part of the Basket calculated to exclude any discounts offered by the Dominant Provider;

t refers to the Relevant Year;

$t-1$ refers to the Prior Year;

$p_{t,i}$ is the weighted average charge made by the Dominant Provider for the individual service i that forms part of the Basket during the Relevant Year excluding any discounts offered by the Dominant Provider:

Where such Relevant Year Weighted Average Charge shall be calculated by employing the following formula:

$$p_{t,i} = \sum_{j=1}^m (w_j p_j)$$

Where:

m is the number of periods for which there are distinct charges during the Relevant Year;

j is a number from 1 to m for each of the m periods during which a distinct charge is in effect;

w_j is the proportion of the Relevant Year in which each charge, p_j , is in effect, calculated by the number of days during which the charge is in effect and dividing

- (1) for the First Relevant Year, by 365;
- (2) for the Second Relevant Year, by 366; and
- (3) for the Third Relevant Year, by 365.

p_j is the charge for the specified period, j , during the Relevant Year, for the individual service, i ;

$p_{t-1,i}$ is the weighted average charge made by the Dominant Provider for the individual service i that forms part of the Basket during the Prior Year excluding any discounts offered by the Dominant Provider;

Where such Prior Year Weighted Average Charge shall be calculated by employing the following formula:

$$p_{t-1,i} = \sum_{j=1}^m (w_j p_j)$$

Where:

m is the number of periods for which there are distinct charges during the Prior Year;

j is a number from 1 to m for each of the m periods during which a distinct charge is in effect;

w_j is the proportion of the Prior Year in which each charge, p_j , is in effect, calculated by the number of days during which the charge is in effect and dividing

- (1) for the Prior Year when considering the First Relevant Year, by 365;
- (2) for the Prior Year when considering the Second Relevant

Year, by 365;

(3) for the Prior Year when considering the Third Relevant Year, by 366;

p_j is the charge for the individual period, j , during the Prior Year, for the individual service, i .

7D.4 The Controlling Percentage in relation to any Relevant Year for each of the categories of products and/or services specified in conditions 7D.2(a), (b) and (c) shall be calculated by employing the following formula:

$$CP_t = [(100\% + X) (100\% + CP_{t-1}) / (100\% + C_{t-1})] - 100\%$$

Where:

X means:

- a. for the category of products and/or services specified in condition 7D.2(a) 0 (zero) percentage points;
- b. for the category of products and/or services specified in condition 7D.2(b) 5 percentage points;
- c. for the category of products and/or services specified in condition 7D.2(c) 0 (zero) percentage points;

CP_t means the Controlling Percentage for Relevant Year t ,

CP_{t-1} means the Controlling Percentage for the Prior Year, which shall be equal to:

- a. zero when considering the First Relevant Year;
- b. the Controlling Percentage for the First Relevant Year when considering the Second Relevant Year;
- c. the Controlling Percentage for the Second Relevant Year when considering the Third Relevant year;

C_{t-1} means the Percentage Change in the aggregate of charges

for the services in the Basket for the Prior Financial Year, which shall be equal to:

- a. zero when considering the First Relevant Year;
- b. the Percentage Change for the First Relevant Year when considering the Second Relevant Year;
- c. the Percentage Change for the Second Relevant Year when considering the Third Relevant year;

7D.5 Where:

- a. the Dominant Provider makes a material change (other than to a Charge) to any Charge Controlled Service for which a Charge is charged; or
- b. The Dominant Provider makes a change to the date on which its financial year ends;

conditions 7D.1 to 7D.4 shall have effect subject to such reasonable adjustment to take account of the change as Ofcom may direct to be appropriate in the circumstances. For the purposes of this condition 7D.5, a material change to the Charge Controlled Service includes (but is not limited to) the introduction of a new product and/or service wholly or substantially in substitution for an existing Charge Controlled Service.

7D.6 The Dominant Provider must record, maintain and supply to Ofcom in an electronic format, no later than three months after the end of each Relevant Year, the data necessary for Ofcom to monitor compliance of the Dominant Provider with the price control. The data must include:

- a. pursuant to condition 7D.3 the calculated Percentage Change relating to each of the three categories of services specified in conditions 7D.2 (a) to (c);
- b. all relevant data the Dominant Provider used in the

calculation of the Percentage Change as set out in 7D.3 above, including for each specific service, *i*;

c. all charges, excluding any discounts, published by the Dominant Provider from time to time during the Relevant Year and the Prior Year, including the periods such charges were in force;

d. the Relevant Year Weighted Average Charges and the Prior Year Weighted Average Charges for all of the services in the Basket and calculations thereof; and

e. other data necessary for monitoring compliance with the charge control,

whereby all relevant revenues in respect of a specific service in the Basket are provided to at least the nearest £1,000.

7D.7 If it appears to Ofcom that the Dominant Provider is likely to fail to secure that the Percentage Change does not exceed the Controlling Percentage for the Third Relevant Year, the Dominant Provider must make such adjustment to any of its charges for the provision of Charge Controlled Service and by such day in the Third Relevant Year (or if appropriate in Ofcom's opinion, by such day that falls after the end of the Third Relevant Year) as Ofcom may direct for the purpose of avoiding such a failure.

7D.8 Conditions 7D.1 to 7D.7 shall not apply to such extent as Ofcom may direct.

7D.9 The Dominant Provider must comply with any direction Ofcom may make from time to time under this condition.

7D.10 In this condition:

a. "**Basket**" shall be construed in accordance with condition 7D.3;

b. "**Charge**" means for the purposes of condition 7D.5, the charge (being in all cases the amounts offered or charged by the

Dominant Provider) to a Communications Provider for the Charge Controlled Service;

- c. **“Charge Change”** means a change to any of the charges for the provision of a Charge Controlled Service;
- d. **“Charge Controlled Service”** means a service or Basket of services listed in conditions 7D.1 and 7D.2;
- e. **“Controlling Percentage”** is to be determined in accordance with condition 7D.4;
- f. **“Percentage Change”** has the meaning given to it in condition 7D.3;
- g. **“Prior Year Weighted Average Charge”** is to be determined in accordance with the formula in condition 7D.3; and
- h. **“Relevant Year Weighted Average Charge”** is to be determined in accordance with the relevant formula in condition 7D.3.

Condition 7E – Wholesale ISDN2 services charge control

- 7E.1 In each Relevant Year the Dominant Provider must not charge more than £10 per channel for the ISDN2 Transfer Services.
- 7E.2 The Dominant Provider must take all reasonable steps to secure that, at the end of each Relevant Year, the Percentage Change (determined in accordance with condition 7E.3) in the aggregate charges for ISDN2 Rental Services and ISDN2 Connection Services is not more than the Controlling Percentage (determined in accordance with condition 7E.4).
- 7E.3 The Percentage Change for the purposes of the products and/or services specified in condition 7E.2 (which is a “Basket”) shall be calculated for the purposes of complying with condition 7E.2 by employing the following formula:

$$C_t = \frac{\sum_{i=1}^n \left[(R_i) \frac{\{p_{t,i} - p_{t-1,i}\}}{p_{t-1,i}} \right]}{\sum_{i=1}^n [R_i]}$$

Where:

C_t is the Percentage Change in the aggregate of charges for the services in the Basket for Relevant Year t ;

n is the number of individual services in the Basket;

i is a number from 1 to n for each of the n individual services in the Basket;

R_i is the revenue accrued during the Prior Year in respect of the individual service i that forms part of the Basket calculated to exclude any discounts offered by the Dominant Provider;

t refers to the Relevant Year;

$t-1$ refers to the Prior Year;

$p_{t,i}$ is the weighted average charge made by the Dominant Provider for the

individual service i that forms part of the Basket during the Relevant Year excluding any discounts offered by the Dominant Provider:

Where such Relevant Year Weighted Average Charge shall be calculated by employing the following formula:

$$p_{t,i} = \sum_{j=1}^m (w_j p_j)$$

Where:

m is the number of periods for which there are distinct charges during the Relevant Year;

j is a number from 1 to m for each of the m periods during which a distinct charge is in effect;

w_j is the proportion of the Relevant Year in which each charge, p_j , is in effect, calculated by the number of days during which the charge is in effect and dividing

- (1) for the First Relevant Year, by 365;
- (2) for the Second Relevant Year, by 366; and
- (3) for the Third Relevant Year, by 365.

p_j is the charge for the specified period, j , during the Relevant Year, for the individual service, i ;

$p_{t-1,i}$ is the weighted average charge made by the Dominant Provider for the individual service i that forms part of the Basket during the Prior Year excluding any discounts offered by the Dominant Provider.

Where such Prior Year Weighted Average Charge shall be calculated by employing the following formula:

$$p_{t-1,i} = \sum_{j=1}^m (w_j p_j)$$

Where:

m is the number of periods for which there are distinct charges during the Prior Year;

j is a number from 1 to m for each of the m periods during which a distinct charge is in effect;

w_j is the proportion of the Prior Year in which each charge, p_j , is in effect, calculated by the number of days during which the charge is in effect and dividing

(1) for the Prior Year when considering the First Relevant Year, by 365;

(2) for the Prior Year when considering the Second Relevant Year, by 365;

(3) for the Prior Year when considering the Third Relevant Year, by 366;

p_j is the charge for the individual period, j , during the Prior Year, for the individual service, i .

7E.4 The Controlling Percentage in relation to any Relevant Year for the products and/or services specified in condition 7E.2 shall be calculated by employing the following formula:

$$CP_t = [(100\% + X) (100\% + CP_{t-1}) / (100\% + C_{t-1})] - 100\%$$

Where:

X means 0 (zero) percentage points;

CP_t means the Controlling Percentage for Relevant Year t ;

CP_{t-1} means the Controlling Percentage for the Prior Year, which shall be equal to:

- a. zero when considering the First Relevant Year;
- b. the Controlling Percentage for the First Relevant Year when considering the Second Relevant Year;
- c. the Controlling Percentage for the Second Relevant Year when considering the Third Relevant year;

C_{t-1} means the Percentage Change in the aggregate of charges for the services in the Basket for the Prior Financial Year, which shall be equal to:

- a. zero when considering the First Relevant Year;
- b. the Percentage Change for the First Relevant Year when considering the Second Relevant Year;
- c. the Percentage Change for the Second Relevant Year when considering the Third Relevant year.

7E.5 Where:

- a. the Dominant Provider makes a material change (other than to a Charge) to any Charge Controlled Service for which a Charge is charged; or
- b. the Dominant Provider makes a change to the date on which its financial year ends,

conditions 7E.1 to 7E.5 shall have effect subject to such reasonable adjustment to take account of the change as Ofcom may direct to be appropriate in the circumstances. For the purposes of this condition 7E.5, a material change to the Charge Controlled Service includes (but is not limited to) the introduction of a new product and/or service wholly or substantially in substitution for an existing Charge Controlled Service.

7E.6 The Dominant Provider must record, maintain and supply to Ofcom in an electronic format, no later than three months after the end of each Relevant Year, the data necessary for Ofcom to monitor compliance of the Dominant Provider with the price control. The data must include:

- a. pursuant to condition 7E.3 the calculated Percentage Change relating to each of the services specified in condition 7E.2;
- b. all relevant data the Dominant Provider used in the calculation of the Percentage Change as set out in 7E.3 above, including for each specific service, i ;

c. all charges, excluding any discounts, published by the Dominant Provider from time to time during the Relevant Year and the Prior Year, including the period they were in force;

d. the Relevant Year Weighted Average Charges and the Prior Year Weighted Average Charges for all of the services in the Basket and calculations thereof; and

e. other data necessary for monitoring compliance with the charge control,

whereby all relevant revenues in respect of a specific service in the Basket are provided to at least the nearest £1,000.

7E.7 If it appears to Ofcom that the Dominant Provider is likely to fail to secure that the Percentage Change does not exceed the Controlling Percentage for the Third Relevant Year, the Dominant Provider must make such adjustment to any of its charges for the provision of Charge Controlled Service and by such day in the Third Relevant Year (or if appropriate in Ofcom's opinion, by such day that falls after the end of the Third Relevant Year) as Ofcom may direct for the purpose of avoiding such a failure.

7E.8 Conditions 7E.1 to 7E.7 shall not apply to such extent as Ofcom may direct.

7E.9 The Dominant Provider must comply with any direction Ofcom may make from time to time under this condition.

7E.10 In this condition:

a. "**Basket**" shall be construed in accordance with condition 7E.1;

b. "**Charge**" means for the purposes of condition 7E.5, the charge (being in all cases the amounts offered or charged by the Dominant Provider) to a Communications Provider for the Charge Controlled Service;

c. "**Charge Change**" means a change to any of the charges for the provision of Charge Controlled Service;

- d. **“Charge Controlled Service”** means a service or Basket of services listed in conditions 7E.1 and 7E.2;
- e. **“Controlling Percentage”** is to be determined in accordance with condition 7E.4;
- f. **“Percentage Change”** has the meaning given to it in condition 7E.3;
- g. **“Prior Year Weighted Average Charge”** is to be determined in accordance with the formula in condition 7E.3; and
- h. **“Relevant Year Weighted Average Charge”** is to be determined in accordance with the formula in condition 7E.3.

Condition 8 – Publication of a Reference Offer

- 8.1 Except in so far as Ofcom may from time to time otherwise consent in writing, the Dominant Provider must publish a Reference Offer and act in the manner set out below.
- 8.2 Subject to condition 8.8, the Dominant Provider must ensure that a Reference Offer in relation to the provision of network access pursuant to condition 1 includes, where applicable, at least the following—
- (a) a description of the network access to be provided, including technical characteristics (which shall include information on network configuration where necessary to make effective use of network access);
 - (b) the locations at which network access will be provided;
 - (c) any relevant technical standards for network access (including any usage restrictions and other security issues);
 - (d) the conditions for access to ancillary, supplementary and advanced services (including operational support systems, information systems or databases for pre-ordering, provisioning, ordering, maintenance and repair requests and billing);
 - (e) any ordering and provisioning procedures;
 - (f) relevant charges, terms of payment and billing procedures;
 - (g) details of interoperability tests;
 - (h) details of traffic and network management;
 - (i) details of maintenance and quality as follows—
 - (i) specific time scales for the acceptance or refusal of a request for supply and for completion, testing and hand-over or delivery of services and facilities, and for provision of support services (such as fault handling and repair);
 - (ii) service level commitments, namely the quality standards that each party

must meet when performing its contractual obligations;

(iii) the amount of compensation payable by one party to another for failure to perform contractual commitments;

(iv) a definition and limitation of liability and indemnity; and

(v) procedures in the event of alterations being proposed to the service offerings, for example, launch of new services, changes to existing services or change to prices;

(j) details of measures to ensure compliance with requirements for network integrity;

(k) details of any relevant intellectual property rights;

(l) a dispute resolution procedure to be used between the parties;

(m) details of duration and renegotiation of agreements;

(n) provisions regarding confidentiality of the agreements;

(o) rules of allocation between the parties when supply is limited (for example, for the purpose of co-location or location of masts); and

(p) the standard terms and conditions for the provision of network access.

8.2A Subject to condition 8.8, the Dominant Provider must ensure that a Reference
(WLA - Offer in relation to the provision of Local Loop Unbundling Services pursuant to
LLU) conditions 1 and 2 also includes at least the following:

(a) the location of MDF Sites;

(b) the area within which Metallic Path Facilities could be made available from each of the MDF Sites listed under (a) above;

(c) the availability of LLU Co-Location (including the options for such co-location) at each of the MDF Sites listed under (a) above;

(d) equipment characteristics, including any restrictions on equipment for the

- purposes of LLU Co-Location at each of the MDF Sites listed under (a) above;
- (e) conditions for LLU Site Access at each of the MDF Sites listed under (a) above, including conditions for access for staff of those Third Parties to whom the Dominant Provider provides Local Loop Unbundling Services;
- (f) conditions for the inspection of MDF Sites at which Co-Location is available or at which Co-Location has been refused on grounds of lack of capacity;
- (g) safety standards;
- (h) the relevant charges (or charging formulae) for each feature, function and facility involved in the provision of Local Loop Unbundling Services; and
- (i) anything which may reasonably be regarded as being likely to materially affect the availability of the relevant Local Loop Unbundling Services.

8.2B Subject to condition 8.8, the Dominant Provider must ensure that a Reference
(WLA - Offer in relation to the provision of Physical Infrastructure Access pursuant to
PIA) conditions 1 and 2 also includes at least the following:

- (a) the location of Physical Infrastructure or the method by which Third Parties may obtain information about the location of Physical Infrastructure;
- (b) technical specifications for Physical Infrastructure Access including:
 - (i) technical specifications for permitted cables and associated equipment; and
 - (ii) cable installation, attachment and recovery methods;
- (c) the methodology for calculating availability of spare capacity in Physical Infrastructure;
- (d) procedures for the provision of information to Third Parties about spare capacity, including arrangements for visual surveys of Physical Infrastructure to determine spare capacity;
- (e) conditions for reserving capacity that shall apply equally to the Dominant Provider and Third Parties;

- (f) conditions for the installation and recovery of cables and associated equipment;
- (g) arrangements for relieving congested Physical Infrastructure, including the repair of existing faulty infrastructure and the construction of new Physical Infrastructure;
- (h) a procedure for the Dominant Provider to announce plans reasonably in advance for new construction of Physical Infrastructure such that Third Parties may request the Dominant Provider to install additional capacity for those Third Parties;
- (i) conditions for Third Parties to gain access to the Physical Infrastructure including if appropriate training, certification and authorisation requirements for personnel permitted to access and work in/on Physical Infrastructure;
- (j) the arrangements for maintenance of cables and associated equipment installed by Third Parties and of the Physical Infrastructure, including provision for the temporary occupation of additional infrastructure capacity for the installation of replacement cables;
- (k) conditions for the inspection of the Physical Infrastructure at which access is available or at which access has been refused on grounds of lack of capacity;
- (l) anything which may reasonably be regarded as being likely to materially affect the availability of the relevant Physical Infrastructure Access.

8.2C Subject to condition 8.8, the Dominant Provider must ensure that a Reference
(WLA) Offer made in relation to the provision of network access to Metallic Path
Facilities pursuant to conditions 1 and 2 includes–

- (a) Service Level Commitments in respect of at least the following aspects of that service:
 - (i) availability of an appointment for the provision of the service;
 - (ii) attending appointments for the provision of the service;

- (iii) completion of the provision of the service;
- (iv) completion of the transfer of the service;
- (v) line working at completion of provisioning process;
- (vi) disconnections made in error;
- (vii) fault repair times; and
- (viii) attending fault repair appointments; and

(b) Service Level Guarantees in respect of the Service Level Commitments specified in condition 8.2C(a)(i) to (a)(viii) above.

8.2D (WLA) Subject to condition 8.8, the Dominant Provider must ensure that a Reference Offer made in relation to the provision of network access to Shared Access pursuant to conditions 1 and 2 includes—

(a) Service Level Commitments in respect of at least the following aspects of that service:

- (i) completion of the provision of the service;
- (ii) completion of the transfer of the service;
- (iii) line working at completion of provisioning process;
- (iv) disconnections made in error; and
- (v) fault repair times; and

(b) Service Level Guarantees in respect of the Service Level Commitments specified in condition 8.2D(a)(i) to (a)(v) above.

8.2E (WLA) Subject to condition 8.8, the Dominant Provider must ensure that a Reference Offer made in relation to the provision of Virtual Unbundled Local Access

pursuant to conditions 1 and 2 includes—

(a) Service Level Commitments in respect of at least the following aspects of that service:

- (i) availability of an appointment for the provision of the service;
- (ii) attending appointments for the provision of the service;
- (iii) completion of the provision of the service;
- (iv) disconnections made in error; and
- (v) fault repair times; and

(b) Service Level Guarantees in respect of the Service Level Commitments specified in condition 8.2E(a)(i) to (a)(v) above.

