Stakeholder queries on Ofcom's 19December 2013 Consultation:
Fixed access market reviews: Openreach quality of service and approach to setting LLU and WLR Charge Controls

Stakeholder	Condoc page/ Excel doc name	Condoc para ref/ worksheet name	Stakeholder query	Ofcom response
Vodafone	Section 4: Service Level cost differentials	Table 1.1: Proposed LLU charge controls 2014-17 Table 1.2: Proposed WLR charge controls 2014-17 Paragraphs 4.88 to 4.92 Table 5.9: Combined impact of proposed base cases for relative fault rates and service level differential on 2016/17 unit costs (FAC) Table 8.4: Cumulative impact of modelling changes on rental charges (nominal 2016/17 (£))	Can you give the price of the proposed Service Level 1 and Service Level 2 products?	The proposed charges for WLR (at Service Level 1) and MPF and SMPF (at Service Level 2) are as set out in the base case and ranges for our proposed charge controls, in tables 1.1 and 1.2. In proposing charges for individual services, we have taken account of the cost estimates for each service and also the need to provide a stable and predictable regulatory regime, as described in section 8. There is no separate explicit charge for service levels within WLR, MPF or SMPF. We have considered the differences in the cost of Service Level 1 and Service Level 2. In paragraphs 4.88 to 4.92 we set out our proposal to use a value of 14.1% as the base case for the differential in costs between the Service Levels (for those costs components affected by service level differences, such as fault repairs). We have also set out our view of the impact of the base case of the faults and service level proposals on 2016/17 unit costs in Table 5.9 and on 2016/17 charges in Table 8.4.

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TalkTalk Group	Section 7: Charge control cost allocations and modelling	Paragraphs 7.2 to 7.33	What costs are included in the TAMs cost component? For example, does it include master controller, tie cable A and B?	The TAMs cost component includes the costs of the master controller and tie cables A and B (by which we mean the tie cables to and from the main distribution frame and the test access matrix). It also includes the test access switch matrix and associated racks and sub-racks, and the installation of this equipment. The TAMs cost component also includes an allocation of other costs, including general management and accommodation.
TalkTalk Group	Section 7: Charge control cost allocations and modelling	Paragraphs 7.59 and 7.61.2	What is the source of the 70% figure in paragraph 7.61.2? What model does it come from?	The 70% figure in paragraph 7.61.2 is the LRIC:FAC ratio derived from our cost model for the line card cost component. It is derived from a weighted average of the AVEs and CVEs for that component, with the weighting dependent on the relative share of capital costs and operating costs in the total unit costs for that component. In paragraph 7.59 we explain that we also include in the line card costs the costs we are proposing to reallocate from Caller Display to WLR. However, the effect of that on the LRIC:FAC ratio is very small.
TalkTalk Group	Section 7: Charge control cost allocations and modelling	Paragraph 7.39	Paragraph 7.39 refers to “broadband-related faults”. Are these standard line faults, i.e. do not meet BT’s SIN349 specification?	It is our understanding that “broadband-related faults” as referred to in paragraph 7.39 (relating to the 30% figure) means standard line faults – that is, lines not meeting BT’s SIN349 specification (BT Metallic Path Facility Interface Description).

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TalkTalk Group	Section 6: Charge Control Design	Figure 6.1: A six-basket structure	Figure 6.1 gives the revenue for the “Other LLU ancillaries basket” as £50m-£110m. Is this range correct?	Yes, the range is correct. The revenue in 2011/12 for "Other LLU ancillaries basket" is in the range £50m-£110m and Figure 6.1 of the December 2013 Consultation is correct. We note that the ranges in Figure 6.1 include both internal and external revenues (i.e., the ranges refer to total revenues).
TalkTalk Group	Section 5: Quality of Service Review	Table 5.3: BT/Deloitte fault rates per product for the period October 2011 to September 2013 Table 5.5: Early life fault (ELF) rates as proportion of number of provisions Table 5.6: ELF rates as proportion of early life working system size	In Tables 5.3, 5.5 and 5.6 you show ILF and ELF fault rates. How exactly are these defined? Is the number of ELF faults the faults that occur within 28 days of provision and the number of ILF fault the faults that occur after 28 days i.e. together they equal total faults? What is the denominator in each case? For ELFs is it all lines that have had any provision activity on them I.e. Including migrations, new provides and in the case of WLR transfers. For ILFs is it total lines in service less the denominator used for ELFs?	**ELF, ILF and total faults:**In all the following cases the total number of faults in any period is the number of early life faults plus the number of in-life faults. **Table 5.3:** The values in Table 5.3 are extracted from Figure 1 of the Openreach-commissioned Deloitte Fault Data Report (see document A, below). The ELF rates are the number of early life faults per week per 1000 lines in an early life working state. The ILF rates are the number of faults per week per 1000 lines in an in-life state, i.e. not in an early life working state. **Table 5.5:** The values in Table 5.5 are extracted from Figure 14 the Ofcom commissioned CSMG Fault Rates Report (See document B, below). The ELF rates (ELFR) are the number of early life faults per provisioned line for an annual period expressed as a percentage derived by dividing the

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				number of early life faults (ELFs) per year by the number of new provisions per year (i.e. the sum of the weekly provisioning activities). These are calculated per product, i.e. ELFR(5.5) = (ELFs per year) ÷ (number of provisions per year) **Table 5.6:** The values in Table 5.6 are extracted from Figure 12 of the Ofcom-commissioned CSMG Fault Rates Report (B). The ELF rates (ELFR) are the number of early life faults per year per early life line expressed as a percentage derived by dividing the number of early life faults (ELFs) per year by the average weekly number of lines in an early life state (ELLs). These are calculated per product, i.e. ELFR(5.6) = (ELFs per year) ÷ (Average weekly ELLs) Note that in any week the number of lines provisioned is approximately one quarter of the number of lines in an early life working state because early life is defined as the first 28 days (i.e. 4 weeks) after the most recent provisioning activity on the line. For further information see paragraph 4.13 of the CSMG report. Consequently, to obtain the ELF rates (ELFR) in Table 5.5 from Table 5.6, multiply by 4 to convert the denominator from average weekly early life working system size to average weekly provision volume and then divide by 52 to convert average weekly provision volume to annual provision volume (in the denominator):

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				ELFR(5.5)(%) = ELFR(5.6)(%) x 4 ÷ 52 = (ELFs per year) ÷ (Average weekly ELWSS ÷ 4 x 52) x 100 Similarly to obtain the ELF rates (ELFR) in Table 5.3 from Table 5.6 divide by 100 to convert the percentage to a proportion, further divide by 52 to convert the ELFs per year to ELFs per week (numerator) and then multiply by 1000 to convert the proportion per line to a proportion per 1000 lines: ELFR(5.3) = ELFR(5.6)(%) ÷ 100 ÷ 52 x 1000 = (ELFs per year ÷ 52) ÷ (Average weekly ELWSS) x 1000 ÷ 100 **Sources:** (A) Openreach-commissioned Deloitte Fault Data Reportis available at: http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-market-reviews/responses/Openreach_-_Deloitte_report.pdf (B) Ofcom-commissioned CSMG report is available at: http://stakeholders.ofcom.org.uk/binaries/consultations/fixed-access-market-llu-wlr-charge-controls/annexes/annex10.pdf

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TalkTalk Group	Section 5: Quality of Service Review	Table 5.5 Table 5.6	What explains the difference in Table 5.5 and 5.6?	You should note that the rates in Table 5.3 are slightly different to those in Tables 5.5. and 5.6 because, although the rates were derived from what we understand to be the same source data, there were some differences in the filtered data sets that CSMG could not explain (see the CSMG Fault Rates Report, Section 8, Annex 1).
Openreach	Section 3: Quality of Service Review	Paragraphs 3.8, 3.19, and 3.31	With respect to two measures ("Repair Completion within SLA timescales" and "12 day provision appointment availability") we would like to confirm the understanding set out below is correct: **Repair Completion within SLA timescales** We expect to use the following measure: % Repairs completed within tariff SLA (for Analogue WLR3 Care Level 1 and MPF Care Level 2). This is based on the existing Openreach T2R RD3 measure. **12 day provision appointment availability** We expect to use the following measure: At the time of requesting an appointment – the first available date an appointment slot for a provision job (that requires an engineer) is available on. Reported as the % available within target 12 working days (for WLR3 Analogue and LLU MPF). This is based on the existing Openreach First Available Date (FAD) measure.	Our intention is that the minimum standards for Repair Completion should reflect the Failure of Service SLA for analogue WLR3 in respect of Care Level 1 services and the Fault Repair SLA for LLU in respect of Care Level 2 services. Our intention is that the minimum standards for Appointment Availability should reflect the Appointments SLA for WLR3 and the Appointment Availability SLA for LLU. It will be a matter for BT to ensure that the measures used for reporting compliance reflect any minimum standards imposed in the market review. We are happy to discuss any queries about the measures to be used for compliance purposes.

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Openreach	Section 3: Quality of Service Review	Paragraph 3.19	It is our understanding that Ofcom proposes to use existing Service Level Agreements (SLAs) as the basis for the minimum standards (as per para. 3.19 of the Consultation).	That is correct. The minimum standards that we have proposed in the Consultation, as specified in the draft Legal Conditions, are intended to reflect Openreach's performance against the requirements set out in the currently applicable SLAs.
Openreach	Section 3: Quality of Service Review	Paragraphs 3.8, 3.19, 3.31, 3.38, 3.41, 3.48, 3.77, 3.86-3.89, 3.109 and 3.112. Table 3.4: Proposed minimum standards (excluding the MBORC allowances) Table 3.5: Proposed minimum standards (including the MBORC allowances)	With respect to "Provision appointment completion by appointment date" minimum standard it is unclear which Order types are included and excluded and we would like Ofcom to clarify its proposals. In particular we are concerned that one reading of this minimum standard is that it only measures provision jobs that are appointed (i.e. require an engineering visit). We believe that Ofcom intends for the following measure to be used: The percentage of closed EMP provision orders where the provisioning is completed by CCD (Customer Committed Date) i.e. from when the Contractual commitment to pay SLGs starts to apply (for Analogue WLR3 and MPF). This is based on the existing Openreach L2C PD3 measure. This would include all provision order types except 'ceases' and 'modifies'. Please can Ofcom confirm, for the avoidance of doubt, that this proposed measure includes all 'provision' order types except 'ceases' and 'modifies' (including	The minimum standards that we have proposed in the Consultation for the provision completion measure, as specified in the Draft Legal Conditions, are intended to reflect Openreach's performance against the requirements set out in the currently applicable SLAs for order completion as specified in Openreach's contracts for WLR and LLU. In section 3, we have referred to these minimum standards as the "provision appointment completion by appointment date" and the "provision appointment completion" minimum standards. References in section 3 to provision appointments in relation to the order completion minimum standards are intended to refer to all order types that fall within the scope of these measures. The order types that should be included in the minimum standard are therefore those order types that are included in the applicable SLAs. Similarly, order completion for the minimum standards should be measured in the same way as in the applicable SLAs.