8.2F Subject to condition 8.8, the Dominant Provider must ensure that a Reference
(WFAEL) Offer made in relation to the provision of Wholesale Analogue Line Rental pursuant to conditions 1 and 2 includes—

(a) Service Level Commitments in respect of at least the following aspects of that service:

- (i) availability of an appointment for the provision of the service;
- (ii) attending appointments for the provision of the service;
- (iii) completion of the provision of the service;
- (iv) completion of the transfer of the service;
- (v) disconnections made in error;
- (vi) fault repair times; and

- (vii) attending fault repair appointments; and

- (b) Service Level Guarantees in respect of the Service Level Commitments specified in condition 8.2E(a)(i) to (a)(vii) above.

8.2G Subject to condition 8.8, the Dominant Provider must ensure that a Reference (ISDN30) Offer made in relation to the provision of Wholesale ISDN30 Line Rental pursuant to conditions 1 and 2 includes—

- (a) Service Level Commitments in respect of at least the following aspects of that service:

- (i) attending appointments for the provision of the service;
- (ii) completion of the provision of the service;
- (iii) completion of the transfer of the service;
- (iv) disconnections made in error;
- (v) fault repair times; and
- (vi) attending fault repair appointments; and

- (b) Service Level Guarantees in respect of the Service Level Commitments specified in condition 8.2G(a)(i) to (a)(vii) above.

8.2H Subject to condition 8.8, the Dominant Provider must ensure that a Reference (ISDN2) Offer made in relation to the provision of Wholesale ISDN2 Line Rental pursuant to conditions 1 and 2 includes—

- (a) Service Level Commitments in respect of at least the following aspects of that service:

- (i) availability of an appointment for the provision of the service;
- (ii) attending appointments for the provision of the service;

- (iii) completion of the provision of the service;
- (iv) completion of the transfer of the service;
- (v) disconnections made in error;
- (vi) fault repair times; and
- (vii) attending fault repair appointments; and

(b) Service Level Guarantees in respect of the Service Level Commitments specified in condition 8.2H(a)(i) to (a)(vii) above.

8.2I The requirement in condition 8.2E(a)(i) will enter into force on [DATE].

8.3 To the extent that the Dominant Provider provides to itself network access that:

- (a) is the same, similar or equivalent to that provided to any Third Party; or
- (b) may be used for a purpose that is the same, similar or equivalent to that provided to any Third Party;

in a manner that differs from that detailed in a Reference Offer in relation to network access provided to any Third Party, the Dominant Provider must ensure that it publishes a Reference Offer in relation to the network access that it provides to itself which includes, where relevant, at least those matters detailed in condition 8.2(a) to (p).

8.4 The Dominant Provider must, on the date that this condition enters into force, publish a Reference Offer in relation to any network access that it is providing as at the date that this condition enters into force.

8.5 The Dominant Provider must update and publish the Reference Offer in relation to any amendments or in relation to any further network access provided after the date that this condition enters into force.

- 8.6 Publication referred to above shall be effected by the Dominant Provider placing a copy of the Reference Offer on any relevant website operated or controlled by the Dominant Provider.
- 8.7 The Dominant Provider must send a copy of the current version of the Reference Offer to any person at that person's written request (or such parts as have been requested).
- 8.8 The Dominant Provider must make such modifications to the Reference Offer as Ofcom may direct from time to time.
- 8.9 The Dominant Provider must provide network access at the charges, terms and conditions in the relevant Reference Offer and must not depart therefrom either directly or indirectly.
- 8.10 The Dominant Provider must comply with any direction Ofcom may make from time to time under this condition.

Condition 9 – Notification of charges and terms and conditions

- 9.1A (WLA) Except in so far as Ofcom may from time to time otherwise consent in writing, the Dominant Provider must publish charges, terms and conditions and act in the manner set out in this condition.
- 9.1B (WFAEL, ISDN30 and ISDN2) Except in so far as Ofcom may from time to time otherwise consent in writing, the Dominant Provider must publish charges and act in the manner set out in this condition.
- 9.2A (WLA) Where it proposes a WLA Access Change, the Dominant Provider must send to every person with whom it has entered into an Access Agreement pursuant to condition 1 or conditions 1 and 2 (as the case may be), a WLA Access Change Notice.
- 9.2B (WFAEL, ISDN30 and ISDN2) Where it proposes an Access Charge Change, the Dominant Provider must send to every person with whom it has entered into an Access Agreement pursuant to condition 1 or conditions 1 and 2 (as the case may be), an Access Charge Change Notice.
- 9.3A (WLA) The obligation in condition 9.2A shall not apply where the WLA Access Change is directed or determined by Ofcom (including pursuant to the setting of an SMP services condition under the power in section 45 of the Act) or required by a notification or enforcement notification issued by Ofcom under sections 96A or 96C of the Act.
- 9.3B (WFAEL, ISDN30 and ISDN2) The obligation in condition 9.2B shall not apply where the Access Charge Change or is directed or determined by Ofcom (including pursuant to the setting of an SMP services condition under the power in section 45 of the Act) or required by a notification or enforcement notification issued by Ofcom under sections 96A or 96C of the Act.
- 9.4A (WLA) A WLA Access Change Notice must—

(a) in the case of a WLA Access Change involving new network access, be sent not less than 28 days before any such amendment comes into effect;

(b) in the case of a WLA Access Change relating solely to a reduction in the price of existing network access (including, for the avoidance of doubt, a Special Offer), be sent not less than 28 days before any such amendment comes into effect;

(c) in the case of a WLA Access Change relating to the end of a temporary price reduction in accordance with the terms of the Special Offer, be sent not less than 28 days before any such amendment comes into effect; and

(d) in the case of any other WLA Access Change involving existing network access, be sent not less than 90 days before any such amendment comes into effect.

9.4B An Access Charge Change Notice must—
(WFAEL)

(a) in the case of an Access Charge Change relating to the Wholesale Line Rental Charge, be sent not less than 90 days before any such amendment comes into effect; and

(b) in the case of any other Access Charge Change, not less than 28 days before any such amendment comes into effect.

9.4C An Access Charge Change Notice must in the case of an Access
(ISDN30 and Charge Change involving either new or existing network access, be
ISDN2) sent not less than 28 days before any such amendment comes into
effect.

9.5A (WLA) The Dominant Provider must ensure that a WLA Access Change
Notice includes—

(a) a description of the network access in question;

(b) a reference to the location in the Dominant Provider's current Reference Offer of the terms and conditions associated with the provision of that network access;

(c) the current and proposed new charge and/or current and proposed new terms and conditions (as the case may be);
and

(d) the date on which, or the period for which, the WLA Access Change will take effect (the "effective date").

9.5B The Dominant Provider must ensure that an Access Charge Change
(WFAEL, Notice includes—
ISDN30 and
ISDN2)

(a) a description of the network access in question;

(b) a reference to the location in the Dominant Provider's current Reference Offer of the terms and conditions associated with the provision of that network access;

(c) the current and proposed new charge; and

(d) the date on which, or the period for which, the Access Charge Change will take effect (the "effective date").

9.6A (WLA) The Dominant Provider must not apply any WLA Access Change
identified in a WLA Access Change Notice before the effective date.

9.6B The Dominant Provider must not apply any Access Charge Change
(WFAEL, identified in an Access Charge Change Notice before the effective
ISDN30 and date.
ISDN2)

9.7A (WLA) To the extent that the Dominant Provider provides to itself network
access that—

(a) is the same, similar or equivalent to that provided to any Third

Party; or

(b) may be used for a purpose that is the same, similar or equivalent to that provided to any Third Party,

in a manner that differs from that detailed in a WLA Access Change Notice in relation to network access provided to any Third Party, the Dominant Provider must ensure that it sends to Ofcom a notice in relation to the network access that it provides to itself which includes, where relevant, at least those matters detailed in conditions 9.5A(a) to (d) and, where the Dominant Provider amends the charges, terms and conditions on which it provides itself with provides network access, it must ensure it sends to Ofcom a notice equivalent to a WLA Access Change Notice.

9.7B To the extent that the Dominant Provider provides to itself network
(WFAEL, access that—

ISDN30 and (a) is the same, similar or equivalent to that provided to any Third
ISDN2) Party; or

(b) may be used for a purpose that is the same, similar or equivalent to that provided to any Third Party,

in a manner that differs from that detailed in an Access Charge Change Notice in relation to network access provided to any Third Party, the Dominant Provider must ensure that it sends to Ofcom a notice in relation to the network access that it provides to itself which includes, where relevant, at least those matters detailed in conditions 9.5B(a) to (d) and, where the Dominant Provider amends the charges for network access which it provides to itself, it must ensure it sends to Ofcom a notice equivalent to an Access Charge Change Notice.

Condition 10 – Notification of technical information

10.1 Except in so far as Ofcom may from time to time otherwise consent in writing, where the Dominant Provider provides network access pursuant to condition 1 or conditions 1 and 2 (as the case may be) and proposes new or amended terms and conditions relating to the following—

- (a) technical characteristics (including information on network configuration, where necessary, to make effective use of the network access provided);
- (b) the locations at which network access will be provided; or
- (c) technical standards (including any usage restrictions and other security issues),

the Dominant Provider must publish a written notice (the “Notice”) of the new or amended terms and conditions within a reasonable time period but not less than 90 days before either the Dominant Provider enters into an Access Agreement to provide the new network access or the amended terms and conditions of an existing Access Agreement come into effect.

10.2 The obligation in condition 10.1 shall not apply—

- (a) where the new or amended charges or terms and conditions are directed or determined by Ofcom (including pursuant to the setting of an SMP services condition under the power in section 45 of the Act) or are required by a notification or enforcement notification issued by Ofcom under sections 96A or 96C of the Act; or
- (b) in relation to new or amended technical specifications determined by NICC Standards Limited, whose registered company number is 6613589.

10.3 The Dominant Provider must ensure that the Notice includes—

- (a) a description of the network access in question;
- (b) a reference to the location in the Dominant Provider’s Reference Offer of the relevant terms and conditions;

(c) the date on which or the period for which the Dominant Provider may enter into an Access Agreement to provide the new network access or any amendments to the relevant terms and conditions will take effect (the “effective date”).

10.4 The Dominant Provider must not enter into an Access Agreement containing the terms and conditions identified in the Notice or apply any new relevant terms and conditions identified in the Notice before the effective date.

10.5 Publication referred to in condition 10.1 must be effected by the Dominant Provider—

(a) placing a copy of the Notice on any relevant website operated or controlled by the Dominant Provider;

(b) sending a copy of the Notice to Ofcom; and

(c) sending a copy of the Notice to any person at that person’s written request, and where the Notice identifies a modification to existing relevant terms and conditions, to every person with which the Dominant Provider has entered into an Access Agreement pursuant to condition 1 or conditions 1 and 2 (as the case may be). The provision of such a copy of the Notice by the Dominant Provider may be subject to a reasonable charge.

Condition 11 – Quality of service

- 11.1 The Dominant Provider must publish all such information as to the quality of service in relation to network access provided by the Dominant Provider pursuant to conditions 1 and 2 (as applicable) in such manner and form, and including such content, as Ofcom may from time to time direct.

Condition 12 – Minimum standards for quality of service

12.1 Except in so far as Ofcom may from time to time otherwise consent in writing, in relation to the provision of network access to Metallic Path Facilities under conditions 1 and 2 the Dominant Provider must in each Relevant Region—

(a) offer appointments for that provision that are within 12 working days of the corresponding orders being placed on the EMP by a Third Party:

- (i) in [●]% of instances in the First Relevant Year;
- (ii) in [●]% of instances in the Second Relevant Year; and
- (iii) in [●]% of instances in the Third Relevant Year;

(b) complete that provision on the Committed Date:

- (i) in [●]% of instances in the First Relevant Year;
- (ii) in [●]% of instances in the Second Relevant Year; and
- (iii) in [●]% of instances in the Third Relevant Year; and

(c) complete the repair of Standard Faults that are subject to Level 2 Care by the end of the next working day after such Standard Faults have been placed on the Equivalence Management Platform:

- (i) in [●]% of instances in the First Relevant Year;
- (ii) in [●]% of instances in the Second Relevant Year; and
- (iii) in [●]% of instances in the Third Relevant Year;

12.2 Except in so far as Ofcom may from time to time otherwise consent in writing, in relation to the provision of Wholesale Analogue Line Rental under conditions 1 and 2 the Dominant Provider must in each Relevant Region—

(a) offer appointments for that provision that are within 12 working days of

the corresponding orders being placed on the Equivalence Management Platform by a Third Party:

- (i) in [●]% of instances in the First Relevant Year;
- (ii) in [●]% of instances in the Second Relevant Year; and
- (iii) in [●]% of instances in the Third Relevant Year;

(b) complete that provision on the Committed Date:

- (i) in [●]% of instances in the First Relevant Year;
- (ii) in [●]% of instances in the Second Relevant Year; and
- (iii) in [●]% of instances in the Third Relevant Year; and

(c) complete the repair of Standard Faults that are subject to Level 1 Care by the end of the next working day after such Standard Faults have been placed on the Equivalence Management Platform:

- (i) in [●]% of instances in the First Relevant Year;
- (ii) in [●]% of instances in the Second Relevant Year; and
- (iii) in [●]% of instances in the Third Relevant Year.

12.3 The Dominant Provider must record, maintain and supply to Ofcom in writing, no later than three months after the end of each Relevant Year, the data necessary for Ofcom to monitor compliance by the Dominant Provider with the requirements set out paragraph 12.1 and 12.2 above. The data must include any such data as Ofcom may from time to time direct.

12.4 The Dominant Provider must comply with any such further minimum standards as Ofcom may direct from time to time.

12.5 The Dominant Provider must comply with any direction Ofcom may make from time to time under this condition.

Schedule 2: SMP conditions (KCOM)

Part 1: Application

1. The SMP conditions in Part 3 of this Schedule 2, except where specified otherwise, apply to the Dominant Provider in each of the relevant markets listed in Column 1 of Table 2 below to the extent specified in Column 2 of Table 2. Save as otherwise specified in any condition, each condition will enter into force on [*date of final notification*].

Table 2: Relevant markets for the purposes of this Schedule

Column 1: Relevant market	Column 2: Applicable SMP conditions as set out in Part 3 of this Schedule 1
The supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location in the Hull Area	Conditions 1 – 4, 5.1A, 5.2A, 5.3A, 5.4A, 5.5A, 5.6A, 5.7A and 6
Wholesale fixed analogue exchange line services in the Hull Area	Conditions 1 – 4, 5.1B, 5.2B, 5.3B, 5.4B, 5.5B, 5.6B, 5.7B and 6
Wholesale ISDN30 exchange line services in the Hull Area	Conditions 1, 3, 4, 5.1B, 5.2B, 5.3B, 5.4C, 5.5B, 5.6B, 5.7B and 6
Wholesale ISDN2 exchange line services in the Hull Area	Conditions 1, 3, 4, 5.1B, 5.2B, 5.3B, 5.4C, 5.5B, 5.6B, 5.7B and 6

The conditions referred to in Column 2 of Table 1 are entitled as follows—

Condition 1	Network access on reasonable request
Condition 2	Requests for new forms of network access (WLA and WFEAL)

Condition 3	No undue discrimination
Condition 4	Publication of a Reference Offer
Condition 5	Notification of charges and terms and conditions
Condition 6	Notification of technical information

Part 2: Interpretation

1. In addition to the definitions set out above in this notification, in this Schedule 1—
 - (a) **“Access Charge Change”** means any amendment to the Dominant Provider’s charges for the provision of network access or for new network access;
 - (b) **“Access Charge Change Notice”** means a notice given by the Dominant Provider of an Access Charge Change;
 - (c) **“Access Agreement”** means an agreement entered into between the Dominant Provider and a Third Party for the provision of network access in accordance with condition 1 and, in relevant cases, condition 2;
 - (d) **“Dominant Provider”** means KCOM;
 - (e) **“Reference Offer”** means the terms and conditions on which the Dominant Provider is willing to enter into an Access Agreement;
 - (f) **“Third Party”** means a person providing a public electronic communications service or a person providing a public electronic communications network.
 - (g) **“WLA Access Change”** means any amendment to the charges, terms and conditions on which the Dominant Provider provides network access or in relation to any charges for new network access; and
 - (h) **“WLA Access Change Notice”** means a notice given by the Dominant Provider of a WLA Access Change.
2. For the purpose of interpreting this Schedule—
 - (a) except in so far as the context otherwise requires, words or expressions have the meaning assigned to them above in this notification or in paragraph 1 of this Part 2 (as the case may be), and otherwise any word or expression has the same meaning

as it has in the Act;

- (b) headings and titles shall be disregarded;
- (c) expressions cognate with those referred to in this Schedule shall be construed accordingly; and
- (d) the Interpretation Act 1978 (c. 30) shall apply as if this Schedule were an Act of Parliament.

Part 3: SMP conditions

Condition 1 – Network access on reasonable request

- 1.1 The Dominant Provider must provide network access to a Third Party where that Third Party, in writing, reasonably requests it.
- 1.2 The provision of network access by the Dominant Provider in accordance with this condition must:
 - (a) take place as soon as reasonably practicable after receiving the request from a Third Party;
 - (b) be on:
 - (i) fair and reasonable terms, conditions and charges; and
 - (ii) such terms, conditions and charges as Ofcom may from time to time direct.
- 1.3 The provision of network access by the Dominant Provider in accordance with this condition must also include such associated facilities as are reasonably necessary for the provision of network access and such other entitlements as Ofcom may from time to time direct.

- 1.4 The Dominant Provider must comply with any direction Ofcom may make from time to time under this condition.

Condition 2 – Requests for new forms of network access (WLA and WFAEL)

2.1 The Dominant Provider must, for the purposes of transparency, publish guidelines, in relation to requests for new forms of network access made to it. Such guidelines must set out:

- (a) the form in which such a request should be made;
- (b) the information that the Dominant Provider requires in order to consider a request for a new form of network access;
- (c) the timescales in which such requests will be handled by the Dominant Provider; and
- (d) any provisions directed by Ofcom.

2.2 The guidelines must meet the following principles:

- (a) the process for consideration of requests shall be documented end-to-end;
- (b) the timescales for each stage of the process shall be reasonable;
- (c) the criteria by which requests will be assessed shall be clearly identified;
- (d) the reasons for rejecting any request shall be clear and transparent; and
- (e) any changes to the guidelines shall be agreed between the Dominant Provider and other communications providers in an appropriate manner.

2.3 The Dominant Provider must, upon reasonable request from a Third Party considering making a request for a new form of network access, provide that Third Party with such information as may be reasonably required to enable that Third Party to make a request for a new form of network access. Such information must be provided within a reasonable period.

2.4 On receipt of a written request for a new form of network access, the Dominant Provider must deal with the request in accordance with the guidelines described in condition 2.1 above. A modification of a request for a new form of network access

which has previously been submitted to the Dominant Provider, and rejected by the Dominant Provider, must be considered as a new request.

- 2.5 The Dominant Provider must comply with any direction Ofcom may make from time to time under this condition requiring amendments to the guidelines.

Condition 3 – No undue discrimination

- 3.1 The Dominant Provider must not unduly discriminate against particular persons or against a particular description of persons, in relation to the provision of network access in accordance with condition 1.
- 3.2 In this condition, the Dominant Provider may be deemed to have shown undue discrimination if it unfairly favours to a material extent an activity carried on by it so as to place one or more Third Parties at a competitive disadvantage in relation to activities carried on by the Dominant Provider.