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			provision orders where a date is agreed with the customer but an engineer appointment may not be required with the End User e.g. Frames activity). In addition, can Ofcom also confirm at what point in time completion should be measured. • In Section 3.7 the proposed measure is defined as: 'provisioning appointments for WLR and MPF completed by Contract Completion Date (CCD)'. • In Section 3.31 the proposed measure is defined as: 'provision completion by CCD (i.e. a provision completion by appointment date)'. In draft SMP condition 12, completion is defined as the Committed Date; however there does not seem to be any associated definition	
Openreach	Annex 15: Draft legal instruments	Schedule 5: Proposed SMP services condition 12	Draft SMP condition 12 (Minimum standards for quality of service) implies that the provision service levels Openreach is expected to achieve apply to all provision orders (assumed to exclude ceases and modifies). However, in section 3 of the Consultation, Ofcom repeatedly refers to the provision appointment completion measure (e.g. para. 3.38, table 3.1, and paras. 3.84 and 3.86).	As per above, the proposed minimum standard for order completion is intended to reflect the currently applicable SLAs for order completion. We will review the draft SMP conditions for consistency with the SLAs.

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Openreach	Annex 15: Draft legal instruments	Schedule 1: Proposed SMP services condition 7A	7A.2, 7A.6, 7C.2 and 7C.6 include price and percentage ranges for the LLU and WLR controls, but it is not clear what the basis for these ranges is, as the full information for/explanation of each of the ranges is not available in the consultation document. For example, in 7A.2(a) the MPF Rental range is £82.78 to £90.14, but the figure £90.14 does not appear in Tables 1.1, 8.2 or anywhere else in the main consultation document. Please could Ofcom confirm the basis for these price and percentage ranges and provide any supporting information/explanation that is not included in the consultation document.	For the reasons set out in Section 8 of the December consultation, we are proposing to move to a LRIC differential between WLR+SMPF and MPF of £10 by 2016/17. However, we are also consulting on the option of moving to a differential of £2 by 2016/17. The ranges in Table 1.1 are for high and low scenarios when moving to a differential of £10 by 2016/17. Table 1.4 provides the X values for the main rental services for the £2 differential option, when using the base case of the other proposals. Table 8.7 gives the ranges for high and low scenarios when moving to a differential of £2 by 2016/17. The draft legal instruments give the full range of high and low scenarios for both of the options for the differential. Accordingly, the figure of £90.14 (which is included in the draft legal instruments as the top of the range on which we are consulting for MPF Rental) is consistent with the top of the range that we include in Table 8.7 (i.e. 4.75% in year 1).
Openreach	Annex 15: Draft legal instruments	Schedule 2: Proposed SMP services condition 7C	Please can Ofcom clarify which method of control they propose to exercise over simultaneous provision of WLR and SMPF. Ofcom seems to have mutually exclusive / conflicting proposals in different parts of the consultation: a) In the main consultation document, Ofcom proposes controlling simultaneous provision of WLR and SMPF by CPI – X% as per table 8.3 (7C.2)	Section 4 of the July Consultation and Section 6 of the December consultation set out our proposals in relation to the simultaneous provision of WLR Conversion and/or WLR Connections (when simultaneously provided with SMPF New Provide). Our proposal is that the combined charges are reduced to reflect the lower costs arising from simultaneous provision over the charge control using a CPI-X approach. This is illustrated in the December consultation in Table 8.3 and we provide the expected charges following from our

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			b) Also in the main consultation document, Ofcom publishes "the expected charges following from our proposals for WLR+SMPF Simultaneous Connections in Table 6.3" (table 6.3) c) In the legal instruments, Ofcom proposes a fixed discount to WLR prices in section 7C.2e and f (7C.2)	proposals in more detail in Tables 6.3 and 6.4. The proposed means of implementation, as set out in the draft legal conditions, is to impose a discount on the relevant WLR service such that, when simultaneously provided, the combined price is in accordance with the proposed controls – see paragraph 4.130 of the July Consultation and paragraph 6.118 of the December Consultation. So we propose to set controls such that: • in the case of simultaneous connection, the WLR Connection charge is reduced by a fixed amount when provided simultaneously with SMPF New Provide, to reflect the relevant cost savings. The fixed amounts are shown in Row d of Table 6.3 in the December consultation, and are implemented in conditions 7C.2(e)(i) - (iii) and 7C.2(f)(i)-(iii) in the draft legal conditions. The sum of the charges for SMPF New Provide and the relevant WLR Connections charge (when provided simultaneously and the discount is applied) should then be no higher than as set out in Row c of Table 6.3; and • in the case of simultaneous migration, the WLR Conversion charge is reduced by the amount of the charge for SMPF New Provide. This means that the sum of the reduced WLR Conversion charge and the SMPF New Provide charge should be no higher than the charge for WLR Conversion when not provided simultaneously with SMPF New Provide. This is to ensure that

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				the charge for WLR+SMPF Simultaneous Migration is aligned with the other migration services involving jumpering, of which WLR Conversion is one of four services separately controlled. (The four services sharing the same level of cap, but separately controlled are MPF Single Migration, SMPF Single Migration, WLR Conversion and WLR+SMPF Simultaneous Migration). Table 6.4 in the December consultation outlines how this alignment is achieved for the WLR+SMPF Simultaneous Migration service. This is implemented in 7C.2(c)(ii) in the draft legal conditions.
Openreach	Annex 15: Draft legal instruments	Schedule 1: Proposed SMP services condition 7A Schedule 2: Proposed SMP services condition 7C Schedule 3: Proposed change to proposed SMP services condition 7D	Please clarify how the new 'repayment' provision included at 7A.6(e), (7C.6(e), 7D.4(e) and 7E.4(e) is intended to interact with the 'carry-forward' provision included at 7A.6(c), (7C.6(c), 7D.4(c) and 7E.4(c). Our understanding of the draft legal instrument as it currently stands is that any repayment made under 7A.6(e), (7C.6(e), 7D.4(e) and 7E.4(e) would not be taken into account for the purposes of the carry-forward in 7A.6(c), (7C.6(c), 7D.4(c) and 7E.4(c) i.e. Openreach would be required to repay the Relevant Excess Revenue resulting from under-compliance in any Relevant Year, but also to carry forward that Excess to the next Relevant Year to be offset. This does not seem right as any under-compliance would then be corrected for twice at Openreach's expense.	Conditions 7A.6(b), 7A.6(c) and 7A.6(d) (and the corresponding provisions in 7C, 7D and 7E) ensure that, Openreach set charges in one year which are inconsistent with the charge control, the controlling percentage for the relevant service in the next year automatically adjusts such that the resulting charge control in line with what it would have been had Openreach set charges in the first year consistent with the charge control. As a result, these conditions mean that, for the purposes of calculating the charge control for the year following any non-compliance, the actual (i.e. non-compliant) charges from the previous year do not affect the charge control in the following year. **An example might help to illustrate this:** Suppose product X has a price of 100 and is subject to a price control of CPI-10%. For simplicity, suppose there is no inflation, so CPI is

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		Schedule 4: Proposed change to proposed SMP services condition 7E		zero. The price control is then 100 x (1-10%) for the first year. The path for prices should be 100, 90, 81. However, suppose that in the first year of the charge control, the price were set at 95 rather than 90. Conditions 7A.6(b), 7A.6(c) and 7A.6(d) simply ensure that the charge control in the second year is equivalent to 90 x (1-10%) = 81 (rather than 95 x (1-10%) = 85.50). For the avoidance of doubt, these conditions do not reduce charges in the second year as a way of requiring BT to 'repay' for any over-recovery in the previous year. Rather, these conditions are complementary to the repayment provisions in 7A.6(e) (which ensure that Openreach automatically pays back any over-recovery it has accrued in a relevant year) and there should be no 'double correction' of Openreach's revenues. These conditions now mirror the mechanics of the network charge controls recently imposed on BT – see Annex 2 of the 26 September 2013 Review of the fixed narrowband services markets.

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Frontier Economics	Annex 6: EY Model Methodology Document	Page 2	The documentation states that all jobs performed by the Service Delivery workforce are included "in order to be consistent with the breadth of Ofcom's charge control modelling". Does Ofcom agree with this statement?	We consider that the model is likely to be more representative if it includes the full range of the activities undertaken by field engineering staff.
Frontier Economics	Annexes 5-9		Our understanding is that the GEA tasks, in particular provisioning work, require significantly more resources than equivalent CGA tasks. Does the data on KMH reflect this? Was any sensitivity run attempting to estimate the impact of including GEA tasks in the analysis? When looking at the impact of changes the QoS or care level for WLR and LLU, were the care levels of GEA (and any other services) kept constant or were they also varied along with WLR and LLU?	GEA provisioning jobs are included in the model and, like all other provisioning job types in the model, they have separate task times derived from operational data which vary from month to month and by geography. The provision task times are higher than the majority of other task types. Repair jobs are classified by 'site type' and therefore GEA repair jobs cannot be separately identified. GEA jobs were included in the quality of service improvement and care level modelling scenarios. No sensitivities of the impact of including GEA jobs were conducted.
Frontier Economics	Annexes 5-9		The model is restricted to "Service Delivery" resource. Do the same engineers work on "Network Investment" or "Service Management" tasks?	Openreach has explained that Service Delivery resources rarely work on Network Investment and Service Management tasks and that these tasks account for approximately 2% of the work of the Service Delivery Resources.
Frontier Economics	Annexes 5-9		Most of the skill types for the engineering force appear to relate to additional fibre skills. Why is there a need to implement such a detailed hierarchy when presumably only a subset of skill types is needed to deliver copper based products?	Our understanding is that Openreach has modelled all of the skill groups in order to take full account of the resource flexibility within its Service Delivery workforce. Resources with fibre skills also undertake work on copper products.

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Frontier Economics	Annexes 5-9		Care levels are allocated randomly. Does this take into account the fact that jobs with higher care levels are more likely to be located in urban areas (MPF and WLR Premium services are less likely to be located in rural areas)?	The model operates at the General Manager (GM) area level and does not directly model distributional variations at a more granular level. The average task times would reflect the mix of task times in each GM area each month for each product and site type.
Frontier Economics	Annexes 5-9		The assumption that the distribution of job completion times is static over the full year for a given quality of service appears unrealistic. We would expect the distribution to vary over time with a greater proportion of jobs being delivered over the SLA (i.e. a more variable distribution) at times of greater demand – Openreach's QoS certainly appears to vary over time. Was any analysis carried out to indicate how the distribution of job completion times varied over the year?	The distribution of job completion times is not static. It is varied week-by-week, by GM area and care level according to historic performance data.
Frontier Economics	Annexes 5-9		Changes in QoS are modelled by changing the (gamma) distribution of the job completion time while keeping the mode constant. This seems an unrealistic assumption as it assumes that as QoS increases the number of jobs completed rapidly (in say half a day) actually decreases. Is there any empirical or theoretical reason make this assumption? Was any consideration given to simply 'scaling' the gamma distribution, i.e. assuming that all waiting times are reduced by a fixed proportion to achieve the QoS target?	The use of a gamma distribution and the mechanism used to manipulate it to vary performance is one of the core assumptions of the model. Openreach have told us that the decision to manipulate the gamma distribution whilst holding the mode constant was based on empirical evidence. We have expressed concerns about this approach in the Consultation (see paragraphs A5.64 and A5.65) and would welcome comments from stakeholders on this issue.