Condition 4

- 4.1 Except in so far as Ofcom may from time to time otherwise consent in writing, the Dominant Provider must publish a Reference Offer and act in the manner set out below.
- 4.2 Subject to condition 4.8, the Dominant Provider must ensure that a Reference Offer in relation to the provision of network access includes, where applicable, at least the following—
- (a) a description of the network access to be provided, including technical characteristics (which shall include information on network configuration where necessary to make effective use of network access);
 - (b) the locations at which network access will be provided;
 - (c) any relevant technical standards for network access (including any usage restrictions and other security issues);
 - (d) the conditions for access to ancillary, supplementary and advanced services (including operational support systems, information systems or databases for pre-ordering, provisioning, ordering, maintenance and repair requests and billing);
 - (e) any ordering and provisioning procedures;
 - (f) relevant charges, terms of payment and billing procedures;
 - (g) details of interoperability tests;
 - (h) details of traffic and network management;
 - (i) details of maintenance and quality as follows—
 - (i) specific time scales for the acceptance or refusal of a request for supply and for completion, testing and hand-over or delivery of services and facilities, and for provision of support services (such as fault handling and repair);
 - (ii) service level commitments, namely the quality standards that each party must meet when performing its contractual obligations;

- (iii) the amount of compensation payable by one party to another for failure to perform contractual commitments;
- (iv) a definition and limitation of liability and indemnity; and
- (v) procedures in the event of alterations being proposed to the service offerings, for example, launch of new services, changes to existing services or change to prices;
- (j) details of measures to ensure compliance with requirements for network integrity;
- (k) details of any relevant intellectual property rights;
- (l) a dispute resolution procedure to be used between the parties;
- (m) details of duration and renegotiation of agreements;
- (n) provisions regarding confidentiality of the agreements;
- (o) rules of allocation between the parties when supply is limited (for example, for the purpose of co-location or location of masts); and
- (p) the standard terms and conditions for the provision of network access.

4.3 To the extent that the Dominant Provider provides to itself network access that:

- (a) is the same, similar or equivalent to that provided to any Third Party; or
- (b) may be used for a purpose that is the same, similar or equivalent to that provided to any Third Party;

in a manner that differs from that detailed in a Reference Offer in relation to network access provided to any Third Party, the Dominant Provider must ensure that it publishes a Reference Offer in relation to the network access that it provides to itself which includes, where relevant, at least those matters detailed in condition 4.2(a) to (p).

4.4 The Dominant Provider must, on the date that this condition enters into force, publish a Reference Offer in relation to any network access that it is providing as

at the date that this condition enters into force.

- 4.5 The Dominant Provider must update and publish the Reference Offer in relation to any amendments or in relation to any further network access provided after the date that this condition enters into force.
- 4.6 Publication referred to above shall be effected by the Dominant Provider placing a copy of the Reference Offer on any relevant website operated or controlled by the Dominant Provider.
- 4.7 The Dominant Provider must send a copy of the current version of the Reference Offer to any person at that person's written request (or such parts as have been requested).
- 4.8 The Dominant Provider must make such modifications to the Reference Offer as Ofcom may direct from time to time.
- 4.9 The Dominant Provider must provide network access at the charges, terms and conditions in the relevant Reference Offer and must not depart therefrom either directly or indirectly.
- 4.10 The Dominant Provider must comply with any direction Ofcom may make from time to time under this condition.

Condition 5 – Notification of charges and terms and conditions

- 5.1A (WLA) Except in so far as Ofcom may from time to time otherwise consent in writing, the Dominant Provider must publish charges, terms and conditions and act in the manner set out in this condition.
- 5.1B (WFAEL, ISDN30 and ISDN2) Except in so far as Ofcom may from time to time otherwise consent in writing, the Dominant Provider must publish charges and act in the manner set out in this condition.
- 5.2A (WLA) Where it proposes a WLA Access Change, the Dominant Provider must send to every person with whom it has entered into an Access Agreement pursuant to condition 1, a WLA Access Change Notice.
- 5.2B (WFAEL, ISDN30 and ISDN2) Where it proposes an Access Charge Change, the Dominant Provider must send to every person with whom it has entered into an Access Agreement pursuant to condition 1, an Access Charge Change Notice.
- 5.3A (WLA) The obligation in condition 5.2A shall not apply where the WLA Access Change is directed or determined by Ofcom (including pursuant to the setting of an SMP services condition under the power in section 45 of the Act) or required by a notification or enforcement notification issued by Ofcom under sections 96A or 96C of the Act.
- 5.3B (WFAEL, ISDN30 and ISDN2) The obligation in condition 5.2B shall not apply where the Access Charge Change or is directed or determined by Ofcom (including pursuant to the setting of an SMP services condition under the power in section 45 of the Act) or required by a notification or enforcement notification issued by Ofcom under sections 96A or 96C of the Act.
- 5.4A (WLA) A WLA Access Change Notice must—
- (a) in the case of a WLA Access Change involving new

network access, be sent not less than 28 days before any such amendment comes into effect;

(b) in the case of a WLA Access Change relating solely to a reduction in the price of existing network access (including, for the avoidance of doubt, a Special Offer), be sent not less than 28 days before any such amendment comes into effect;

(c) in the case of a WLA Access Change relating to the end of a temporary price reduction in accordance with the terms of the Special Offer, be sent not less than 28 days before any such amendment comes into effect; and

(d) in the case of any other WLA Access Change involving existing network access, be sent not less than 90 days before any such amendment comes into effect.

5.4B An Access Charge Change Notice must—
(WFAEL)

(a) in the case of an Access Charge Change relating to the Wholesale Line Rental Charge, be sent not less than 90 days before any such amendment comes into effect; and

(b) in the case of any other Access Charge Change, not less than 28 days before any such amendment comes into effect.

5.4C An Access Charge Change Notice must in the case of an Access
(ISDN30 and Charge Change involving either new or existing network access, be
ISDN2) sent not less than 28 days before any such amendment comes into effect.

5.5A (WLA) The Dominant Provider must ensure that a WLA Access Change Notice includes—

(a) a description of the network access in question;

(b) a reference to the location in the Dominant Provider's current

Reference Offer of the terms and conditions associated with the provision of that network access;

(c) the current and proposed new charge and/or current and proposed new terms and conditions (as the case may be); and

(d) the date on which, or the period for which, the WLA Access Change will take effect (the “effective date”).

5.5B The Dominant Provider must ensure that an Access Charge Change Notice includes—

(WFAEL,
ISDN30 and
ISDN2)

(a) a description of the network access in question;

(b) a reference to the location in the Dominant Provider’s current Reference Offer of the terms and conditions associated with the provision of that network access;

(c) the current and proposed new charge; and

(d) the date on which, or the period for which, the Access Charge Change will take effect (the “effective date”).

5.6A (WLA) The Dominant Provider must not apply any WLA Access Change identified in a WLA Access Change Notice before the effective date.

5.6B The Dominant Provider must not apply any Access Charge Change identified in an Access Charge Change Notice before the effective date.
(WFAEL,
ISDN30 and
ISDN2)

5.7A (WLA) To the extent that the Dominant Provider provides to itself network access that—

(a) is the same, similar or equivalent to that provided to any Third Party; or

(b) may be used for a purpose that is the same, similar or equivalent to that provided to any Third Party,

in a manner that differs from that detailed in a WLA Access Change Notice in relation to network access provided to any Third Party, the Dominant Provider must ensure that it sends to Ofcom a notice in relation to the network access that it provides to itself which includes, where relevant, at least those matters detailed in conditions 5.5A(a) to (d) and, where the Dominant Provider amends the charges, terms and conditions on which it provides itself with provides network access, it must ensure it sends to Ofcom a notice equivalent to a WLA Access Change Notice.

5.7B To the extent that the Dominant Provider provides to itself network access that—
(WFAEL,

ISDN30 and
ISDN2)

(a) is the same, similar or equivalent to that provided to any Third Party; or

(b) may be used for a purpose that is the same, similar or equivalent to that provided to any Third Party,

in a manner that differs from that detailed in an Access Charge Change Notice in relation to network access provided to any Third Party, the Dominant Provider must ensure that it sends to Ofcom a notice in relation to the network access that it provides to itself which includes, where relevant, at least those matters detailed in conditions 5.5B(a) to (d) and, where the Dominant Provider amends the charges for network access which it provides to itself, it must ensure it sends to Ofcom a notice equivalent to an Access Charge Change Notice.

Condition 6 – Notification of technical information

6.1 Except in so far as Ofcom may from time to time otherwise consent in writing, where the Dominant Provider provides network access pursuant to condition 1 and proposes new or amended terms and conditions relating to the following—

(a) technical characteristics (including information on network configuration, where necessary, to make effective use of the network access provided);

(b) the locations at which network access will be provided; or

(c) technical standards (including any usage restrictions and other security issues),

the Dominant Provider shall publish a written notice (the “Notice”) of the new or amended terms and conditions within a reasonable time period but not less than 90 days before either the Dominant Provider enters into an Access Agreement to provide the new network access or the amended terms and conditions of an existing Access Agreement come into effect.

6.2 The obligation in condition 6.1 shall not apply—

(a) where the new or amended charges or terms and conditions are directed or determined by Ofcom (including pursuant to the setting of an SMP services condition under the power in section 45 of the Act) or are required by a notification or enforcement notification issued by Ofcom under sections 96A or 96C of the Act; or

(b) in relation to new or amended technical specifications determined by NICC Standards Limited, whose registered company number is 6613589.

6.3 The Dominant Provider shall ensure that the Notice includes—

(a) a description of the network access in question;

(b) a reference to the location in the Dominant Provider’s Reference Offer of the relevant terms and conditions;

(c) the date on which or the period for which the Dominant Provider may enter into an Access Agreement to provide the new network access or any amendments to

the relevant terms and conditions will take effect (the “effective date”).

- 6.4 The Dominant Provider shall not enter into an Access Agreement containing the terms and conditions identified in the Notice or apply any new relevant terms and conditions identified in the Notice before the effective date.
- 6.5 Publication referred to in condition 6.1 shall be effected by the Dominant Provider—
- (a) placing a copy of the Notice on any relevant website operated or controlled by the Dominant Provider;
 - (b) sending a copy of the Notice to Ofcom; and
 - (c) sending a copy of the Notice to any person at that person’s written request, and where the Notice identifies a modification to existing relevant terms and conditions, to every person with which the Dominant Provider has entered into an Access Agreement pursuant to condition 1. The provision of such a copy of the Notice by the Dominant Provider may be subject to a reasonable charge.

Schedule 3: Relevant Regions

[See separate published notification]

PART II - PROPOSALS FOR DIRECTION RELATING TO VIRTUAL UNBUNDLED LOCAL ACCESS SERVICES (GEA) MIGRATION

NOTIFICATION OF PROPOSALS UNDER SECTIONS 49 AND 49A OF THE COMMUNICATIONS ACT 2003 AND SMP CONDITIONS 1 AND 2 PROPOSED TO BE IMPOSED ON BT IN RELATION TO VIRTUAL UNBUNDLED LOCAL ACCESS

Background

1. Ofcom hereby makes, in accordance with section 49A(3) of the Act, the proposal to give the direction set out in draft form in the Schedule to this notification. That direction sets out the maximum duration that BT may apply to the fixed term of a contract for network access which BT provides via Virtual Unbundled Local Access following the transfer of the provision of that access from BT to another Communications Provider or from one Communications Provider to another.

Proposals in this Notification

2. Ofcom is proposing, in accordance with section 49A(3) of the Act, to make the direction set out in the Schedule to this notification relating to the terms on which BT provides network access (Virtual Unbundled Local Access, which it currently provides by way of its GEA product).
3. The effect of, and reasons for giving, the proposed direction are set out in the accompanying consultation document, and in particular section 11.

Ofcom's duties and legal tests

4. Ofcom considers that the proposed direction referred to in paragraph [2] complies with the requirements of section 49(2) of the Act.
5. In making the proposal referred to in paragraph 2, Ofcom has considered and acted in accordance with its general duties set out in section 3 of the Act and the six Community requirements in section 4 of the Act.

Making representations

6. Representations may be made to Ofcom about the proposals set out in this notification and the accompanying consultation document by no later than 27 September 2013.

7. In accordance with section 49C(1)(a) of the Act, a copy of the notification, together with the Schedule, has been sent to the Secretary of State.

Interpretation

8. For the purpose of interpreting this notification—
- (a) except in so far as the context otherwise requires, words or expressions have the meaning assigned to them in paragraph [9] below, and otherwise any word or expression has the same meaning as it has in the Act;
 - (b) headings and titles shall be disregarded;
 - (c) expressions cognate with those referred to in this notification shall be construed accordingly; and
 - (d) the Interpretation Act 1978 (c. 30) shall apply as if this notification were an Act of Parliament.
9. In this notification:
- (a) “BT” means British Telecommunications plc, whose registered company number is 1800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by section 1159 of the Companies Act 2006;
 - (b) “Act” means the Communications Act 2003 (c.21), as amended;
 - (c) “Communications Provider” means a Third Party purchasing from BT Virtual Unbundled Local Access;
 - (d) “Hull Area” means the area defined as the “Licensed Area” in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc;
 - (e) “Local Serving Exchange” means the site of an operational building of BT, where interconnection is made available by BT to a Third Party for Network Termination Points served by that site for the provision of Virtual Unbundled Local Access;

- (f) “Network Termination Point” means the physical point at which a Relevant Subscriber is provided with access to a public electronic communications network;
- (g) “Ofcom” means the Office of Communications as established pursuant to section 1(1) of the Office of Communications Act 2002;
- (h) “Point of Connection” means a point at which BT’s electronic communications network and a Third Party’s electronic communications network are connected;
- (i) “Relevant Subscriber” means any person who is party to a contract with a provider of public electronic communications services for the supply of such services;
- (j) “Third Party” means a person providing a public electronic communications service or a person providing a public electronic communications network; and
- (k) “Virtual Unbundled Local Access” means network access comprising of a virtual circuit between a Point of Connection at the Local Serving Exchange and a Network Termination Point, which circuit provides such specified capacity as is agreed between BT and a Third Party for the Third Party’s exclusive use.

10. The Schedule to this notification shall form part of this notification.

Signed



Dave Clarkson

Competition Policy Director

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

3 July 2013

SCHEDULE

[Proposed] Direction under section 49 of the Communications Act 2003 and condition 1 relating to the terms on which BT provides network access (Virtual Unbundled Local Access, which it currently provides by way of its GEA product)

Background

1. On 3 July 2013, Ofcom published a consultation document entitled *Fixed access market reviews: wholesale local access, wholesale fixed analogue exchange lines, ISDN2 and ISDN30 - Consultation on the proposed markets, market power determinations and remedies* (the “July 2013 Consultation”). Ofcom consulted on proposals identifying markets, making market power determinations and setting SMP services conditions. On [date of final statement] Ofcom concluded its [*Review of the Fixed Access Markets*] in which it identified markets, made market power determinations and set appropriate SMP conditions as set out in the notification at Annex [●] to the review, with the reasons and effect explained in the accompanying explanatory statement.
2. Ofcom determined in the review referred to in paragraph 1 above, that BT has significant market power in the market for the supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location in the United Kingdom excluding the Hull Area.
3. SMP service conditions 1 and 2 (network access on reasonable request and specific forms of network access) were set in relation to, amongst others, the market referred to in paragraph 2 and this Direction concerns matters to which those conditions relate.
4. In particular, under SMP conditions 1 and 2, BT is required to provide network access by means of Virtual Unbundled Local Access. Under condition 1.2 such access is required to be provided on such terms, conditions and charges as Ofcom may from time to time direct. SMP condition 1.5 provides that BT must comply with any direction Ofcom may make from time to time under condition 1. This Direction is made under condition 1.2.
5. For the reasons set out in section [●] of the explanatory statement accompanying this Direction, Ofcom is satisfied that, in accordance with section 49(2) of the Act, this Direction is:

- (a) objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
 - (b) not such as to discriminate unduly against particular persons or against a particular description of persons;
 - (c) proportionate to what it is intended to achieve; and
 - (d) in relation to what it is intended to achieve, transparent.
- 6. For the reasons set out in section [●] of the explanatory statement accompanying this Direction, Ofcom is satisfied that it has acted in accordance with the relevant duties set out in sections 3 and 4 of the Act.
- 7. Ofcom has considered every representation about the proposed Direction duly made to it and the Secretary of State has not notified Ofcom of any international obligation of the United Kingdom for this purpose.
- 8. The proposals set out in the July 2013 Consultation Document contained proposals of EU significance for the purposes of the Act. Therefore, after making any modifications of the proposals that appeared to Ofcom to be appropriate following domestic consultation, Ofcom sent on [●] 2013 a copy of them, and of a draft of the statement accompanying this notification setting out the reasons for them, to the European Commission, BEREC and the regulatory authorities of every other member State for EU consultation, in accordance with sections 48B(2) and 80B(2) of the Act.
- 9. Ofcom received comments from the European Commission, BEREC and the regulatory authorities of every other member State on its proposals on [●] 2013, and has made such modifications to this notification and the statement accompanying this notification as it considers appropriate.

Direction

10. Ofcom hereby, pursuant to section 49 of the Act and condition 1, directs the Dominant Provider to act as prescribed in paragraphs 11 to 13 below.
11. Where the Dominant Provider enters into a contract or other agreement or arrangement to the same or similar effect with a Third Party for VULA Migration the maximum fixed term of that contract, or other agreement or arrangement (as the case may be) must be no longer than one month.
12. BT must comply with the requirement set out in paragraph 11 within 28 days of this direction coming into force.
13. The requirement set out in paragraph 11 will apply in respect of all contracts or other agreements or arrangements to the same or similar effect for VULA Migration that BT enters into on or after the date on which it complies with that requirement. For the avoidance of doubt, BT is not required under this Direction to amend the terms of any contracts for VULA Migration entered into before this date.
14. In addition to the definitions set out above in this notification, in this Schedule 1—
 - (a) “Dominant Provider” means BT; and
 - (b) “VULA Migration” means the transfer of control of a Virtual Unbundled Local Access service between Communications Providers and the subsequent provision by BT of such network access to the Communications Provider taking over such control.

[SIGNATURE]

[NAME]

Competition Policy Director

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

[INSERT DATE]

PART III: PROPOSALS FOR DIRECTIONS RELATING TO KEY PERFORMANCE INDICATORS

NOTIFICATION OF PROPOSALS UNDER SECTIONS 49 AND 49A OF THE COMMUNICATIONS ACT 2003 AND CONDITION 11 QUALITY OF SERVICE PROPOSED TO BE IMPOSED ON BT IN RESPECT OF VIRTUAL UNBUNDLED LOCAL ACCESS, METALLIC PATH FACILITIES AND SHARED ACCESS

Proposals in this Notification

1. Ofcom is proposing, in accordance with section 49 of the Act, to give a direction pursuant to Condition 11 requiring BT to publish KPIs for Virtual Unbundled Local Access Services and Local Loop Unbundling Services.
2. The proposed direction specifying KPIs for Virtual Unbundled Local Access services and Local Loop Unbundling Services is set out in the Schedule to this Notification.
3. The effect of, and the reasons for giving, the proposed direction are set out in the accompanying consultation document, and in particular Section 11.

Ofcom's duties

4. In making the proposals set out in this Notification, Ofcom has considered and acted in accordance with its general duties in section 3 of the Act and the six Community requirements in section 4 of the Act.

Representations

5. Representations may be made to Ofcom about the proposals set out in this Notification and the accompanying consultation document by no later than 27 September 2013.
6. In accordance with section 49C of the Act, copies of this Notification have been sent to the Secretary of State.

Interpretation

7. Except as otherwise defined in this Notification, words or expressions used shall have the same meaning as they have been ascribed in the Act.
8. For the purpose of interpreting this Notification—
 - a) except in so far as the context otherwise requires, words or expressions shall have the meaning assigned to them in paragraph 9 below, and otherwise any word or expression shall have the same meaning as it has in the Act;

- b) headings and titles shall be disregarded;
- c) expressions cognate with those referred to in this Notification shall be construed accordingly; and
- d) the Interpretation Act 1978 (c.30) shall apply as if this Notification were an Act of Parliament.