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Frontier Economics	Annexes 5-9		Ofcom's proposals imply that increases in peak resources required to meet a given quality of service results in a directly proportionate increase in costs even if the overall workload remains fixed. Has BT supplied any evidence that indicates that peak resources are the only driver of costs and that the relationship between peak resource requirements and costs is completely direct?	Given that the issue under consideration is speed of delivery an important factor is Openreach's capacity to deliver in peak periods. Hence, a core assumption of the model is that peaks in work volumes drive resource requirements. However, clearly, there are options as to how peak resource determinations then drive the level of overall resources – i.e. how do we spread this peak, etc. BT has not supplied any evidence that peak resources are the only driver of costs or that the relationship between peak resources and costs is direct.
Frontier Economics	Annexes 5-9		How have MBORC events been treated in the analysis?	See paragraph A5.50 of the Consultation for an explanation.

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Frontier Economics	CSMG Fault Rates Report		Can you provide a complete list of events on a given line in the Fault Database Fields give rise to the line becoming an early life line under BT's analysis?	These are set out in Table 1 below.

Table 1 Ofcom response to Frontier Economics question: *Can you provide a complete list of events on a given line in the Fault Database Fields give rise to the line becoming an early life line under BT's analysis?*

MPF	WLR Only	WLR+SMPF
ACTIVATE_PRIMARY_LINE	ACTIVATE_PRIMARY_LINE	ACTIVATE_BROADBAND
CEASE_BROADBAND	CEASE_BROADBAND	ACTIVATE_PRIMARY_LINE
MODIFY_PRIMARY_LINE	MODIFY_PRIMARY_LINE	CEASE_PRIMARY_LINE
CEASE_PRIMARY_LINE	UNCLASSIFIED	MODIFY_BROADBAND_CUPID_CHANGE
	CEASE_PRIMARY_LINE	MODIFY_BROADBAND_NO_CUPID_CHANGE
		MODIFY_PRIMARY_LINE
		SIM_PROVIDE
		UNCLASSIFIED

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Frontier Economics	CSMG Fault Rates Report		How do these events map onto the service classifications used by Ofcom in the demand forecasting model?	The fault analysis considered the services MPF, WLR only and WLR+SMPF as shown Table 1 (above). SMPF is not treated separately during the faults analysis because of difficulties associated with the reliable identification of WLR faults versus SMPF faults in WLR+SMPF service scenarios. Relative fault ratios for the three services, WLR, MPF and SMPF, are obtained by simple post processing of the fault rates obtained for WLR, MPF and WLR+SMPF as explained in the consultation. The demand forecast model is based on a wider range of service products arranged into the WLR rentals, WLR connections and transfers, MPF and SMPF service groups. We have not explicitly mapped the events identified in Table 1 to the service groups in the volume forecast model.
Frontier Economics	CSMG Fault Rates Report		Is it possible for a line to be classified as “early life” even though there has been a service modification but the underlying services and the service provider remain the same?	Yes. Any activity matching the transition categories in Table 1 in the last 28 days would classify the line as “early life,” even if the services provided and service provider were not changed during the modification (e.g., Modify Primary Line, Modify Broadband - No CUPID change)

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Frontier Economics	CSMG Fault Rates Report		For the filtering process for each of the types of faults please explain the rationale used to exclude certain fault reports from the analysis e.g.: • the fault is not relevant to the allocation of fault repair costs as fault cleared without incurring fault repair activities • the cost of fault repair recovered from products other than WLR, MPF or SMPF and if so from what products are the fault repair costs recovered?	These are set out in Table 2 below.

Table 2 Ofcom response to Frontier Economics question: *For the filtering process for each of the types of faults please explain the rationale used to exclude certain fault reports from the analysis*

Fault records excluded	Reason for exclusion by filtering or truncating
BB Boost	Cost recovered through BBB products
Exclude from WSS	Faults that occurred on lines which are for internal BT purposes only (e.g., lines in an Exchange not providing services to customers), as defined by a data field in the Openreach-provided dataset
Excluded clear codes	Clear codes outside of Openreach responsibility as defined by clear code list received from Openreach
Special Faults Investigations (SFI)	Cost recovered through SFI products
VOICE + NGA (GEA) Products	Outside scope of consultation
MPF + NGA (GEA) Products	Outside scope of consultation

UNKNOWN Products	The Openreach-provided dataset labelled the "Product" field for some fault records as "UNKNOWN". These records were excluded from the analysis as they could not be tied to a specific product
NOT APLICABLE Products	The Openreach-provided dataset labelled the "Product" field for some fault records as "NOT APPLICABLE". These records were excluded from the analysis as they could not be tied to a specific product
UNCLASSIFIED Products	The Openreach-provided dataset labelled the "Product" field for some fault records as "UNCLASSIFIED". These records were excluded from the analysis as they could not be tied to a specific product
CDTA and CDTnA w/ FNF Clear Codes	Excluded from analysis as faults for which CDTA/CDTnA actions were taken are chargeable to the CP if no fault is found (FNF Clear Code) following the appointment
Last 2 weeks of fault data	There was no overlapping data in the WSS database for these weeks, therefore no analysis on fault rates could be performed

Stakeholder	**Condoc page/ Excel doc name**	**Condoc para ref/ worksheet name**	**Stakeholder query**	**Ofcom response**
Frontier Economics	CSMG Fault Rates Report	Figure 6	For each of the types of fault excluded from the analysis please explain the nature of the faults/services excluded. In particular please provide: • A full list of the "Excluded clear codes" (approximately 4.5m) along with the definitions • The lines not included in the WSS • How the service on a line can be classified as "UNKNOWN"	For a full list of what was excluded identified by clear code and an explanation of what each of the excluded clear codes means, please refer to the worksheet "Clear codes excluded by CSMG", available on the Consultation webpage. For responses to the second two queries, please refer to Table 2.