9. In this Notification—

- a) “**Act**” means the Communications Act 2003 (c.21);
- b) “**BT**” means British Telecommunications plc, whose registered company number is 180000, and any of its subsidiaries or holding companies, or any subsidiaries of such holding companies, as defined in section 1159 of the Companies Act 2006;
- c) “**Hull Area**” means the area defined as the ‘Licensed Area’ in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc;
- d) “**KPIs**” means key performance indicators;
- e) “**Local Loop Unbundling Services**” mean network access to Metallic Path Facilities or Shared Access;
- f) “**Local Serving Exchange**” means the site of an operational building of BT, where interconnection is made available by BT to a Third Party for Network Termination Points served by that site for the provision of Virtual Unbundled Local Access;
- g) “**Metallic Path Facilities**” means a circuit comprising a pair of twisted metal wires employing electric, magnetic, electro-magnetic, electro-chemical or electro-mechanical energy to convey signals when connected to an electronic communications network;
- h) “**Network Termination Point**” means the physical point at which a Relevant Subscriber is provided with access to a public electronic communications network;

- i) **“Ofcom”** means the Office of Communications as established pursuant to section 1(1) of the Office of Communications Act 2002;
- j) **“Point of Connection”** means a point at which BT’s electronic communications network and a Third Party’s electronic communications network are connected;
- k) **“Relevant Subscriber”** means any person who is party to a contract with a provider of public electronic communications services for the supply of such services;
- l) **“Shared Access”** means the non-voice band frequency of Metallic Path Facilities;
- m) **“Third Party”** means a person providing a public electronic communications service or a person providing a public electronic communications network; and
- n) **“United Kingdom”** has the meaning given to it in the Interpretation Act 1978 (c.30); and
- o) **“Virtual Unbundled Local Access”** means network access comprising of a virtual circuit between a Point of Connection at the Local Serving Exchange and a Network Termination Point, which circuit provides such specified capacity as is agreed between BT and a Third Party for the Third Party’s exclusive use.

10. The Schedule to this Notification shall form part of this Notification.

Signed

A handwritten signature in blue ink, reading "D. Clarkson." The signature is written in a cursive style with a large initial "D" and a period at the end.

Dave Clarkson

Competition Policy Director

**A person duly authorised in accordance with paragraph 18 of the Schedule to the
Office of Communications Act 2002**

3 July 2013

Schedule

[Proposed] Direction under section 49 of the Communications Act 2003 and Condition 11 requiring the publication of KPIs by BT for specified Virtual Unbundled Local Access, Metallic Path Facilities and Shared Access services

Background

1. On [date of final statement] Ofcom concluded its [*Review of the Fixed Access Markets*] in which it identified markets, made market power determinations and set appropriate SMP conditions as set out in the Notification at Annex [●] to the review, with the reasons and effect explained in the accompanying explanatory statement.
2. Ofcom determined in the review referred to in paragraph 1 above, that BT, as a Dominant Provider, has significant market power in the market for the supply of copper loop-based, cable-based and fibre-based wholesale local access at a fixed location in the United Kingdom excluding the Hull Area.
3. SMP service Condition 11 (quality of service) was set in relation to, amongst others, the market referred to in paragraph 2 and this direction concerns matters to which the Condition relates.
4. For the reasons set out in Section [●] of the explanatory statement accompanying this direction, Ofcom is satisfied that, in accordance with section 49(2) of the Act, this direction is:
 - i. objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
 - ii. not such as to discriminate unduly against particular persons or against a particular description of persons;
 - iii. proportionate to what it is intended to achieve; and
 - iv. in relation to what it is intended to achieve, transparent.
5. For the reasons set out in Section [●] of the explanatory statement accompanying this direction, Ofcom is satisfied that it has acted in accordance with the relevant duties set out in sections 3 and 4 of the Act.

6. Ofcom has considered every representation about the proposed direction duly made to it and the Secretary of State has not notified Ofcom of any international obligation of the United Kingdom for this purpose.
7. The proposals set out in the [[July] 2013 Consultation Document] contained proposals of EU significance for the purposes of the Act. Therefore, after making any modifications of the proposals that appeared to Ofcom to be appropriate following domestic consultation, Ofcom sent on [●] 2013 a copy of them, and of a draft of the statement accompanying this Notification setting out the reasons for them, to the European Commission, BEREC and the regulatory authorities of every other member State for EU consultation, in accordance with sections 48B(2) and 80B(2) of the Act.
8. Ofcom received comments from the European Commission on its proposals on [●] 2013, and has made such modifications to this Notification and the statement accompanying this notification as it considers appropriate.

Direction

9. Ofcom hereby, pursuant to section 49 of the Act and Condition 11, directs the Dominant Provider to act as prescribed in paragraphs 10 to 13 below.
10. The Dominant Provider shall publish the information specified in Parts 1 and 2 of each of Annexes A, B and C to this direction in relation to the provision of Virtual Unbundled Local Access and Local Loop Unbundling Services (as applicable), as required in paragraph 13 below.
11. The Dominant Provider shall provide to individual Third Parties on request the information specified in Parts 1 and 2 of each of Annexes A, B and C to this Direction in relation to the provision of Virtual Unbundled Local Access and Local Loop Unbundling Services (as applicable) to them, as required in paragraph 13 below.
12. The Dominant Provider shall provide to Ofcom, by means of electronic mail to such person in Ofcom as notified from time to time, the information specified in Parts 1 and 2 of Annexes A, B and C to this Direction in relation to the provision of Virtual Unbundled Local Access and Local Loop Unbundling Services (as applicable), as required in paragraph 13 below.

13. The information required by paragraphs 10 to 12 above shall be published and provided as required by the Dominant Provider within 14 Working Days of the last Working Day of every month in respect of that month.
14. Annexes A, B and C to this Direction form part of the direction.
15. Nothing in this direction shall require the Dominant Provider to publish confidential information relating to its business or that of a Third Party.
16. For the purpose of interpreting this direction the following definitions shall apply:
 - a. **“Act”** means the Communications Act 2003;
 - b. **“Appointed Order”** means an Order that required an appointment for an engineering visit by the Dominant Provider to the end user’s premise in order to become a Completed Order;
 - c. **“Committed Order”** means an Order that has been accepted by the Dominant Provider and for which a Contract Delivery Date has been confirmed;
 - d. **“Completed Order”** means an Order that has been provisioned and for which all other related work has been carried out;
 - e. **“Contract Delivery Date”** means the date agreed between the Dominant Provider and a Third Party for an Order to become a Completed Order;
 - f. **“Dominant Provider”** means British Telecommunications plc, whose registered company number is 1800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by section 1159 of the Companies Act 2006;
 - g. **“Fault”** means a report of degradation or problem with the Relevant Wholesale Service that is identified by the Dominant Provider or a Third Party and which has been registered on the Dominant Provider’s operational support system;
 - h. **“Forecasting Region”** means the 26 regions specified in Schedule 3 to Notification under Part 1 of Annex [●] of the statement [*Review of the Fixed*

Access Market dated [●] and Northern Ireland or other such regions agreed by Ofcom in writing from time to time;

- i. **“Hull Area”** means the area defined as the ‘Licensed Area’ in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc;
- j. **“Installed Base”** means the average number of Relevant Wholesale Service lines that are in use during the Reporting Period;
- k. **“KPI”** means key performance indicator;
- l. **“Local Loop Unbundling Services”** mean network access to Metallic Path Facilities or Shared Access;
- m. **“Local Serving Exchange”** means the site of an operational building of the Dominant Provider, where Interconnection is made available by the Dominant Provider to a Third Party for Network Termination Points served by that site for the provision of Virtual Unbundled Local Access;
- n. **“Metallic Path Facilities”** means a circuit comprising a pair of twisted metal wires employing electric, magnetic, electro-magnetic, electro-chemical or electro-mechanical energy to convey signals when connected to an electronic communications network;
- o. **“MBORC criteria”** (Matters Beyond Our Reasonable Control) means the criteria set out in a provision contained in a contract between the Dominant Provider and a Third Party for network access which when met releases the Dominant Provider from liability under such contract in circumstances where:
 - i. the cause of the incident is beyond the reasonable control of the Dominant Provider; and
 - ii. the ability to remedy the issue within contractual timescales is also beyond the Dominant Provider’s reasonable control.
- p. **“MBORC Declaration”** means a declaration made by the Dominant Provider that the MBORC criteria apply in relation to a relevant service and includes both ‘major’ and ‘local’ MBORC Declarations.

- q. **“Network Termination Point”** means the physical point at which a Relevant Subscriber is provided with access to a Public Electronic Communications Network;
- r. **“Notification”** means the Notification at Part 1 of Annex [●] of the statement *[Review of the Fixed Access Market dated [●]]*;
- s. **“Ofcom”** means the Office of Communications as established pursuant to section 1(1) of the Office of Communications Act 2002;
- t. **“Order”** means a request for the Relevant Wholesale Service submitted to the Dominant Provider by a Third Party;
- u. **“Pending Order”** means an Order which has been approved by the Dominant Provider and is awaiting a Contractual Delivery Date;
- v. **“Point of Connection”** means a point at which the Dominant Provider’s Electronic Communications Network and another person’s Electronic Communications Network are connected;
- w. **“Relevant Subscriber”** means any person who is a party to a contract with a provider of Public Electronic Communications Services for the supply of such Services;
- x. **“Relevant Wholesale Service”** means:
 - i. for the purposes of Annex A to this direction, Virtual Unbundled Local Access;
 - ii. for the purposes of Annex B to this direction, network access to Metallic Path Facilities; and
 - iii. for the purposes of Annex C to this direction, network access to Shared Access.
- y. **“Rejected Order”** means an Order rejected by the Dominant Provider because it is incomplete or incorrect;
- z. **“Reporting Period”** means the month in respect of which the Dominant Provider is required to publish or provide to Ofcom as required by the KPIs at Annexes A, B and C;

- aa. **“Restored Service”** means the point at which the Relevant Wholesale Service in relation to which a Fault was registered becomes available again for use by the Third Party;
- bb. **“Service Maintenance Level 2”** means the fault clearance timescale specification of that name as defined by the Dominant Provider in its contracts for the provision of the Relevant Wholesale Service to Third Parties;
- cc. **“Service Maintenance Level 3”** means the fault clearance timescale specification of that name as defined by the Dominant Provider in its contracts for the provision of the Relevant Wholesale Service to Third Parties;
- dd. **“Scheduled Outages”** means the defined periods of time notified to Third Parties in accordance with the terms the Dominant Provider’s contract for the Relevant Wholesale Service whereby the Dominant Provider’s operational support system is not available for use by Third Parties in order for the Dominant Provider to perform certain tasks including, but not limited to, routine maintenance, changing configurations, software upgrades and updating facilities and may include specific maintenance activities;
- ee. **“Third Party”** means a person providing a public electronic communications network or a person providing a public electronic communications service;
- ff. **“Shared Access”** means the non-voice band frequency of Metallic Path Facilities;
- gg. **“Transferred Lines”** means an Order for the transfer of a Virtual Unbundled Local Access, Metallic Path Facilities or Shared Access service (as applicable) from one Third Party to another Third Party;
- hh. **“United Kingdom”** has the meaning given to it in the Interpretation Act 1978 (c.30);
- ii. **“Virtual Unbundled Local Access”** means network access comprising of a virtual circuit between a Point of Connection at the Local Serving Exchange and a Network Termination Point, which circuit provides such specified capacity as is agreed between the Dominant Provider and the Third Party for the Third Party’s exclusive use; and

- jj. **“Working Day”** means any day other than Saturdays, Sundays, public holidays or bank holidays in the United Kingdom.

17. For the purpose of interpreting this Direction:

- a) except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them above and otherwise any word or expression shall have the same meaning as it has in the Act, or if it has no meaning there, in Part 1 of Schedule 1 to the Notification.
- b) headings and titles shall be disregarded;
- c) expressions cognate with those referred to in this Schedule shall be construed accordingly; and
- d) the Interpretation Act 1978 (c. 30) shall apply as if this Direction were an Act of Parliament.

18. This Direction shall take effect on [●].

Signed

[NAME]

Competition Policy Director

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

[DATE]

Annex A

Key Performance Indicators for Virtual Unbundled Local Access

Part 1: Indicators

1. The Dominant Provider shall publish the information required in KPIs (i) to (xvi) below in relation to the provision of Virtual Unbundled Local Access, in at least the detail outlined below:
 - a) an industry average (for the avoidance of doubt this includes provision by the Dominant Provider to itself where it does so).
2. The Dominant Provider shall also publish the information required in KPIs (i) to (xiv) below in relation to the provision of Virtual Unbundled Local Access to itself.
3. In relation to KPIs (i) to (xiv), the Dominant Provider should publish separate KPI results where options exist for Third Parties (excluding the Dominant Provider) to purchase different Virtual Unbundled Local Access line rental packages.
4. In relation to KPIs (vi) to (ix) and (xi) to (xii), the Dominant Provider should publish KPIs for (a) the UK as a whole, and (b) split by reference to each Forecasting Region.
5. The Dominant Provider shall provide to Ofcom KPIs (i) to (xvi) as described in paragraphs 1 to 4 above by electronic mail to the designated person.
6. The Dominant Provider shall also provide to Ofcom data relating to specific Third Parties upon request.
7. The Dominant Provider shall provide to each Third Party upon request, on a confidential basis, the information required in KPIs (i) to (xiv) below for that Third Party.
8. Where the Dominant Provider does not provide a particular form of Virtual Unbundled Local Access to itself, it shall instead publish or provide as required the information required in relation to the equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to end users.

KPI(i) - Percentage of orders rejected

the percentage of Orders submitted during the Reporting Period that became Rejected Orders;

KPI(ii) - Percentage of appointed orders provisioned on time

the percentage of Completed Orders that were completed by the Contract Delivery Date during the Reporting Period for Appointed Orders;

KPI(iii) - Percentage of orders provisioned on time

the percentage of Completed Orders that were completed by the Contract Delivery Date during the Reporting Period for all Orders;

KPI(iv) - Percentage of orders reported as faulty

the percentage of Completed Orders that were reported as having a Fault during the Reporting Period whereby that Fault was reported within 30 calendar days of the date that it became a Completed Order;

KPI(v) - Percentage of installed base reported as faulty

the number of Faults that achieved Restored Service during the Reporting Period, expressed as a percentage of the Installed Base;

KPI(vi) – Appointment availability

in relation to Appointed Orders that become Completed Orders during the Reporting Period, the average number of days (in working days) between the date on which the appointment was requested and the first available date offered by the Dominant Provider for the appointment;

KPI(vii) - Average installation time (requiring an engineering visit)

the average number of days (in working days) from an Order becoming a Committed Order until that order becomes a Completed Order during the Reporting Period, for Appointed Orders;

KPI(viii) - Average installation time (not requiring an engineering visit)

the average number of days (in working days) from an Order becoming a Committed Order until that Order becomes a Completed Order during the Reporting Period, for those Orders that are not Appointed Orders;

KPI(ix) - Average installation time (all order types)

the average number of days (in working days) from an Order becoming a Committed Order until that Order becomes a Completed Order during the Reporting Period for all Orders;

KPI(x) - Average time to restore service

the average time (in working hours) during the Reporting Period for the Dominant provider to achieve Restored Service after a Fault has been registered in relation to each of:

- (a) Service Maintenance Level 2; and
- (b) Service Maintenance Level 3;

KPI(xi) – Percentage of faults restored on time for services subject to Service Maintenance Level 2

for services subject to Service Maintenance Level 2, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 2;

KPI(xii) – Percentage of faults restored on time for services subject to Service Maintenance Level 3

for services subject to Service Maintenance Level 3, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 3;

KPI(xiii) - Timing of fault repairs

the percentage of Faults during the Reporting Period that achieved a Restored Service on each of the first ten days from the date on which the Fault was validated and registered on the Dominant Provider's operational support system;

KPI(xiv) - Percentage of repeat faults

the percentage of Faults for which Restored Service was achieved in the Reporting Period that were repeat faults, where a repeat fault is a Fault registered within 30 calendar days of the Dominant Provider having achieved Restored Service of a previous Fault with the same service;

KPI(xv) - Gateway availability (excluding Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, excluding any Scheduled Outages; and

KPI(xvi) - Gateway availability (including Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, including any Scheduled Outages.

Part 2: Volumes

1. The Dominant Provider shall publish the information required in KPIs (i) to (vi) below in relation to the provision of Virtual Unbundled Local Access to all Third Parties (as an aggregate figure which, for the avoidance of doubt includes provision by the Dominant Provider of Virtual Unbundled Local Access to itself).
2. The Dominant Provider shall provide to Ofcom by electronic mail the information required in KPIs (i) to (vi) below in relation to the provision of End User Access to itself. BT shall also provide to Ofcom data relating to specific Third Parties upon request.
3. Where the Dominant Provider does not provide End User Access to itself, it shall instead publish or provide as required the information required in relation to the equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to end users.

KPI(i) - Volume of orders submitted

the total number of Orders that became Pending Orders during the Reporting Period;

KPI(ii) - Volume of orders completed

the total number of Committed Orders that became Completed Orders during the Reporting Period in relation to each of:

- (a) Newly Provisioned Lines; and
- (b) Transferred Lines;

KPI(iii) - Volume of Installed Base

the Installed Base during the Reporting Period;

KPI(iv) - Volume of faults reported

the number of Faults where the Dominant Provider subsequently achieves Restored Service during the Reporting Period in relation to each of:

- (a) Service Maintenance Level 2; and
- (b) Service Maintenance Level 3;

KPI(v) – Volume of installations affected by MBORC declarations

the total number of Orders during the Reporting Period that were not completed by the Contract Delivery Date that were subject to an MBORC Declaration by the Dominant Provider;

KPI(vi) – Volume of repairs impacted by MBORC declarations

the total number of Faults during the Reporting Period that were not completed within either Service Maintenance Level 2 or Service Maintenance Level 3 contracted repair times that were subject to an MBORC Declaration by the Dominant Provider.

Annex B

Key Performance Indicators for Metallic Path Facilities

Part 1: Indicators

1. The Dominant Provider shall publish the information required in KPIs (i) to (xvi) below in relation to the provision of network access to Metallic Path Facilities, in at least the detail outlined below:
 - a) an industry average (for the avoidance of doubt this includes provision by the Dominant Provider to itself where it does so).
2. The Dominant Provider shall also publish the information required in KPIs (i) to (xiv) below in relation to the provision of network access to Metallic Path Facilities to itself.
3. In relation to KPIs (i) to (xiv), the Dominant Provider should publish separate KPI results where options exist for Third Parties (excluding the Dominant Provider) to purchase different Metallic Path Facilities packages.
4. In relation to KPIs (vi) to (ix) and (xi) to (xii), the Dominant Provider should publish KPIs for (a) the UK as a whole, and (b) split by reference to each Forecasting Region.
5. The Dominant Provider shall provide to Ofcom KPIs (i) to (xvi) as described in paragraphs 1 to 4 above by electronic mail to the designated person.
6. The Dominant Provider shall publish the information required in KPIs (iii) to (iv) and (vi) to (xii) on a publicly accessible website, which for the avoidance of doubt should not require password access.
7. The Dominant Provider shall also provide to Ofcom data relating to specific Third Parties upon request.
8. The Dominant Provider shall provide to each Third Party upon request, on a confidential basis, the information required in KPIs (i) to (xiv) below for that Third Party.
9. Where the Dominant Provider does not provide a particular form of Metallic Path Facilities to itself, it shall instead publish or provide as required the information required

in relation to the equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to End Users.