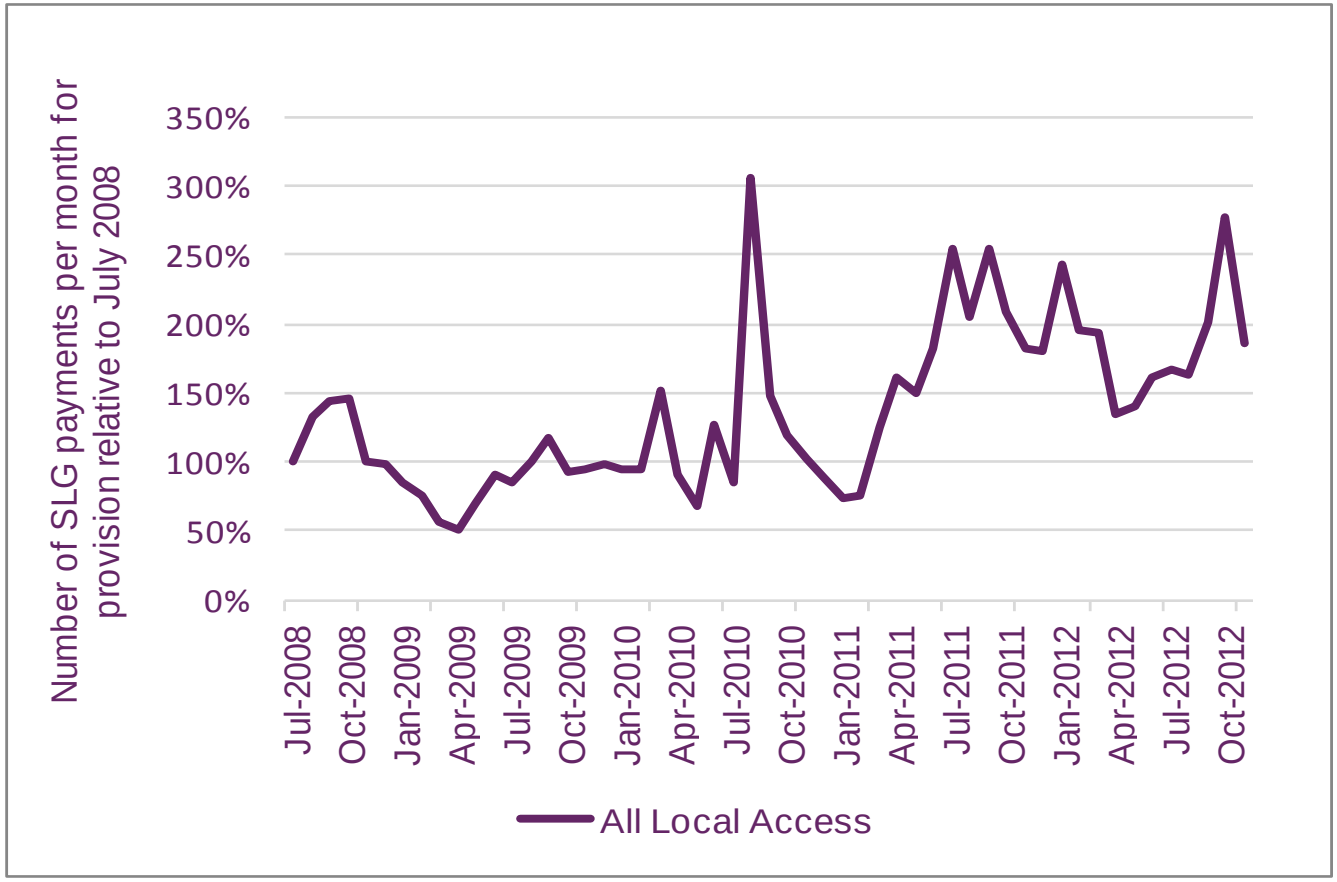
Stakeholder	Condoc page/ Excel doc name	Condoc para ref/ worksheet name	Stakeholder query	Ofcom response
Frontier Economics	CSMG Fault Rates Report		The analysis excluded data where the reported fault was not related to the Openreach network (such as faults isolated to Customer Premises Equipment (CPE) and customers wiring beyond the Network Terminating Equipment (NTE) (38% of faults). Did CSMG analyse these faults at all, for example assessing the proportion of WLR only, WLR+SMPF and MPF?	No, CSMG did not analyse faults not related to and outside the scope of the Openreach network.
Frontier Economics	CSMG Fault Rates Report		The regression analyses appear to have largely been applied on the basis of fault rates per exchange. The fault rate includes an exchange identified. Could you explain how the WSS (working system size) by exchange was derived in order to calculate fault rates per exchange?	The WSS database provided by Openreach was segmented by exchange.
Frontier Economics	CSMG Fault Rates Report	Figure 16	The line length data presented in Figure 16 of Annex 10 of the December Consultation appears to show a large number of MPF exchanges with very low line length which are not present in the "WLR" and "All lines" data sets. Is there an explanation for this apparent anomaly?	In interpreting the chart, it is important to understand that we are considering the average length of lines by exchange. The MPF curve includes a number of exchanges with shorter-than-average MPF lines, however the volume of MPF lines in these exchanges is small (<20). The MPF lines in these exchanges therefore do not have a material impact on the "All Lines" average for the exchange.

Stakeholder	Condoc page/ Excel doc name	Condoc para ref/ worksheet name	Stakeholder query	Ofcom response
Frontier Economics	CSMG Fault Rates Report		The CSMG report appears to have carried out a cross-sectional analysis of the relationship between NGA roll out and fault rates by comparing fault rates between exchange areas with relatively high NGA activity with those with lower activity. Did the analysis take into account when the NGA activity began, for example by looking at fault rates?	No, the analysis only considered the relative volume of NGA activity in each exchange.
Frontier Economics	CSMG Fault Rates Report		How does this analysis control for factors which may mean that there is a significant difference between underlying fault rates in the two different areas for example the likely higher population density/shorter lines in those areas where NGA is rolled out to first?	This analysis did not control for those factors.
			Did CSMG consider more sophisticated analyses such as a panel analysis approach to attempt to take into account differences in underlying fault rates and the time series aspect?	More sophisticated analyses such as a panel analysis were not conducted as part of this report.
Frontier Economics	CSMG Fault Rates Report		Are the classification of EL and IL system sizes and ELF and ELF faults drawn from a common database, or simply applied using the same definitions?	The system size and faults are drawn from two different databases as explained in section 3 of the CSMG final report. The line age information in both databases was supplied by BT Openreach which, from the information they have given us, we believe uses common criteria.

Stakeholder	Condoc page/ Excel doc name	Condoc para ref/ worksheet name	Stakeholder query	Ofcom response
Frontier Economics	CSMG Fault Rates Report		Can more details be supplied about the source of the fault date records as we understand that BT has several databases containing details of faults?	We requested and obtained the following additional information from BT: *'The fault records and Working System Size (WSS) data used to produce the faults and WSS datasets Openreach provided on 24 September 2013 in response to annex 1 questions 1 to 4 of the 3rd QoS S135 of 17 September 2013 were extracted from Orbit, the Openreach primary data warehouse / Management Information Systems*.'
TalkTalk	Section 5: Fault rates	Paragraph 5.86	Can Ofcom provide a range for the redacted figure showing the reduction in preventative maintenance?	The reduction in preventative maintenance activity (measured in thousands of man hours or Kilo Man Hours [KMH]) was about 10% between that in 2009/10 and 2010/11 combined and that in 2011/12 and 2012/13 (prorated) combined. Our estimate was derived from an analysis of a 47-month dataset supplied by Openreach (April 2009-February 2013). **Please note a drafting error in paragraph 5.86. It incorrectly states that we compared KMH data for 2007/08 and 2009/10 combined with that for 2011/12 and 2012/13 to derive this figure.**

Stakeholder	Condoc page/ Excel doc name	Condoc para ref/ worksheet name	Stakeholder query	Ofcom response
Which?	Annex 9, 2013 July FAMR Consultation	Figure A9.14	Request that Ofcom publishes redacted chart A9.14: Total value of SLG payments per month associated with installation order completion by CCD measure.	Between July 2008 and March 2009, the value of total SLG payments per month for provision of MPF, SMPF and WLR combined ranged from c£300,000 to c£560,000. Between April 2009 and March 2010, it ranged from c£230,000 to c£610,000. Between April 2010 and March 2011, it ranged from c£270,000 to c£620,000. Between April 2011 and March 2012, it ranged from c£620,000 to c£960,000. Between April 2012 and November 2012, it ranged from c£620,000 to c£820,000. Of these periods, the average total SLG payments per month for provision of MPF, SMPF and WLR combined was highest in April 2011-March 2012. Of the financial years 2009/10, 2010/11 and 2011/12 (those for which we have data covering the whole financial year), the total value of the payments was highest in 2011/12.
Which?	Annex 9, July 2013 FAMR Consultation	Figure A9.13	Request that Ofcom publishes redacted chart A9.13: Number of SLG payments associated with installation order completion by CCD SLA.	Figure 1 below sets out the total number of SLG payments made by Openreach per month relating to the provision of MPF, SMPF and WLR products. In order not to disclose commercially confidential data, we have published the total monthly SLG payments relative to the earliest month for which we have figures (July 2008).

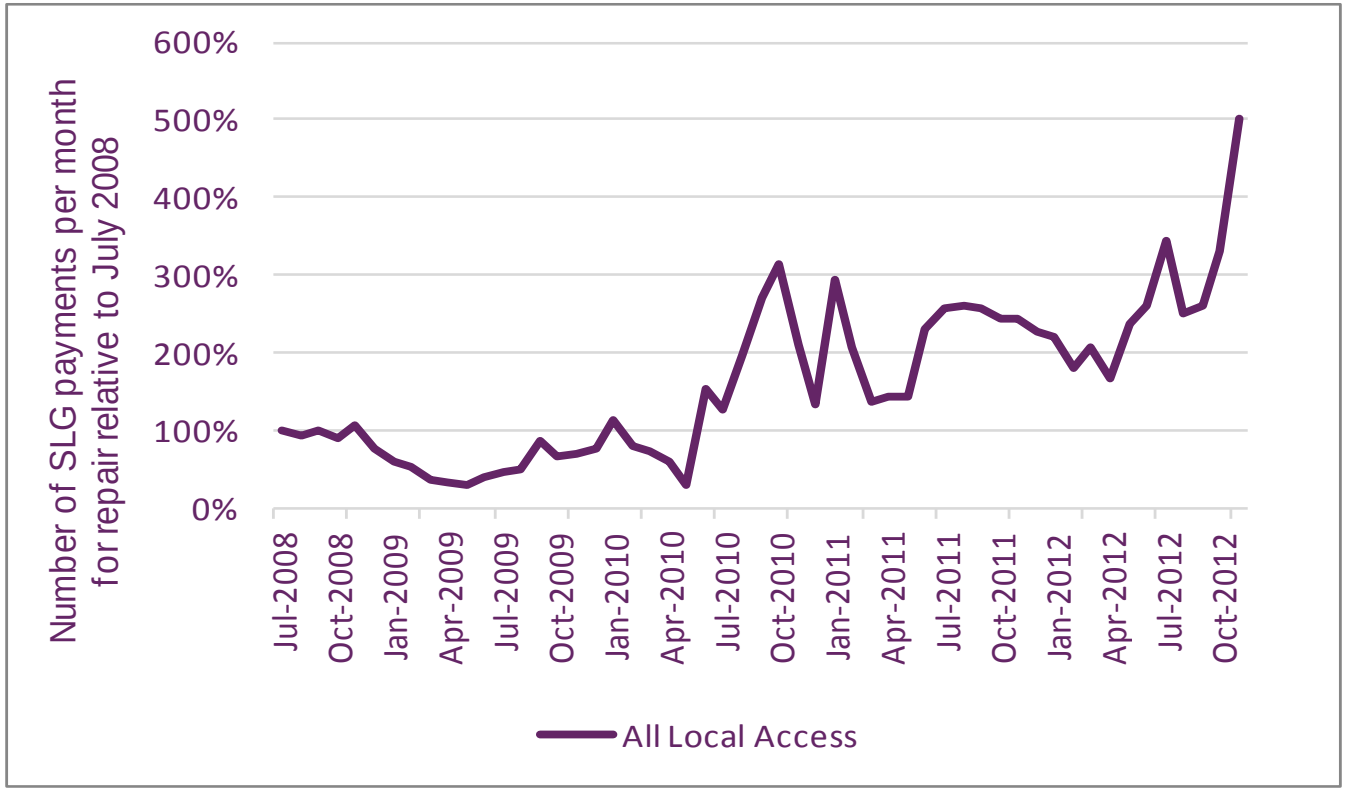
Figure 1 Total number of SLG payments per month for provision relative to July 2008