KPI(i) - Percentage of orders rejected

the percentage of Orders submitted during the Reporting Period that became Rejected Orders;

KPI(ii) - Percentage of appointed orders provisioned on time

the percentage of Completed Orders that were completed by the Contract Delivery Date during the Reporting Period for Appointed Orders;

KPI(iii) - Percentage of orders provisioned on time

the percentage of Completed Orders that were completed by the Contract Delivery Date during the Reporting Period for all Orders;

KPI(iv) - Percentage of orders reported as faulty

the percentage of Completed Orders that were reported as having a Fault during the Reporting Period whereby that Fault was reported within 30 calendar days of the date that it became a Completed Order;

KPI(v) - Percentage of installed base reported as faulty

the number of Faults that achieved Restored Service during the Reporting Period, expressed as a percentage of the Installed Base;

KPI(vi) – Appointment availability

in relation to Appointed Orders that become Completed Orders during the Reporting Period, the average number of days (in working days) between the date on which the appointment was requested and the first available date offered by the Dominant Provider for the appointment;

KPI(vii) - Average installation time (requiring an engineering visit)

the average number of days (in working days) from an Order becoming a Committed Order until that Order becomes a Completed Order during the Reporting Period, for Appointed Orders;

KPI(viii) - Average installation time (not requiring an engineering visit)

the average number of days (in working days) from an Order for network access to Metallic Path Facilities becoming a Committed Order until that Order becomes a Completed Order during the Reporting Period, for those Orders that are not Appointed Orders;

KPI(ix) - Average installation time (all order types)

the average number of days (in working days) from an Order becoming a Committed Order until that Order becomes a Completed Order during the Reporting Period for all Orders;

KPI(x) - Average time to restore service

the average time (in working hours) during the Reporting Period for the Dominant provider to achieve Restored Service after a Fault has been registered in relation to each of:

- (a) Service Maintenance Level 2; and
- (b) Service Maintenance Level 3;

KPI(xi) – Percentage of faults restored on time for services subject to Service Maintenance Level 2

for services subject to Service Maintenance Level 2, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 2;

KPI(xii) – Percentage of faults restored on time for services subject to Service Maintenance Level 3

for services subject to Service Maintenance Level 3, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 3;

KPI(xiii) - Timing of fault repairs

the percentage of Faults during the Reporting Period that achieved a Restored Service on each of the first ten days from the date on which the Fault was validated and registered on the Dominant Provider's operational support system;

KPI(xiv) - Percentage of repeat faults

the percentage of Faults for which Restored Service was achieved in the Reporting Period that were repeat faults, where a repeat fault is a Fault registered within 30 calendar days of the Dominant Provider having achieved Restored Service of a previous Fault with the same service;

KPI(xv) - Gateway availability (excluding Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, excluding any Scheduled Outages; and

KPI(xvi) - Gateway availability (including Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, including any Scheduled Outages.

Part 2: Volumes

1. The Dominant Provider shall publish the information required in KPIs (i) to (vi) below in relation to the provision of network access to Metallic Path Facilities to all Third Parties (as an aggregate figure which, for the avoidance of doubt includes provision by the Dominant Provider of network access to Metallic Path Facilities to itself);

2. The Dominant Provider shall provide to Ofcom by electronic mail the information required in KPIs (i) to (vi) below in relation to the provision of End User Access to itself. BT shall also provide to Ofcom data relating to specific Third Parties upon request.
3. Where the Dominant Provider does not provide End User Access to itself, it shall instead publish or provide as required the information required in relation to the equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to End Users.

KPI(i) - Volume of orders submitted

the total number of Orders that became Pending Orders during the Reporting Period;

KPI(ii) - Volume of orders completed

the total number of Committed Orders that became Completed Orders during the Reporting Period in relation to each of:

- (a) Newly Provisioned Lines; and
- (b) Transferred Lines;

KPI(iii) - Volume of Installed Base

the Installed Base during the Reporting Period;

KPI(iv) - Volume of faults reported

the number of Faults where the Dominant Provider subsequently achieves Restored Service during the Reporting Period in relation to each of:

- (a) Service Maintenance Level 2; and
- (b) Service Maintenance Level 3;

KPI(v) – Volume of installations affected by MBORC declarations

the total number of Orders during the Reporting Period that were not completed by the Contract Delivery Date that were subject to an MBORC Declaration by the Dominant Provider;

KPI(vi) – Volume of repairs impacted by MBORC declarations

the total number of Faults during the Reporting Period that were not completed within Service Maintenance Level 2 or Service Maintenance Level 3 contracted repair times were subject to an MBORC Declaration by the Dominant Provider.

Annex C

Key Performance Indicators for Shared Access

Part 1: Indicators

1. The Dominant Provider shall publish the information required in KPIs (i) to (xi) below in relation to the provision of network access to Shared Access, in at least the detail outlined below:
 - a) an industry average (for the avoidance of doubt this includes provision by the Dominant Provider to itself where it does so).
2. The Dominant Provider shall also publish the information required in KPIs (i) to (ix) below in relation to the provision of network access to Shared Access to itself.
3. In relation to KPIs (i) to (xiv), the Dominant Provider should publish separate KPI results where options exist for Third Parties (excluding the Dominant Provider) to purchase different Shared Access packages.
4. In relation to KPIs (vi) to (vii) and (xiii) to (xvi), the Dominant Provider should publish KPIs for (a) the UK as a whole, and (b) split by reference to each Forecasting Region.
5. The Dominant Provider shall provide to Ofcom KPIs (i) to (xi) as described in paragraphs 1 to 4 above by electronic mail to the designated person.
6. The Dominant Provider shall also provide to Ofcom data relating to specific Third Parties upon request.
7. The Dominant Provider shall provide to each Third Party upon request, on a confidential basis, the information required in KPIs (i) to (ix) below for that Third Party.
8. Where the Dominant Provider does not provide a particular form of Shared Access to itself, it shall instead publish or provide as required the information required in relation to the equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to End Users.

KPI(i) - Percentage of orders rejected

the percentage of Orders submitted during the Reporting Period that became Rejected Orders;

KPI(ii) - Percentage of orders provisioned on time

the percentage of Completed Orders that were completed by the Contract Delivery Date during the Reporting Period for all Orders;

KPI(iii) - Percentage of orders reported as faulty

the percentage of Completed Orders that were reported as having a Fault during the Reporting Period whereby that Fault was reported within 30 calendar days of the date that it became a Completed Order;

KPI(iv) - Percentage of installed base reported as faulty

the number of Faults that achieved Restored Service during the Reporting Period, expressed as a percentage of the Installed Base;

KPI(v) - Average time to restore service

the average time (in working hours) during the Reporting Period for the Dominant provider to achieve Restored Service after a Fault has been registered in relation to each of:

- (a) Service Maintenance Level 2; and
- (b) Service Maintenance Level 3;

KPI(vi) – Percentage of faults restored on time for services subject to Service Maintenance Level 2

for services subject to Service Maintenance Level 2, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 2;

KPI(vii) – Percentage of faults restored on time for services subject to Service Maintenance Level 3

for services subject to Service Maintenance Level 3, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 3;

KPI(viii) - Timing of fault repairs

the percentage of Faults during the Reporting Period that achieved a Restored Service on each of the first ten days from the date on which the Fault was validated and registered on the Dominant Provider's operational support system;

KPI(ix) - Percentage of repeat faults

the percentage of Faults for which Restored Service was achieved in the Reporting Period that were repeat faults, where a repeat fault is a Fault registered within 30 calendar days of the Dominant Provider having achieved Restored Service of a previous Fault with the same service;

KPI(x) - Gateway availability (excluding Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, excluding any Scheduled Outages; and

KPI(xi) - Gateway availability (including Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, including any Scheduled Outages.

Part 2: Volumes

1. The Dominant Provider shall publish the information required in KPIs (i) to (v) below in relation to the provision of network access to Shared Access to all Third Parties (as an aggregate figure which, for the avoidance of doubt includes provision by the Dominant Provider of network access to Shared Access to itself);

2. The Dominant Provider shall provide to Ofcom by electronic mail the information required in KPIs (i) to (v) below in relation to the provision of End User Access to itself. BT shall also provide to Ofcom data relating to specific Third Parties upon request.
3. Where the Dominant Provider does not provide End User Access to itself, it shall instead publish or provide as required the information required in relation to the equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to End Users.

KPI(i) - Volume of orders submitted

the total number of Orders that became Pending Orders during the Reporting Period;

KPI(ii) - Volume of orders completed

the total number of Committed Orders that became Completed Orders during the Reporting Period in relation to each of:

- (a) Newly Provisioned Lines; and
- (b) Transferred Lines;

KPI(iii) - Volume of Installed Base

the Installed Base during the Reporting Period;

KPI(iv) - Volume of faults reported

the number of Faults where the Dominant Provider subsequently achieves Restored Service during the Reporting Period in relation to each of:

- (a) Service Maintenance Level 2; and
- (b) Service Maintenance Level 3;

KPI(v) – Volume of repairs impacted by MBORC declarations

the total number of Faults during the Reporting Period that were not completed within Service Maintenance Level 2 or Service Maintenance Level 3 contracted repair times that were subject to an MBORC Declaration by the Dominant Provider.

NOTIFICATION OF PROPOSALS UNDER SECTIONS 49 AND 49A OF THE COMMUNICATIONS ACT 2003 AND CONDITION 11 QUALITY OF SERVICE PROPOSED TO BE IMPOSED ON BT IN RESPECT OF WHOLESALE LINE RENTAL SERVICES

Proposals in this Notification

1. Ofcom is proposing, in accordance with section 49 of the Act, to give a direction pursuant to Condition 11 requiring the Dominant Provider to the publish KPIs for Wholesale Line Rental services.
2. The proposed direction specifying KPIs for Wholesale Line Rental services is set out in the Schedule to this Notification.
3. The effect of, and the reasons for giving, the proposed direction are set out in the accompanying consultation document, and in particular Section 10.

Ofcom's duties

4. In making the proposal set out in this Notification, Ofcom has considered and acted in accordance with its general duties in section 3 of the Act and the six Community requirements in section 4 of the Act.

Representations

5. Representations may be made to Ofcom about the proposals set out in the Notification and the accompanying consultation document by no later than 27 September 2013.
6. In accordance with section 49C of the Act, copies of this Notification have been sent to the Secretary of State.

Interpretation

7. Except as otherwise defined in this Notification, words or expressions used shall have the same meaning as they have been ascribed in the Act.
8. For the purpose of interpreting this Notification—

- e) except in so far as the context otherwise requires, words or expressions shall have the meaning assigned to them in paragraph 9 below, and otherwise any word or expression shall have the same meaning as it has in the Act;
- f) headings and titles shall be disregarded;
- g) expressions cognate with those referred to in this Notification shall be construed accordingly; and
- h) the Interpretation Act 1978 (c.30) shall apply as if this Notification were an Act of Parliament.

9. In this Notification—

- a) “**Act**” means the Communications Act 2003 (c.21);
- b) “**BT**” means British Telecommunications plc, whose registered company number is 180000, and any of its subsidiaries or holding companies, or any subsidiaries of such holding companies, as defined in section 1159 of the Companies Act 2006;
- c) “**Exchange Line**” means Apparatus comprised in the Dominant Provider’s Electronic Communications Network and installed for the purpose of connecting a telephone exchange run by the Dominant Provider to a Network Termination Point comprised in Network Termination and Testing Apparatus installed by the Dominant Provider for the purpose of providing Electronic Communications Services at the premises at which the Network Termination and Testing Apparatus is located;
- d) “**Hull Area**” means the area defined as the ‘Licensed Area’ in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc;
- e) “**KPIs**” means Key Performance Indicators;
- f) “**Network Termination Point**” means the physical point at which a Relevant Subscriber is provided with access to a public electronic communications network;)

- g) “**Network Termination and Testing Apparatus**” means an item of apparatus comprised in an electronic communications network installed in a fixed position on served premises which enables:
- a. approved apparatus to be readily connected to, and disconnected from, the network;
 - b. the conveyance of signals between such approved apparatus and the network;
 - c. the due functioning of the network to be tested, but the only other functions of which, if any, are:
 - i. to supply energy between such approved apparatus and the network;
 - ii. to protect safety or security of the operation of the network; or
 - iii. to enable other operations exclusively related to the running of the network to be performed or the due functioning of any system to which the network is or is to be connected to be tested (separately or together with the network);
- h) “**Ofcom**” means the Office of Communications as established pursuant to section 1(1) of the Office of Communications Act 2002;
- i) “**Ordinary Maintenance**” means maintenance which is part of the service provided by the Dominant Provider in consideration of the charge for an Exchange Line and includes normal fault repair, as defined in the Dominant Provider’s standard terms and conditions;
- j) “**Relevant Subscriber**” means any person who is a party to a contract with a provider of public electronic communications services for the supply of such services;
- k) “**United Kingdom**” has the meaning given to it in the Interpretation Act 1978 (c.30);

- l) **“Wholesale Analogue Line Rental”** means an Electronic Communications Service provided by the Dominant Provider to a Third Party for the use and Ordinary Maintenance of an analogue Exchange Line; and
- m) **“Wholesale Line Rental”** means Wholesale Analogue Line Rental provided to Third Parties’ End Users.

10. The Schedule to this Notification shall form part of this Notification.

Signed



Dave Clarkson

Competition Policy Director

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

3 July 2013

Schedule

[Proposed] Direction under section 49 of the Communications Act 2003 and Condition 11 requiring the publication of KPIs by BT for specified Wholesale Line Rental Services.

Background

1. On [date of final statement] Ofcom concluded its [*Review of the Fixed Access Markets*] in which it identified markets, made market power determinations and set appropriate SMP conditions as set out in the Notification at Annex [●] to the Statement, with the reasons and effect explained in the accompanying explanatory statement.
2. Ofcom determined in the review referred to in paragraph 1 above, that BT, as a Dominant Provider, has significant market power in the market for wholesale fixed analogue exchange line services in the United Kingdom excluding the Hull Area.
3. SMP service Condition 11 (quality of service) was set in relation to, amongst others, the market referred to in paragraph 2 and this direction concerns matters to which the Condition relates.
4. For the reasons set out in Section [●] of the explanatory statement accompanying this direction, Ofcom is satisfied that, in accordance with section 49(2) of the Act, this direction is:
 - i. objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
 - ii. not such as to discriminate unduly against particular persons or against a particular description of persons;
 - iii. proportionate to what it is intended to achieve; and
 - iv. in relation to what it is intended to achieve, transparent.
5. For the reasons set out in Section [●] of the explanatory statement accompanying this direction, Ofcom is satisfied that it has acted in accordance with the relevant duties set out in sections 3 and 4 of the Act.

6. Ofcom has considered every representation about the proposed direction duly made to it and the Secretary of State has not notified Ofcom of any international obligation of the United Kingdom for this purpose.
7. The proposals set out in the [[July] 2013 Consultation Document] contained proposals of EU significance for the purposes of the Act. Therefore, after making any modifications of the proposals that appeared to Ofcom to be appropriate following domestic consultation, Ofcom sent on [●] 2013 a copy of them, and of a draft of the statement accompanying this Notification setting out the reasons for them, to the European Commission, BEREC and the regulatory authorities of every other member State for EU consultation, in accordance with sections 48B(2) and 80B(2) of the Act.
8. Ofcom received comments from the European Commission on its proposals on [●] 2013, and has made such modifications to this Notification and the statement accompanying this notification as it considers appropriate.

Direction

9. Ofcom hereby, pursuant to section 49 of the Act and Condition 11, directs the Dominant Provider to act as prescribed in paragraphs 10 to 13 below.
10. The Dominant Provider shall publish the information specified in Parts 1 and 2 of Annex A to this direction in relation to the provision of Wholesale Line Rental, as required in paragraph 13 below.
11. The Dominant Provider shall provide to individual Third Parties on request the information specified in Parts 1 and 2 of Annex A to this Direction in relation to the provision to them of Wholesale Line Rental, as required in paragraph 13 below.
12. The Dominant Provider shall provide to Ofcom, by means of electronic mail to such person in Ofcom as notified from time to time, the information specified in Parts 1 and 2 of Annex A to this Direction in relation to the provision of Wholesale Line Rental, as required in paragraph 13 below.
13. The information required by paragraphs 10 to 13 above shall be published and provided as required by the Dominant Provider within 14 Working Days of the last Working Day of every month in respect of that month.
14. Annex A to this direction forms part of the direction.

15. Nothing in this direction shall require the Dominant Provider to publish confidential information relating to its business or that of a Third Party.
16. For the purpose of interpreting this direction the following definitions shall apply:
 - a. “**Act**” means the Communications Act 2003;
 - b. “**Appointed Order**” means an Order that required an appointment for an engineering visit by the Dominant Provider to the end user’s premise in order to become a Completed Order;
 - c. “**Committed Order**” means an Order that has been accepted by the Dominant Provider and for which a Contract Delivery Date has been confirmed;
 - d. “**Completed Order**” means an Order that has been provisioned and for which all other related work has been carried out;
 - e. “**Contract Delivery Date**” means the date agreed between the Dominant Provider and a Third Party for an Order to become a Completed Order;
 - f. “**Dominant Provider**” means British Telecommunications plc, whose registered company number is 1800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by section 1159 of the Companies Act 2006;
 - g. “**Exchange Line**” means Apparatus comprised in the Dominant Provider’s Electronic Communications Network and installed for the purpose of connecting a telephone exchange run by the Dominant Provider to a Network Termination Point comprised in Network Termination and Testing Apparatus installed by the Dominant Provider for the purpose of providing Electronic Communications Services at the premises at which the Network Termination and Testing Apparatus is located;
 - h. “**Fault**” means a report of degradation or problem with Wholesale Line Rental that is identified by the Dominant Provider or a Third Party and which has been registered on the Dominant Provider’s operational support system;
 - i. “**Forecasting Region**” means the 26 regions specified in Schedule 3 to the Notification under Part 1 of Annex [●] of the statement [*Review of the Fixed*

Access Market dated [●] and Northern Ireland or other such regions agreed by Ofcom in writing from time to time;

- j. **“Hull Area”** means the area defined as the ‘Licensed Area’ in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc;
- k. **“Installed Base”** means the average number of Wholesale Line Rental lines that are in use during the Reporting Period;
- l. **“KPI”** means key performance indicator;
- m. **“MBORC criteria”** (Matters Beyond Our Reasonable Control) means the criteria set out in a provision contained in a contract between the Dominant Provider and a Third Party for Wholesale Line Rental services which when met releases the Dominant Provider from liability under such contract in circumstances where:
 - i. the cause of the incident is beyond the reasonable control of the Dominant Provider; and
 - ii. the ability to remedy the issue within contractual timescales is also beyond the Dominant Provider’s reasonable control;
- n. **“MBORC Declaration”** means a declaration made by the Dominant Provider that the MBORC criteria apply in relation to a relevant service and includes both ‘major’ and ‘local’ MBORC Declarations;
- o. **“Network Termination Point”** means the physical point at which a Relevant Subscriber is provided with access to a public electronic communications network;
- p. **“Network Termination and Testing Apparatus”** means an item of apparatus comprised in an electronic communications network installed in a fixed position on served premises which enables:
 - i. approved apparatus to be readily connected to, and disconnected from, the network;

- ii. the conveyance of signals between such approved apparatus and the network;
- iii. the due functioning of the network to be tested, but the only other functions of which, if any, are:
 - 1. to supply energy between such approved apparatus and the network;
 - 2. to protect safety or security of the operation of the network; or
 - 3. to enable other operations exclusively related to the running of the network to be performed or the due functioning of any system to which the network is or is to be connected to be tested (separately or together with the network);
- q. **“Newly Provisioned Lines”** means an Order where any Wholesale Line Rental Service is not being provided by the Dominant Provider to the Third Party at the time of order;
- r. **“Notification”** means the Notification at Part 1 of Annex [●] of the statement [*Review of the Fixed Access Market dated [●]*];
- s. **“Order”** means a request for Wholesale Line Rental submitted to the Dominant Provider by a Third Party;
- t. **“Ordinary Maintenance”** means maintenance which is part of the service provided by the Dominant Provider in consideration of the charge for an Exchange Line and includes normal fault repair, as defined in the Dominant Provider’s standard terms and conditions;
- u. **“Pending Order”** means an Order which has been approved by the Dominant Provider and is awaiting a Contractual Delivery Date;
- v. **“Relevant Subscriber”** means any person who is a party to a contract with a provider of public electronic communications services for the supply of such services;
- w. **“Rejected Order”** means an Order rejected by the Dominant Provider because it is incomplete or incorrect;

- x. **“Reporting Period”** means the month in respect of which the Dominant Provider is required to publish or provide to Ofcom as required by the Wholesale Line Rental KPIs;
- y. **“Restored Service”** means the point at which the Wholesale Line Rental service in relation to which a Fault was registered becomes available again for use by the Third Party;
- z. **“Service Maintenance Level 1”** means the fault clearance timescale specification of that name as defined by the Dominant Provider in its contracts for the provision of Wholesale Line Rental to Third Parties;
- aa. **“Service Maintenance Level 2”** means the fault clearance timescale specification of that name as defined by the Dominant Provider in its contracts for the provision of Wholesale Line Rental to Third Parties;
- bb. **“Service Maintenance Level 3”** means the fault clearance timescale specification of that name as defined by the Dominant Provider in its contracts for the provision of Wholesale Line Rental to Third Parties;
- cc. **“Scheduled Outages”** means the defined periods of time notified to Third Parties in accordance with the terms of the Dominant Provider’s contract for the provision of Wholesale Line Rental whereby the Dominant Provider’s operational support system is not available for use by Third Parties in order for the Dominant Provider to perform certain tasks including, but not limited to, routine maintenance, changing configurations, software upgrades and updating facilities and may include specific maintenance activities;
- dd. **“Third Party”** means a person providing a public electronic communications network or a person providing a public electronic communications service;
- ee. **“Transferred Lines”** means an Order for the transfer of a Wholesale Line Rental service from one Third Party to another Third Party;
- ff. **“Wholesale Analogue Line Rental”** means an Electronic Communications Service provided by the Dominant Provider to a Third Party for the use and Ordinary Maintenance of an analogue Exchange Line;
- gg. **“Wholesale Line Rental”** means Wholesale Analogue Line Rental provided to Third Parties’ end users; and, for the avoidance of doubt, any requirement

to publish or provide to Ofcom as required the Wholesale Line Rental KPIs shall be a requirement to publish or provide that information separately in relation to each of the above.

hh. **“United Kingdom”** has the meaning given to it in the Interpretation Act 1978 (c.30);

ii. **“Working Day”** means any day other than Saturdays, Sundays, public holidays or bank holidays in the United Kingdom.