Note: All Local Access figures comprise SLG payments for MPF, SMPF and WLR products.

Stakeholder	Condoc page/ Excel doc name	Condoc para ref/ worksheet name	Stakeholder query	Ofcom response
Which?	Annex 9, 2013 July FAMR Consultation	Figure A9.15	Request that Ofcom publishes redacted chart A9.15: Total number of SLG payments associated with repairs.	Figure 2 below sets out the total number of SLG payments made by Openreach per month relating to the repair of MPF, SMPF and WLR products. In order not to disclose commercially confidential data, we have published the total monthly SLG payments relative to the earliest month for which we have figures (July 2008).

Figure 2 Total number of SLG payments per month for repair relative to July 2008



Note: All Local Access figures comprise SLG payments for MPF, SMPF and WLR products.

Stakeholder	Condoc page/ Excel doc name	Condoc para ref/ worksheet name	Stakeholder query	Ofcom response
Which?	Annex 9, 2013 July FAMR Consultation	Figure A9.16	Request that Ofcom publishes redacted chart A9.16: Total value of SLG payments associated with repairs.	Between July 2008 and March 2009, the value of total SLG payments per month for repair of MPF, SMPF and WLR combined ranged from c£130,000 to c£370,000. Between April 2009 and March 2010, it ranged from c£100,000 to c£400,000. Between April 2010 and March 2011, it ranged from c£120,000 to c£770,000. Between April 2011 and March 2012, it ranged from c£360,000 to c£690,000. Between April 2012 and November 2012, it ranged from c£390,000 to c£1,220,000. Of these periods, the average total SLG payments per month for repair of MPF, SMPF and WLR combined was highest in April 2012-November 2012. Of the financial years 2009/10, 2010/11 and 2011/12 (those for which we have data covering the whole financial year), the total value of the payments was highest in 2011/12.
Openreach	Section 4: Service Level Cost Differential		Annex C of Openreach's Consultation response on 18 February 2014 included the following comments by E&Y on the proposed service level differential of 14.1%: • Ofcom use a value of 17.9% for the care level differential prior to any economies of scope adjustment however it is not clear where this number comes from and that E&Y could not replicate the 17.9% estimation.	In its consultation Ofcom put forward a service level differential estimation for the 2011/12 dataset (under the Maximum Day redistribution approach) which differed from the one indicated by EY in its submissions to Ofcom. In particular, EY previously estimated a value of 23% to reflect the difference between the resources required in scenarios in which 100% of jobs are carried out at Service Level 2 compared to 100% of jobs being carried out at Service Level 1 (0% at Service Level 2).

Stakeholder	Condoc page/ Excel doc name	Condoc para ref/ worksheet name	Stakeholder query	Ofcom response
			• The 21% downward adjustment to this care level differential for economies of scope is not justified in the December 2013 Consultation.	Ofcom asked Analysys Mason to carry out a similar estimation but making an adjustment for economies of scope between repair and provision jobs, since provisioning jobs were not included in the EY service level differential estimation. The result of our calculations suggested a service level differential of 14.1%, which Ofcom referenced in its consultation. In response to EY's comments we have carried out review of our previous calculations and re-run the relevant scenarios. It was noticed that an incorrect model setting had been used on the model runs associated with our calculation of a 17.9% resource delta between scenarios with 100% Service Level 1 and 100% Service Level 2 jobs. This error led to a decrease in the calculated resource delta. We have now corrected our calculation and the outputs now suggest a resource delta of 23.4% using the Max Day redistribution approach. This is in line, when rounded, with the 23% reported by EY in its consultation response. In the consultation an economies of scope adjustment factor of 21% was used by Ofcom, based on a calculation carried out by Analysys Mason. The derivation of this adjustment factor was not discussed in either the consultation document or in Analysys Mason's report.

Stakeholder	Condoc page/ Excel doc name	Condoc para ref/ worksheet name	Stakeholder query	Ofcom response
				Below we set out the approach which was followed to calculate this factor. However, first we note that the result of this calculation is also based on the same incorrect model results which we discuss above. The value of the adjustment factor using this calculation method is therefore now different (see below). The methodology followed is based on absolute changes in total resources between the scenarios with 100% Service Level 1 jobs and 100% Service Level 2 jobs being compared with and without the inclusion of provision jobs. The principle is that when provision jobs are included, the absolute change in total resources required will be reduced due to the effect of including the effects of the economies of scope. This is then estimated by way of the following equation: *Economies of Scope Adjustment =* *(Absolute resource delta without provision jobs / Absolute resource delta with provision jobs) -1* With the corrected scenario results this adjustment is now 9.3% (not the originally stated 21%).