17. For the purpose of interpreting this Direction:

- e) except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them above and otherwise any word or expression shall have the same meaning as it has in the Act, or if it has no meaning there, in Part 1 of Schedule 1 to the Notification.
- f) headings and titles shall be disregarded;
- g) expressions cognate with those referred to in this Schedule shall be construed accordingly; and
- h) the Interpretation Act 1978 (c. 30) shall apply as if this Direction were an Act of Parliament.

18. This Direction shall take effect on [●].

Signed

[NAME]

Competition Policy Director

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

[DATE]

Annex A

Key Performance Indicators for Wholesale Line Rental

Part 1: Indicators

1. The Dominant Provider shall publish the information required in KPIs (i) to (xvii) below in relation to the provision of Wholesale Line Rental, in at least the detail outlined below:
 - a) an industry average (for the avoidance of doubt this includes provision by the Dominant Provider to itself where it does so).
2. The Dominant Provider shall also publish the information required in KPIs (i) to (xv) below in relation to the provision of Wholesale Line Rental to itself.
3. In relation to KPIs (i) to (xv), the Dominant Provider should publish separate KPI results where options exist for Third Parties (excluding the Dominant Provider) to purchase different Wholesale Line Rental packages.
4. In relation to KPIs (vi) to (ix) and (xi) to (xiii), the Dominant Provider should publish KPIs for (a) the UK as a whole, and (b) split by reference to each Forecasting Region.
5. The Dominant Provider shall provide to Ofcom KPIs (i) to (xvii) as described in paragraphs 1 to 4 above by electronic mail to the designated person.
6. The Dominant Provider shall publish the information required in KPIs (iii) to (iv) and (vi) to (viii) on a publicly accessible website, which for the avoidance of doubt should not require password access.
7. The Dominant Provider shall also provide to Ofcom data relating to specific third parties upon request.
8. The Dominant Provider shall provide to each Third Party upon request, on a confidential basis, the information required in KPIs (i) to (xv) below for that Third Party.
9. Where the Dominant Provider does not provide Wholesale Line Rental to itself, it shall instead publish or provide as required the information required in relation to the

equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to End Users.

KPI(i) - Percentage of orders rejected

the percentage of Orders submitted during the Reporting Period that became Rejected Orders;

KPI(ii) - Percentage of appointed orders provisioned on time

the percentage of Completed Orders that were completed by the Contract Delivery Date during the Reporting Period for Appointed Orders;

KPI(iii) - Percentage of orders provisioned on time

the percentage of Completed Orders that were completed by the Contract Delivery Date during the Reporting Period for all Orders;

KPI(iv) - Percentage of orders reported as faulty

the percentage of Completed Orders that were reported as having a Fault during the Reporting Period whereby that Fault was reported within 30 calendar days of the date that it became a Completed Order;

KPI(v) - Percentage of installed base reported as faulty

the number of Faults that achieved Restored Service during the Reporting Period, expressed as a percentage of the Installed Base;

KPI(vi) – Appointment availability

in relation to Appointed Orders that become Completed Orders during the Reporting Period, the average number of days (in working days) between the date on which the appointment was requested and the first available date offered by the Dominant Provider for the appointment;

KPI(vii) - Average installation time (requiring an engineering visit)

the average number of days (in working days) from an Order becoming a Committed Order until that order becomes a Completed Order during the Reporting Period, for Appointed Orders;

KPI(viii) - Average installation time (not requiring an engineering visit)

the average number of days (in working days) from an Order becoming a Committed Order until that Order becomes a Completed Order during the Reporting Period, for those Orders that are not Appointed Orders;

KPI(ix) - Average installation time (for all order types)

the average number of days (in working days) from an Order becoming a Committed Order until that Order becomes a Completed Order during the Reporting Period for all Orders;

KPI(x) - Average time to restore service

the average time (in working hours) during the Reporting Period for the Dominant provider to achieve Restored Service after a Fault has been registered in relation to each of:

- (a) Service Maintenance Level 1;
- (b) Service Maintenance Level 2; and
- (c) Service Maintenance Level 3;

KPI(xi) – Percentage of faults restored on time for services subject to Service Maintenance Level 1

for services subject to Service Maintenance Level 1, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 1;

KPI(xii) – Percentage of faults restored on time for services subject to Service Maintenance Level 2

for services subject to Service Maintenance Level 2, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 2;

KPI(xiii) – Percentage of faults restored on time for services subject to Service Maintenance Level 3

for services subject to Service Maintenance Level 3, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 3;

KPI(xiv) - Timing of fault repairs

the percentage of Faults during the Reporting Period that achieved a Restored Service on each of the first ten days from the date on which the Fault was validated and registered on the Dominant Provider's operational support system;

KPI(xv) - Percentage of repeat faults

the percentage of Faults for which Restored Service was achieved in the Reporting Period that were repeat faults, where a repeat fault is a Fault registered within 30 calendar days of the Dominant Provider having achieved Restored Service of a previous Fault with the same service;

KPI(xvi) - Gateway availability (excluding Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, excluding any Scheduled Outages; and

KPI(xvii) - Gateway availability (including Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, including any Scheduled Outages.

Part 2: Volumes

1. The Dominant Provider shall publish the information required in KPIs (i) to (vi) below in relation to the provision of Wholesale Line Rental to all Third Parties (as an aggregate figure which, for the avoidance of doubt includes provision by the Dominant Provider of Wholesale Line Rental to itself).

2. The Dominant Provider shall provide to Ofcom by electronic mail the information required in KPIs (i) to (vi) below in relation to the provision of End User Access to itself. BT shall also provide to Ofcom data relating to specific Third Parties upon request.
3. Where the Dominant Provider does not provide End User Access to itself, it shall instead publish or provide as required the information required in relation to the equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to End Users.

KPI(i) - Volume of orders submitted

the total number of Orders that became Pending Orders during the Reporting Period;

KPI(ii) - Volume of orders completed

the total number of Committed Orders that became Completed Orders during the Reporting Period in relation to each of:

- (a) Newly Provisioned Lines; and
- (b) Transferred Lines;

KPI(iii) - Volume of Installed Base

the Installed Base during the Reporting Period;

KPI(iv) - Volume of faults reported

the number of Faults where the Dominant Provider subsequently achieves Restored Service during the Reporting Period in relation to each of:

- (a) Service Maintenance Level 1;
- (b) Service Maintenance Level 2; and
- (c) Service Maintenance Level 3;

KPI(v) – Volume of installations affected by MBORC declarations

the total number of Orders during the Reporting Period that were not completed by the Contract Delivery Date that were subject to an MBORC Declaration by the Dominant Provider;

KPI(vi) – Volume of repairs impacted by MBORC declarations

the total number of Faults during the Reporting Period that were not completed within either Service Maintenance Level 1, Service Maintenance Level 2 or Service Maintenance Level 3 contracted repair times that were subject to an MBORC Declaration by the Dominant Provider.

NOTIFICATION OF PROPOSALS UNDER SECTIONS 49 AND 49A OF THE COMMUNICATIONS ACT 2003 AND CONDITION 11 QUALITY OF SERVICE PROPOSED TO BE IMPOSED ON BT IN RESPECT OF WHOLESALE ISDN2 EXCHANGE LINE SERVICES

Proposals in this Notification

1. Ofcom is proposing, in accordance with section 49 of the Act, to give a direction pursuant to Condition 11 requiring the Dominant Provider to the publish KPIs for wholesale ISDN2 exchange line services.
2. The proposed direction specifying KPIs for wholesale ISDN2 exchange line services is set out in the Schedule to this Notification.
3. The effect of, and the reasons for giving, the proposed direction are set out in the accompanying consultation document, and in particular Section 10.

Ofcom's duties

4. In making the proposal set out in this Notification, Ofcom has considered and acted in accordance with its general duties in section 3 of the Act and the six Community requirements in section 4 of the Act.

Representations

5. Representations may be made to Ofcom about the proposals set out in the Notification and the accompanying consultation document by no later than 27 September 2013.
6. In accordance with section 49C of the Act, copies of this Notification have been sent to the Secretary of State.

Interpretation

7. Except as otherwise defined in this Notification, words or expressions used shall have the same meaning as they have been ascribed in the Act.
8. For the purpose of interpreting this Notification—

- a) except in so far as the context otherwise requires, words or expressions shall have the meaning assigned to them in paragraph 9 below, and otherwise any word or expression shall have the same meaning as it has in the Act;
- b) headings and titles shall be disregarded;
- c) expressions cognate with those referred to in this Notification shall be construed accordingly; and
- d) the Interpretation Act 1978 (c.30) shall apply as if this Notification were an Act of Parliament.

9. In this Notification—

- p) “**Act**” means the Communications Act 2003 (c.21);
- q) “**BT**” means British Telecommunications plc, whose registered company number is 180000, and any of its subsidiaries or holding companies, or any subsidiaries of such holding companies, as defined in section 1159 of the Companies Act 2006;
- r) “**Hull Area**” means the area defined as the ‘Licensed Area’ in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc;
- s) “**ISDN2 exchange line**” means a digital multiline telephone service conforming to the Integrated Services Digital Network (ISDN) Basic Rate Access standard as defined by the European Telecommunications Standards Institute;
- t) “**KPIs**” means key performance indicators;
- u) “**Ofcom**” means the Office of Communications as established pursuant to section 1(1) of the Office of Communications Act 2002; and
- v) “**United Kingdom**” has the meaning given to it in the Interpretation Act 1978 (c.30).

10. The Schedule to this Notification shall form part of this Notification.

Signed

A handwritten signature in blue ink, reading "D. Clarkson." The signature is written in a cursive style with a large initial "D" and a period at the end.

Dave Clarkson

Competition Policy Director

**A person duly authorised in accordance with paragraph 18 of the Schedule to the
Office of Communications Act 2002**

3 July 2013

Schedule

[Proposed] Direction under section 49 of the Communications Act 2003 and Condition 11 requiring the publication of KPIs by BT for specified wholesale ISDN2 exchange line services

Background

1. On [date of final statement] Ofcom concluded its [*Review of the Fixed Access Markets*] in which it identified markets, made market power determinations and set appropriate SMP conditions as set out in the Notification at Annex [●] to the Statement, with the reasons and effect explained in the accompanying explanatory statement.
2. Ofcom determined in the review referred to in paragraph 1 above, that BT, as a Dominant Provider, has significant market power in the market for wholesale ISDN2 exchange line services in the UK excluding the Hull Area.
3. SMP service Condition 11 (quality of service) was set in relation to, amongst others, the market referred to in paragraph 2 and this direction concerns matters to which the Condition relates.
4. For the reasons set out in Section [●] of the explanatory statement accompanying this direction, Ofcom is satisfied that, in accordance with section 49(2) of the Act, this direction is:
 - i. objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
 - ii. not such as to discriminate unduly against particular persons or against a particular description of persons;
 - iii. proportionate to what it is intended to achieve; and
 - iv. in relation to what it is intended to achieve, transparent.
5. For the reasons set out in Section [●] of the explanatory statement accompanying this direction, Ofcom is satisfied that it has acted in accordance with the relevant duties set out in sections 3 and 4 of the Act.

6. Ofcom has considered every representation about the proposed direction duly made to it and the Secretary of State has not notified Ofcom of any international obligation of the United Kingdom for this purpose.
7. The proposals set out in the [[July] 2013 Consultation Document] contained proposals of EU significance for the purposes of the Act. Therefore, after making any modifications of the proposals that appeared to Ofcom to be appropriate following domestic consultation, Ofcom sent on [●] 2013 a copy of them, and of a draft of the statement accompanying this Notification setting out the reasons for them, to the European Commission, BEREC and the regulatory authorities of every other member State for EU consultation, in accordance with sections 48B(2) and 80B(2) of the Act.
8. Ofcom received comments from the European Commission on its proposals on [●] 2013, and has made such modifications to this Notification and the statement accompanying this notification as it considers appropriate.

Direction

9. Ofcom hereby, pursuant to section 49 of the Act and Condition 11, directs the Dominant Provider to act as prescribed in paragraphs 10 to 13 below.
10. The Dominant Provider shall publish the information specified in Parts 1 and 2 of Annex A to this direction in relation to the provision of wholesale ISDN2 exchange line services, as required in paragraph 13 below.
11. The Dominant Provider shall provide to individual Third Parties on request the information specified in Parts 1 and 2 of Annex A to this direction in relation to the provision to them of wholesale ISDN2 exchange line services, as required in paragraph 13 below.
12. The Dominant Provider shall provide to Ofcom, by means of electronic mail to such person in Ofcom as notified from time to time, the information specified in Parts 1 and 2 of Annex A to this direction in relation to the provision of ISDN2 exchange line services, as required in paragraph 13 below.
13. The information required by paragraphs 10, 11 and 12 above shall be published and provided as required by the Dominant Provider within 14 Working Days of the last Working Day of every month in respect of that month.
14. Annex A to this direction forms part of the direction.

15. Nothing in this Direction shall require the Dominant Provider to publish confidential information relating to its business or that of a Third Party.

16. For the purpose of interpreting this Direction the following definitions shall apply:

- a. “**Act**” means the Communications Act 2003;
- b. “**Appointed Order**” means an Order that required an appointment for an engineering visit by the Dominant Provider to the end user’s premise in order to become a Completed Order;
- c. “**Committed Order**” means an Order that has been accepted by the Dominant Provider and for which a Contract Delivery Date has been confirmed;
- d. “**Completed Order**” means an Order that has been provisioned and for which all other related work has been carried out;
- e. “**Contract Delivery Date**” means the date agreed between the Dominant Provider and a Third Party for an Order to become a Completed Order;
- f. “**Dominant Provider**” means British Telecommunications plc, whose registered company number is 1800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by section 1159 of the Companies Act 2006;
- g. “**Fault**” means a report of degradation or problem with an ISDN2 exchange line service that is identified by the Dominant Provider or a Third Party and which has been registered on the Dominant Provider’s operational support system;
- h. “**Forecasting Region**” means the 26 regions specified in Schedule 3 to the Notification under Part 1 of Annex [●] of the statement [*Review of the Fixed Access Market dated [●]*] and Northern Ireland or other such regions agreed by Ofcom in writing from time to time;
- i. “**Hull Area**” means the area defined as the ‘Licensed Area’ in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc;

- j. **“Installed Base”** means the average number of ISDN2 exchange lines that are in use during the Reporting Period;
- k. **“ISDN2 exchange line”** means a digital multiline telephone service conforming to the Integrated Services Digital Network (ISDN) Basic Rate Access standard as defined by the European Telecommunications Standards Institute;
- l. **“KPI”** means key performance indicator;
- m. **“MBORC criteria”** (Matters Beyond Our Reasonable Control) means the criteria set out in a provision contained in a contract between the Dominant Provider and a Third Party for ISDN2 exchange line services which when met releases the Dominant Provider from liability under such contract in circumstances where:
 - i. the cause of the incident is beyond the reasonable control of the Dominant Provider; and
 - ii. the ability to remedy the issue within contractual timescales is also beyond the Dominant Provider’s reasonable control;
- n. **“MBORC Declaration”** means a declaration made by the Dominant Provider that the MBORC criteria apply in relation to a relevant service and includes both ‘major’ and ‘local’ MBORC Declarations;
- o. **“Newly Provisioned Lines”** means an Order where any ISDN2 exchange line is not being provided by the Dominant Provider to the Third Party at the time of order;
- p. **“Notification”** means the Notification at Part 1 of Annex [●] of the statement *[Review of the Fixed Access Market dated [●]]*;
- q. **“Ofcom”** means the Office of Communications as established pursuant to section 1(1) of the Office of Communications Act 2002;
- r. **“Order”** means a request for an ISDN2 exchange line submitted to the Dominant Provider by a Third Party;

- s. **“Pending Order”** means an Order which has been approved by the Dominant Provider and is awaiting a Contractual Delivery Date;
- t. **“Rejected Order”** means an Order rejected by the Dominant Provider because it is incomplete or incorrect;
- u. **“Reporting Period”** means the month in respect of which the Dominant Provider is required to publish or provide to Ofcom as required the ISDN2 KPIs;
- v. **“Restored Service”** means the point at which the ISDN2 exchange line service in relation to which a Fault was registered becomes available again for use by the Third Party;
- w. **“Scheduled Outages”** means the defined periods of time notified to Third Parties in accordance with the terms of the Dominant Provider’s contract for wholesale ISDN2 exchange line services whereby the Dominant Provider’s operational support system is not available for use by Third Parties in order for the Dominant Provider to perform certain tasks including, but not limited to, routine maintenance, changing configurations, software upgrades and updating facilities and may include specific maintenance activities;
- x. **“Service Maintenance Level 2”** means the fault clearance timescale specification of that name as defined by the Dominant Provider in its contracts for the provision of wholesale ISDN2 exchange line services to Third Parties;
- y. **“Service Maintenance Level 3”** means the fault clearance timescale specification of that name as defined by the Dominant Provider in its contracts for the provision of wholesale ISDN2 exchange line services to Third Parties;
- z. **“Third Party”** means a person providing a public electronic communications network or a person providing a public electronic communications service;
- aa. **“Transferred Lines”** means an Order for the transfer of an ISDN2 exchange line service from one Third Party to another Third Party;
- bb. **“United Kingdom”** has the meaning given to it in the Interpretation Act 1978 (c.30);

cc. “**Working Day**” means any day other than Saturdays, Sundays, public holidays or bank holidays in the United Kingdom.

17. Except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them and otherwise any word or expression shall have the same meaning as it has in the Act, or if it has no meaning there, in Part 1 of Schedule 1 to the Notification.

18. For the purpose of interpreting this Direction:

- i) except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them above and otherwise any word or expression shall have the same meaning as it has in the Act, or if it has no meaning there, in Part 1 of Schedule 1 to the Notification.
- j) headings and titles shall be disregarded;
- k) expressions cognate with those referred to in this Schedule shall be construed accordingly; and
- l) the Interpretation Act 1978 (c. 30) shall apply as if this Direction were an Act of Parliament.

19. This Direction shall take effect on [●].

Signed

[NAME]

Competition Policy Director

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

[DATE]

Annex A

Key Performance Indicators for wholesale ISDN2 exchange line services

Part 1: Indicators

1. The Dominant Provider shall publish the information required in KPIs (i) to (xiii) below in relation to the provision of ISDN2 exchange line services, in at least the detail outlined below:
 - a) an industry average (for the avoidance of doubt this includes provision by the Dominant Provider to itself where it does so).
2. The Dominant Provider shall also publish the information required in KPIs (i) to (xi) below in relation to the provision of ISDN2 exchange line services to itself.
3. In relation to KPIs (i) to (xi), the Dominant Provider should publish separate KPI results where options exist for Third Parties (excluding the Dominant Provider) to purchase different ISDN2 exchange line services.
4. In relation to KPIs (v) to (vi) and (viii) to (ix), the Dominant Provider should publish KPIs for (a) the UK as a whole, and (b) split by reference to each Forecasting Region.
5. The Dominant Provider shall provide to Ofcom KPIs (i) to (xiii) as described in paragraphs 1 to 4 above by electronic mail to the designated person.
6. The Dominant Provider shall also provide to Ofcom data relating to specific Third Parties upon request.
7. The Dominant Provider shall provide to each Third Party upon request, on a confidential basis, the information required in KPIs (i) to (xi) below for that third party.
8. Where the Dominant Provider does not provide ISDN2 exchange line services to itself, it shall instead publish or provide as required the information required in relation to the equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to End Users.

KPI(i) - Percentage of orders rejected

the percentage of Orders submitted during the Reporting Period that became Rejected Orders;

KPI(ii) - Percentage of orders provisioned on time

the percentage of Completed Orders that were completed by the Contract Delivery Date during the Reporting Period for all Orders;

KPI(iii) - Percentage of orders reported as faulty

the percentage of Completed Orders that were reported as having a Fault during the Reporting Period whereby that Fault was reported within 30 calendar days of the date that it became a Completed Order;

KPI(iv) - Percentage of installed base reported as faulty

the number of Faults that achieved Restored Service during the Reporting Period, expressed as a percentage of the Installed Base;

KPI(v) – Appointment availability

in relation to Appointed Orders that become Completed Orders during the Reporting Period, the average number of days (in working days) between the date on which the appointment was requested and the first available date offered by the Dominant Provider for the appointment;

KPI(vi) - Average installation time

the average number of days (in working days) from an Order becoming a Committed Order until that order becomes a Completed Order during the Reporting Period, for Appointed Orders;

KPI(vii) - Average time to restore service

the average time (in working hours) during the Reporting Period for the Dominant provider to achieve Restored Service after a Fault has been registered in relation to each of:

- (a) Service Maintenance Level 2; and

(b) Service Maintenance Level 3;

KPI(viii) – Percentage of faults restored on time for services subject to Service Maintenance Level 2

for services subject to Service Maintenance Level 2, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 2;

KPI(ix) – Percentage of faults restored on time for services subject to Service Maintenance Level 3

for services subject to Service Maintenance Level 3, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 3;

KPI(x) - Timing of fault repairs

the percentage of Faults during the Reporting Period that achieved a Restored Service on each of the first ten days from the date on which the Fault was validated and registered on the Dominant Provider's operational support system;

KPI(xi) - Percentage of repeat faults

the percentage of Faults for which Restored Service was achieved in the Reporting Period that were repeat faults, where a repeat fault is a Fault registered within 30 calendar days of the Dominant Provider having achieved Restored Service of a previous Fault with the same service;

KPI(xii) - Gateway availability (excluding Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, excluding any Scheduled Outages; and

KPI(xiii) - Gateway availability (including Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, including any Scheduled Outages.

Part 2: Volumes

1. The Dominant Provider shall publish the information required in KPIs (i) to (vi) below in relation to the provision of ISDN2 exchange line service to all Third Parties (as an aggregate figure which, for the avoidance of doubt includes provision by the Dominant Provider of ISDN2 exchange line services to itself);
2. The Dominant Provider shall provide to Ofcom by electronic mail the information required in KPIs (i) to (vi) below in relation to the provision of End User Access to itself. BT shall also provide to Ofcom data relating to specific Third Parties upon request.
3. Where the Dominant Provider does not provide End User Access to itself, it shall instead publish or provide as required the information required in relation to the equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to End Users.

KPI(i) - Volume of orders submitted

the total number of Orders that became Pending Orders during the Reporting Period;

KPI(ii) - Volume of orders completed

the total number of Committed Orders that became Completed Orders during the Reporting Period in relation to each of:

- (a) Newly Provisioned Lines; and
- (b) Transferred Lines;

KPI(iii) - Volume of Installed Base

the Installed Base during the Reporting Period;

KPI(iv) - Volume of faults reported

the number of Faults where the Dominant Provider subsequently achieves Restored Service during the Reporting Period in relation to each of:

- (a) Service Maintenance Level 2; and
- (b) Service Maintenance Level 3;

KPI(v) – Volume of installations affected by MBORC declarations

the total number of Orders during the Reporting Period that were not completed by the Contract Delivery Date that were subject to an MBORC Declaration by the Dominant Provider;

KPI(vi) – Volume of repairs impacted by MBORC declarations

the total number of Faults during the Reporting Period that were not completed within Service Maintenance Level 2 or Service Maintenance Level 3 contracted repair times that were subject to an MBORC Declaration by the Dominant Provider.

NOTIFICATION OF PROPOSALS UNDER SECTIONS 49 AND 49A OF THE COMMUNICATIONS ACT 2003 AND CONDITION 11 QUALITY OF SERVICE PROPOSED TO BE IMPOSED ON BT IN RESPECT OF WHOLESALE ISDN30 EXCHANGE LINE SERVICES

Proposals in this Notification

1. Ofcom is proposing, in accordance with section 49 of the Act, to give a direction pursuant to Condition 11 requiring the Dominant Provider to the publish KPIs for wholesale ISDN30 exchange line services.
2. The proposed direction specifying KPIs for wholesale ISDN30 exchange line services is set out in the Schedule to this Notification.
3. The effect of, and the reasons for giving, the proposed direction are set out in the accompanying consultation document, and in particular Section 11.

Ofcom's duties

4. In making the proposal set out in this Notification, Ofcom has considered and acted in accordance with its general duties in section 3 of the Act and the six Community requirements in section 4 of the Act.

Representations

5. Representations may be made to Ofcom about the proposals set out in the Notification and the accompanying consultation document by no later than 27 September 2013.
6. In accordance with section 49C of the Act, copies of this Notification have been sent to the Secretary of State.

Interpretation

7. Except as otherwise defined in this Notification, words or expressions used shall have the same meaning as they have been ascribed in the Act.
8. For the purpose of interpreting this Notification—

- a) except in so far as the context otherwise requires, words or expressions shall have the meaning assigned to them in paragraph 9 below, and otherwise any word or expression shall have the same meaning as it has in the Act;
- b) headings and titles shall be disregarded;
- c) expressions cognate with those referred to in this Notification shall be construed accordingly; and
- d) the Interpretation Act 1978 (c.30) shall apply as if this Notification were an Act of Parliament.

9. In this Notification—

- a) “**Act**” means the Communications Act 2003 (c.21);
- b) “**BT**” means British Telecommunications plc, whose registered company number is 180000, and any of its subsidiaries or holding companies, or any subsidiaries of such holding companies, as defined in section 1159 of the Companies Act 2006;
- c) “**Hull Area**” means the area defined as the ‘Licensed Area’ in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc;
- d) “**ISDN30 exchange line**” means a digital multiline telephone service conforming to the Integrated Services Digital Network (ISDN) Basic Rate Access standard as defined by the European Telecommunications Standards Institute;
- e) “**KPIs**” means key performance indicators;
- f) “**Ofcom**” means the Office of Communications as established pursuant to section 1(1) of the Office of Communications Act 2002; and
- g) “**United Kingdom**” has the meaning given to it in the Interpretation Act 1978 (c.30).

10. The Schedule to this Notification shall form part of this Notification.

Signed

A handwritten signature in blue ink, reading "D. Clarkson." The signature is written in a cursive style with a large initial "D" and a period at the end.

Dave Clarkson

Competition Policy Director

**A person duly authorised in accordance with paragraph 18 of the Schedule to the
Office of Communications Act 2002**

3 July 2013

Schedule

[Proposed] Direction under section 49 of the Communications Act 2003 and Condition 11 requiring the publication of KPIs by BT for specified wholesale ISDN30 exchange line services

Background

1. On [date of final statement] Ofcom concluded its [*Review of the Fixed Access Markets*] in which it identified markets, made market power determinations and set appropriate SMP conditions as set out in the Notification at Annex [●] to the Statement, with the reasons and effect explained in the accompanying explanatory statement.
2. Ofcom determined in the review referred to in paragraph 1 above, that BT, as a Dominant Provider, has significant market power in the market for wholesale ISDN30 exchange line services in the UK excluding the Hull Area.
3. SMP service Condition 11 (quality of service) was set in relation to, amongst others, the market referred to in paragraph 2 and this Direction concerns matters to which the Condition relates.
4. For the reasons set out in Section [●] of the explanatory statement accompanying this Direction, Ofcom is satisfied that, in accordance with section 49(2) of the Act, this Direction is:
 - i. objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
 - ii. not such as to discriminate unduly against particular persons or against a particular description of persons;
 - iii. proportionate to what it is intended to achieve; and
 - iv. in relation to what it is intended to achieve, transparent.
5. For the reasons set out in Section [●] of the explanatory statement accompanying this Direction, Ofcom is satisfied that it has acted in accordance with the relevant duties set out in sections 3 and 4 of the Act.

6. Ofcom has considered every representation about the proposed Direction duly made to it and the Secretary of State has not notified Ofcom of any international obligation of the United Kingdom for this purpose.
7. The proposals set out in the [[July] 2013 Consultation Document] contained proposals of EU significance for the purposes of the Act. Therefore, after making any modifications of the proposals that appeared to Ofcom to be appropriate following domestic consultation, Ofcom sent on [●] 2013 a copy of them, and of a draft of the statement accompanying this Notification setting out the reasons for them, to the European Commission, BEREC and the regulatory authorities of every other member State for EU consultation, in accordance with sections 48B(2) and 80B(2) of the Act.
8. Ofcom received comments from the European Commission on its proposals on [●] 2013, and has made such modifications to this Notification and the statement accompanying this notification as it considers appropriate.

Direction

9. Ofcom hereby, pursuant to section 49 of the Act and Condition 11, directs the Dominant Provider to act as prescribed in paragraphs 10 to 13 below.
10. The Dominant Provider shall publish the information specified in Parts 1 and 2 of Annex A to this direction in relation to the provision of wholesale ISDN30 exchange line services, as required in paragraph 13 below.
11. The Dominant Provider shall provide to individual Third Parties on request the information specified in Parts 1 and 2 of Annex A to this direction in relation to the provision to them of wholesale ISDN30 exchange line services, as required in paragraph 13 below.
12. The Dominant Provider shall provide to Ofcom, by means of electronic mail to such person in Ofcom as notified from time to time, the information specified in Parts 1 and 2 of Annex A to this direction in relation to the provision of ISDN30 exchange line services, as required in paragraph 13 below.
13. The information required by paragraphs 10, 11 and 12 above shall be published and provided as required by the Dominant Provider within 14 Working Days of the last Working Day of every month in respect of that month.
14. Annex A to this direction forms part of the direction.

15. Nothing in this Direction shall require the Dominant Provider to publish confidential information relating to its business or that of a Third Party.

16. For the purpose of interpreting this Direction the following definitions shall apply:

- a. “**Act**” means the Communications Act 2003;
- b. “**Appointed Order**” means an Order that required an appointment for an engineering visit by the Dominant Provider to the end user’s premise in order to become a Completed Order;
- c. “**Committed Order**” means an Order that has been accepted by the Dominant Provider and for which a Contract Delivery Date has been confirmed;
- d. “**Completed Order**” means an Order that has been provisioned and for which all other related work has been carried out;
- e. “**Contract Delivery Date**” means the date agreed between the Dominant Provider and a Third Party for an Order to become a Completed Order;
- f. “**Dominant Provider**” means British Telecommunications plc, whose registered company number is 1800000, and any of its subsidiaries or holding companies, or any subsidiary of such holding companies, all as defined by section 1159 of the Companies Act 2006;
- g. “**Fault**” means a report of degradation or problem with an ISDN30 exchange line service that is identified by the Dominant Provider or a Third Party and which has been registered on the Dominant Provider’s operational support system;
- h. “**Forecasting Region**” means the 26 regions specified in Schedule 3 to the Notification under Part 1 of Annex [●] of the statement [*Review of the Fixed Access Market dated [●]*] and Northern Ireland or other such regions agreed by Ofcom in writing from time to time;
- i. “**Hull Area**” means the area defined as the ‘Licensed Area’ in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and Kingston Communications (Hull) plc;

- j. **“Installed Base”** means the average number of ISDN30 exchange lines that are in use during the Reporting Period;
- k. **“ISDN30 exchange line”** means a digital multiline telephone service conforming to the Integrated Services Digital Network (ISDN) Basic Rate Access standard as defined by the European Telecommunications Standards Institute;
- l. **“KPI”** means key performance indicator;
- m. **“MBORC criteria”** (Matters Beyond Our Reasonable Control) means the criteria set out in a provision contained in a contract between the Dominant Provider and a Third Party for ISDN30 exchange line services which when met releases the Dominant Provider from liability under such contract in circumstances where:
 - iii. the cause of the incident is beyond the reasonable control of the Dominant Provider; and
 - iv. the ability to remedy the issue within contractual timescales is also beyond the Dominant Provider’s reasonable control.
- n. **“MBORC Declaration”** means a declaration made by the Dominant Provider that the MBORC criteria apply in relation to a relevant service and includes both ‘major’ and ‘local’ MBORC Declarations.
- o. **“Newly Provisioned Lines”** means an Order where any ISDN30 exchange line is not being provided by the Dominant Provider to the Third Party at the time of order;
- p. **“Notification”** means the Notification at Part 1 of Annex [●] of the statement [*Review of the Fixed Access Market dated [●]*];
- q. **“Ofcom”** means the Office of Communications as established pursuant to section 1(1) of the Office of Communications Act 2002;
- r. **“Order”** means a request for an ISDN30 exchange line submitted to the Dominant Provider by a Third Party;

- s. **“Pending Order”** means an Order which has been approved by the Dominant Provider and is awaiting a Contractual Delivery Date;
- t. **“Rejected Order”** means an Order rejected by the Dominant Provider because it is incomplete or incorrect;
- u. **“Reporting Period”** means the month in respect of which the Dominant Provider is required to publish or provide to Ofcom as required the ISDN30 KPIs;
- v. **“Restored Service”** means the point at which the ISDN30 exchange line service in relation to which a Fault was registered becomes available again for use by the Third Party;
- w. **“Scheduled Outages”** means the defined periods of time notified to Third Parties in accordance with the terms of the Dominant Provider’s contract for wholesale ISDN30 exchange line services whereby the Dominant Provider’s operational support system is not available for use by Third Parties in order for the Dominant Provider to perform certain tasks including, but not limited to, routine maintenance, changing configurations, software upgrades and updating facilities and may include specific maintenance activities;
- x. **“Service Maintenance Level 2”** means the fault clearance timescale specification of that name as defined by the Dominant Provider in its contracts for the provision of wholesale ISDN30 exchange line services to Third Parties;
- y. **“Service Maintenance Level 3”** means the fault clearance timescale specification of that name as defined by the Dominant Provider in its contracts for the provision of wholesale ISDN30 exchange line services to Third Parties;
- z. **“Third Party”** means a person providing a public electronic communications network or a person providing a public electronic communications service;
- aa. **“Transferred Lines”** means an Order for the transfer of an ISDN30 exchange line service from one Third Party to another Third Party;
- bb. **“United Kingdom”** has the meaning given to it in the Interpretation Act 1978 (c.30);

cc. **“Working Day”** means any day other than Saturdays, Sundays, public holidays or bank holidays in the United Kingdom.

17. Except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them and otherwise any word or expression shall have the same meaning as it has in the Act, or if it has no meaning there, in Part 1 of Schedule 1 to the Notification.

18. For the purpose of interpreting this Direction:

m) except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them above and otherwise any word or expression shall have the same meaning as it has in the Act, or if it has no meaning there, in Part 1 of Schedule 1 to the Notification.

n) headings and titles shall be disregarded;

o) expressions cognate with those referred to in this Schedule shall be construed accordingly; and

p) the Interpretation Act 1978 (c. 30) shall apply as if this Direction were an Act of Parliament.

19. This Direction shall take effect on [●].

Signed

[NAME]

Competition Policy Director

A person duly authorised in accordance with paragraph 18 of the Schedule to the Office of Communications Act 2002

[DATE]

Annex A

Key Performance Indicators for wholesale ISDN30 exchange line services

Part 1: Indicators

1. The Dominant Provider shall publish the information required in KPIs (i) to (xii) below in relation to the provision of ISDN30 exchange line services, in at least the detail outlined below:
 - a) an industry average (for the avoidance of doubt this includes provision by the Dominant Provider to itself where it does so).
2. The Dominant Provider shall also publish the information required in KPIs (i) to (x) below in relation to the provision of ISDN30 exchange line services to itself.
3. In relation to KPIs (i) to (x), the Dominant Provider should publish separate KPI results where options exist for Third Parties (excluding the Dominant Provider) to purchase different ISDN30 exchange line services.
4. In relation to KPIs (v), (vii) and (viii), the Dominant Provider should publish KPIs for (a) the UK as a whole, and (b) split by reference to each Forecasting Region.
5. The Dominant Provider shall provide to Ofcom KPIs (i) to (xii) as described in paragraphs 1 to 4 above by electronic mail to the designated person.
6. The Dominant Provider shall also provide to Ofcom data relating to specific Third Parties upon request.
7. The Dominant Provider shall provide to each Third Party upon request, on a confidential basis, the information required in KPIs (i) to (x) below for that third party.
8. Where the Dominant Provider does not provide ISDN30 exchange line services to itself, it shall instead publish or provide as required the information required in relation to the equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to End Users.

KPI(i) - Percentage of orders rejected

the percentage of Orders submitted during the Reporting Period that became Rejected Orders;

KPI(ii) - Percentage of orders provisioned on time

the percentage of Completed Orders that were completed by the Contract Delivery Date during the Reporting Period for all Orders;

KPI(iii) - Percentage of orders reported as faulty

the percentage of Completed Orders that were reported as having a Fault during the Reporting Period whereby that Fault was reported within 30 calendar days of the date that it became a Completed Order;

KPI(iv) - Percentage of installed base reported as faulty

the number of Faults that achieved Restored Service during the Reporting Period, expressed as a percentage of the Installed Base;

KPI(v) - Average installation time

the average number of days (in working days) from an Order becoming a Committed Order until that order becomes a Completed Order during the Reporting Period, for Appointed Orders;

KPI(vi) - Average time to restore service

the average time (in working hours) during the Reporting Period for the Dominant provider to achieve Restored Service after a Fault has been registered in relation to each of:

- (a) Service Maintenance Level 2; and
- (b) Service Maintenance Level 3;

KPI(vii) – Percentage of faults restored on time for services subject to Service Maintenance Level 2

for services subject to Service Maintenance Level 2, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 2;

KPI(viii) – Percentage of faults restored on time for services subject to Service Maintenance Level 3

for services subject to Service Maintenance Level 3, the percentage of Faults during the Reporting Period whereby the Dominant Provider achieved a Restored Service within the timescales for Service Maintenance Level 3;

KPI(ix) - Timing of fault repairs

the percentage of Faults during the Reporting Period that achieved a Restored Service on each of the first ten days from the date on which the Fault was validated and registered on the Dominant Provider's operational support system;

KPI(x) - Percentage of repeat faults

the percentage of Faults for which Restored Service was achieved in the Reporting Period that were repeat faults, where a repeat fault is a Fault registered within 30 calendar days of the Dominant Provider having achieved Restored Service of a previous Fault with the same service;

KPI(xi) - Gateway availability (excluding Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, excluding any Scheduled Outages; and

KPI(xii) - Gateway availability (including Scheduled Outages)

the percentage of actual availability of the Dominant Provider's ordering gateway during the Reporting Period compared to the potential availability during the same period as published by the Dominant Provider, including any Scheduled Outages.

Part 2: Volumes

1. The Dominant Provider shall publish the information required in KPIs (i) to (vi) below in relation to the provision of ISDN30 exchange line service to all Third Parties (as an aggregate figure which, for the avoidance of doubt includes provision by the Dominant Provider of ISDN30 exchange line services to itself);
2. The Dominant Provider shall provide to Ofcom by electronic mail the information required in KPIs (i) to (vi) below in relation to the provision of End User Access to itself. BT shall also provide to Ofcom data relating to specific Third Parties upon request.
3. Where the Dominant Provider does not provide End User Access to itself, it shall instead publish or provide as required the information required in relation to the equivalent implicit wholesale product provided by the Dominant Provider to itself in order for it to provide downstream services to End Users.

KPI(i) - Volume of orders submitted

the total number of Orders that became Pending Orders during the Reporting Period;

KPI(ii) - Volume of orders completed

the total number of Committed Orders that became Completed Orders during the Reporting Period in relation to each of:

- (a) Newly Provisioned Lines; and
- (b) Transferred Lines;

KPI(iii) - Volume of Installed Base

the Installed Base during the Reporting Period;

KPI(iv) - Volume of faults reported

the number of Faults where the Dominant Provider subsequently achieves Restored Service during the Reporting Period in relation to each of:

- (a) Service Maintenance Level 2; and
- (b) Service Maintenance Level 3;

KPI(v) – Volume of installations affected by MBORC declarations

the total number of Orders during the Reporting Period that were not completed by the Contract Delivery Date that were subject to an MBORC Declaration by the Dominant Provider;

KPI(vi) – Volume of repairs impacted by MBORC declarations

the total number of Faults during the Reporting Period that were not completed within Service Maintenance Level 1 or Service Maintenance Level 2 contracted repair times that were subject to an MBORC Declaration by the Dominant Provider.

Annex 12

Glossary

Access Network: the part of the network that connects directly to customers from the local telephone exchange.

Active Line Access (ALA): a set of technical requirements to enable standardised, competitive wholesale active access to super-fast broadband networks; a wholesale bitstream access which, unlike previous forms of bitstream, offers CPs scope for innovation and retail product differentiation which is as close as possible to that allowable by passive infrastructure access. Active Line Access standards do not provide a specific remedy within any one market reviewed by Ofcom but remedies (such as VULA) may conform to Active Line Access standards as appropriate.

Aggregation Point (AP): a point in the network (such as a local serving exchange) connected to the access network allowing a CP to multiple end user premises.

Analogue Telephony Adaptor (ATA): a device that provides a conventional analogue telephone interface to an Internet Protocol communications network.

Anchor pricing: an approach that sets the upper bound for charges of existing services by reference to the cost of providing those services using existing technology. This ensures that the introduction of new technology which is intended to provide a greater range of services does not inappropriately lead to an increase in the cost of the existing services.

Asset Volume Elasticity (AVE): the percentage increase in capital costs required for a 1% increase in volume.

Bandwidth: the measure of the how much data can be carried across a link in the network.

Body of European Regulators for Electronic Communications (BEREC): The Body of European Regulators for Electronic Communications was established by Regulation (EC) No 1211/2009 of the European Parliament and of the Council of 25 November 2009 and it replaced the European Regulators Group for electronic communications networks and services which was established as an advisory group to the EC in 2002.

Broadband: a service or connection which is capable of supporting always-on services which provide the end user with high data transfer speeds.

Broadband Delivery UK (BDUK): Broadband Delivery UK is a team within the Department for Culture, Media and Sport that has a role to set up, operate, monitor and act as the national competence centre for the UK-wide broadband state-aid scheme, as this has been approved by the European Commission with the State Aid Decision SA.33671 (2012/N).

BT: British Telecommunications plc.

CAT: Competition Appeal Tribunal.

Cost Allocation model: in this model, costs from the Cost Forecast model were allocated to individual services cost and asset data allocated to services to derive unit cost estimates. The Cost Allocation model also drew on a calculation of the forecast asset values and depreciation, for Copper and Duct, provided by the RAV model.

Cost Forecast model: this was an activity-based costing model, using data linked to historically observed activity levels and costs together with estimates of future level of demand. In this model we forecast operating costs and capital expenditure at an Openreach level. The output was fed into the Cost Allocation model.

CC: Competition Commission.

Charge control: a control which sets the maximum price that a communication provider can charge for a particular product or service. Most charge controls are imposed for a defined period.

Common costs: costs which are shared by all the services supplied by a firm.

Communications provider (CP): a person who provides an Electronic Communications Network or provides an Electronic Communications Service.

Contended/uncontended access: telecommunications access networks are configured to provide to customers reserved (uncontended access) or shared (contended access) bandwidth and/or other network resources.

Cost orientation: the principle that the price charged for the provision of a service should reflect the underlying costs incurred in providing that service.

Costs Volumes Elasticity (CVE): the percentage increase in operating costs for a 1% increase in volume.

Current cost accounting (CCA): an accounting convention, where assets are valued and depreciated according to their current replacement cost whilst maintaining the operating or financial capital of the business entity.

Current Generation Access (CGA): a copper-based access network that can support a maximum download speed of 24 Mbit/s.

Customer Premises Equipment (CPE): any terminal and associated equipment that is connected to an electronic communications service at customers' premises. Equipment is often provided and connected by consumers and includes for example, telephones, answering machines, and modems.

Dark fibre: a fibre optical cable represents the passive element of an optical network connection and while not connected to active optical equipment, i.e. unused, it is called dark fibre.

Data Over Cable Service Interface Specification (DOCSIS): the international standard for sending data over a cable network.

Digital: the binary coded representation of a waveform, as opposed to analogue, which is the direct representation of a waveform.

Distributed Long Run Incremental Costs (DLRIC): the LRIC of the individual service with a share of costs which are common to other services over BT's core network.

Distributed Stand Alone Costs (DSAC): an accounting approach estimated by adding to the DLRIC a proportionate share of the inter-increment common costs. Rather than all common costs shared by a service being allocated to the service under consideration, the

common costs are instead allocated amongst all the services that share the network increment.

Digital Subscriber Line (DSL): a family of technologies generically referred to as Digital Subscriber Line (xDSL), capable of transforming ordinary local loops into high-speed digital lines, capable of supporting advanced services such as fast Internet access and video-on-demand. ADSL (Asymmetric Digital Subscriber Line), HDSL (High bit rate Digital Subscriber Line) and VDSL (Very high data rate Digital Subscriber Line) are all variants of xDSL.

Digital Subscriber Loop Access Multiplexer (DSLAM): apparatus used to terminate DSL enabled local loops, which comprises a bank of DSL modems and a multiplexer which combines many local loops into one data path.

Ducts: underground pipes which hold copper and fibre lines.

Duct Access: when service providers other than the owners of telecommunications ducts can access existing pipes to deliver connections to end customers. In practice, communications providers can pull their own cables through the existing pipes without needing to dig new trenches and lay new ducting.

EC: European Commission.

Ethernet in the First Mile (EFM): A network technology for the delivery of Ethernet services over access networks. Although the technology also encompasses fibre access networks, in common usage, Ethernet in the First Mile refers to the provision of Ethernet services over copper access networks.

End user: the final consumer of a product or service.

Equivalence of Input (EOI): a remedy designed to prevent a vertically-integrated company from discriminating between its competitors and its own business in providing upstream inputs. This requires the regulated firm to provide the same wholesale products to all CPs including its own downstream division on the same timescales, terms and conditions (including price and service levels) by means of the same systems and processes, and includes the provision to all CPs (including its own downstream division) of the same commercial information about such products, services, systems and processes.

Equivalence of Outputs (EOO): the provision of wholesale inputs to access seekers in a manner, which is comparable, in terms of functionality and price, to those the SMP operator provides internally to its own downstream business e.g. its retail arm, albeit using potentially different systems and processes.

Fibre-to-the-Cabinet (FTTC): an access network structure in which the optical fibre extends from the exchange to a flexibility point in the BT access network known as a cabinet. The street cabinet is usually located only a few hundred metres from the subscriber's premises. The remaining part of the access network from the cabinet to the customer is usually copper wire but could use another technology, such as wireless.

Fibre-to-the-distribution-point: an access network structure in which the optical fibre network runs from the local exchange to a flexibility point (cabinet) in the building. The remaining part of the access network, from the building cabinet to the customer, is usually copper wire but could use another technology, such as wireless.

Fibre-to-the-Premises (FTTP): an access network structure in which the optical fibre network runs from the local exchange to the end user's house or business premise. The optical fibre may be point-to-point – there is one dedicated fibre connection for each home – or may use a shared infrastructure such as a GPON. Sometimes also referred to as Fibre-To-The-Home (FTTH).

Fully allocated cost (FAC): an accounting approach under which all the costs of the company are distributed between its various products and services. The fully allocated cost of a product or service may, therefore, include some common costs that are not directly attributable to the service.

Fixed wireless access (FWA): radio link to the home or the office from a cell site or base station, replacing the traditional local loop.

Generic Ethernet Access (GEA): BT's wholesale non-physical product providing CPs with access to higher speed broadband products.

Gigabit Passive Optical Network (GPON): a shared fibre network architecture that can be used for NGA.

Glass-only install: for the purposes of provisioning FTTP access services, a fibre optic cable and an appropriate ONT equipment are required to be installed. Glass-only install represents the installation of the fibre optical cable, allowing the other CP to provide its own ONT equipment.

Gross Replacement Cost (GRC): the cost of replacing an existing tangible fixed asset with an identical or substantially similar new asset having a similar production or service capacity.

Historic cost accounting (HCA): a method of accounting under which assets and liabilities are recorded at the values at which they were first acquired.

Hull Area: the area defined as the 'Licensed Area' in the licence granted on 30 November 1987 by the Secretary of State under section 7 of the Telecommunications Act 1984 to Kingston upon Hull City Council and KCOM plc (formerly Kingston Communications (Hull) plc).

Integrated services digital network (ISDN): a set of communications standards for digital transmission of voice, video, data, and other network services over the traditional circuits of the PSTN.

IL2: IL2 assurance is a certification that verifies the security level of a network. Government departments including local government are covered by such security standards.

IP telephony services: a telephony and telephony-related (e.g. unified personal communications) service relying on the Internet Protocol for the transport of voice/audio and signalling data.

ISDN2: a digital telephone line service that supports telephony and switched data services. ISDN2 provides the calling or data capacity equivalent to two analogue telephone lines

ISDN30: a digital telephone service that provides up to the equivalent of 30 analogue lines over a common digital bearer circuit. These lines provide digital voice telephony, data services and a wide range of ancillary services.

ISP: Internet Service Provider.

kbit/s: kilobits per second (1 kilobit = 1,000 bits). A measure of bandwidth in a digital system.

KCOM: KCOM plc (formerly Kingston Communications (Hull) PLC).

Latency: a measure of delay in transmission over a transmission path.

Local Loop: the access network connection between the customer's premises and the local serving exchange, usually comprised of two copper wires twisted together.

Local loop unbundling (LLU): A process by which a dominant provider's local loops are physically disconnected, or partially disconnected, from its network and connected to competing provider's networks. This enables operators other than the incumbent to use the local loop to provide services directly to customers.

Long Run Incremental Costs (LRIC) or pure LRIC: Long Run Incremental Costs are defined as the long run avoidable cost of an operator carrying a particular increment of traffic. The increment in question is treated as the final traffic increment on the network.

Main distribution frame (MDF): the equipment where local loops terminate and cross connection to competing providers' equipment can be made by flexible jumpers.

Mbit/s: megabits per second (1 Megabit = 1 million bits). A measure of bandwidth in a digital system.

Metallic Path Facility (MPF): the provision of access to the copper wires from the customer premises to a BT MDF that covers the full available frequency range, including both narrowband and broadband channels, allowing a competing provider to provide the customer with both voice and/or data services over such copper wires.

Modem: abbreviation of modulate-demodulate, a device that converts a digital signal into analogue for transmission purposes. It also receives analogue transmissions and converts them back to digital.

Modern equivalent asset (MEA): an approach to setting charges that bases costs on what is believed to be the most efficient available technology that performs the same function as the old technology.

Narrowband: a service or connection that provides a maximum speed of up to 64 kbit/s per circuit (and therefore up to 128 kbit/s in the case of ISDN2). Narrowband modems generally offer a maximum rate of 56 kbit/s.

Net replacement cost (NRC): gross replacement cost less accumulated depreciation based on gross replacement cost. An alternative is *Depreciated replacement cost (of tangible fixed assets other than property)*: The cost of replacing an existing tangible fixed asset with an identical or substantially similar new asset having a similar production or service capacity, from which appropriate deductions are made to reflect the value attributable to the remaining portion of the total useful economic life of the asset and the residual value at the end of the asset's useful economic life.

Network Termination Equipment (NTE): a Network Termination Equipment is an element of a communication provider's access network. It terminates the access network and bridges the access network with the customer's network.

Next Generation Access (NGA): new or upgraded access networks that will allow substantial improvements in broadband speeds and quality of service compared to today's services.

Ofcom: The Office of Communications.

Office of the Telecommunications Adjudicator (OTA2): an independent body that facilitates discussion between CPs on operational issues related to new and existing telecoms products and services.

Open ATA: a requirement that includes control over CPE for interconnecting CPs, allowing greater flexibility in the provision of downstream products and services.

Openreach: the access division of BT established by Undertakings in 2005.

Optical network terminal (ONT): an Optical Network Terminal (or Optical Network Unit, ONU) is a type of NTE that encodes, transmits, decodes and receives optical signals over a fibre optical cable. It is typically used to terminate fibre optical cables for the provision of FTTP access services.

OSI Framework: the Open Systems Interconnection model (ISO/IEC 7498-1) is a conceptual model that characterizes and standardizes the internal functions of a communications system by partitioning it into abstraction layers.

Partial Private Circuit (PPC): a generic term used to describe a category of private circuits that terminate at a point of connection between two communications providers' networks. It is therefore the provision of transparent transmission capacity between a customer's premises and a point of connection between the two communications providers' networks. It may also be termed a part leased line.

Physical Access: wholesale access products based on direct access to the physical infrastructure of the network (e.g. copper, fibre, duct), without the need to connect to electronic equipment.

Physical Infrastructure Access (PIA): a remedy requiring BT to provide CPs with access to its passive access network infrastructure (i.e. ducts and poles).

Passive Optical Network (PON): a point-to-multipoint fibre to the premises access network architecture in which unpowered optical splitters are used to enable a single optical fibre to serve multiple (typically 16-128) premises.

Primary Connection Point (PCP): the Primary Connection Point, or Cabinet, is a network unit that facilitates the aggregation of multiple access network (secondary) cables into fewer, primary network cables, typically connected to the Local Exchange.

Prioritisation Rate: contended/uncontended access is often provided over the same, shared communications access network, and the Prioritisation Rate represents a set of conditions defined by the network operator that allow network equipment to automatically make prioritisation decisions for different types of network traffic.

Public switched telephone network (PSTN): a telecommunications network that uses circuit switched technology to provide voice telephony services.

RAV model: this model calculates the forecast asset values and depreciation, for Copper and Duct. The model also applies a regulatory adjustment (the regulatory asset value adjustment, or RAV adjustment) previously applied by Ofcom.

Radio access network (RAN): the part of a mobile network which transfers signals between the core network and the user equipment (e.g. handsets) over the air-interface.

Regulatory asset value (RAV): the value ascribed by Ofcom to an asset or capital employed in the relevant licensed business.

Regulatory financial statements (RFS): the financial statements that BT is required by Ofcom to prepare, have audited and publish.

Reference offer (RO): provides a set of minimum conditions for an SMP operator to develop products or services for the use of other CPs.

Retail Fixed Analogue Exchange Lines (RFAEL): the provision of retail wholesale analogue voice services.

Retail price index (RPI): a measure of inflation published monthly by the Office for National Statistics. It measures the change in the cost of a basket of retail goods and services.

Service Level Agreements (SLA): form part of commercial contracts and set out a supplier's commitment to provide services to an agreed quality, e.g. within a specified period.

Service Level Guarantees (SLG): specify the level of compensation that the customer would be entitled to should the service not be provided at the quality specified in the SLA,

Shared metallic path facility (SMPF)/shared access: the provision of access to the copper wires from the customer's premises to a BT MDF that allows a competing provider to provide the customer with broadband services, while the dominant provider continues to provide the customer with conventional narrowband communications.

SIP Trunking: a technology or a set of technologies relying on the Session Initiation Protocol for the interconnection of a Private Branch Exchange (PBX) with other Telephony and telephony-related (e.g. unified personal communications) service networks.

SMP: the Significant Market Power test is set out in European Directives. It is used by National Regulatory Authorities (NRAs) such as Ofcom to identify those communications providers who must meet additional obligations under the relevant Directive.

SSNIP: Small but Significant Non-transitory Increase in Price, usually considered to be 5 to 10 per cent, which is part of the hypothetical monopolist test used in market definition analysis.

Statement of Requirements (SOR): a requirement that allows CPs to make a request to the SMP operator for the provision of a service. It requires the SMP operator to publish reasonable guidelines on requesting a new product, the provide information for the purpose of making a request for a new product, and design a process for dealing with requests for new products.

Sub-loop unbundling (SLU): like LLU, except that communications providers interconnect at a point between the exchange and the end user, usually at the cabinet.

Superfast Broadband (SFBB): a broadband connection that can support a maximum download speed of 30Mbps or greater.

Very high bitrate DSL (VDSL): an upgrade to ADSL technology which allows for higher speed access over copper lines. It is likely to be the technology which will be used in FTTC deployments.

Vectoring: a performance improvement technique that reduces the effects of crosstalk on copper lines. It is based on the concept of noise cancellation via the coordination of line signals.

Virtual Unbundled Local Access (VULA): it provides a connection from the nearest 'local' aggregation point to the customer premise.

Virtual Local Area Network (VLAN): Virtual Local Area Networks operate over the infrastructure of an existing Local Area Network. Multiple Virtual Local Area Networks may operate and share the resources provided by physical LANs, with the objective to make more efficient use of existing network resources.

Voice over IP (VoIP): a generic term used to describe telephony services provided over IP networks.

Weighted average cost of capital (WACC): the rate that a company is expected to pay on average to all its security holders to finance its assets.

Wavelength unbundling: a process that allows different operators to share optical fibre by using different light wavelengths.

Weighted average cost of capital (WACC): the rate that a company is expected to pay on average to all its security holders to finance its assets.

Wholesale Broadband Access (WBA): is between the WLA market and retail market for provision of fixed telecommunications services to end users.

Wholesale Fixed Analogue Exchange Lines (WFAEL): the provision of wholesale analogue voice services using BT or KCOM's existing voice infrastructure

Wholesale Local Access (WLA): covers fixed telecommunications infrastructure, specifically the physical connection between end users' premises and a local exchange.

Wholesale Line Rental (WLR): the service offered by BT to other UK communications providers to enable them to offer retail line rental services in competition with BT's own retail services. Line rental is offered along with calls (and other service elements, such as broadband) to retail customers.

Wires-only install: the provision of broadband services requires a physical communications medium, typically copper wires or fibre optic cables, and active NTE. A wires-only install allows for the operator of the physical network to provision and deliver the wires to the customer's premise and another operator, typically the broadband service operator, to provide the active NTE.