An Coimisiún um
Rialáil Cumarsáide
Commission for
Communications Regulation

Access Products and Services Key Performance Indicator Metrics

Consultation

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Additional Information

Approval

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Chapter 1

1 Executive Summary

1.1 Since 2011, Eircom has been required to monitor and report on its performance in respect of regulated access products and services by reference to a number of Key Performance Indicators (hereafter, **'KPIs'**). In particular, under ComReg Decision D05/11,[1] Eircom has been required to measure its operational performance by reference to metrics which allow for a comparison between regulated access wholesale inputs supplied by Eircom to other operators and the inputs consumed by Eircom for its own supply of access to end-users ('**KPI Metrics**'). The obligation on Eircom to report on KPIs to ComReg monthly and to publish KPIs on a quarterly basis has been a very useful tool in providing transparency and helping to monitor equivalent access conditions for undertakings which use Eircom's network.

1.2 The current obligation to report and publish KPIs is a further specification of Eircom's obligations of tranparency across a number of regulated markets, including Fixed Access and Call Origination[2] (**'FACO'**), Regional Wholesale Central Access[3] (**'WCA'**) and Wholesale Local Access[4] (hereafter, **'WLA'**) on the basis of the measurements and metrics set out in ComReg Decision D05/11 published in 2011. Since 2011 thenthere have been significant changes in the regulatory and technical landscape, including in particular an increasing use and regulation of Next Generation Access products and as markets have evolved and the regulated product range offered by Eircom has extended to NGA and physical infrastructure products, it is no longer the case that the KPIs that Eircom is required to publish cover all the regulated products availed of by Access Seekers [5] and consumed by Eircom's retail arm. A review of the KPIs mandated in ComReg Decision D05/11 is accordingly now necessary to ensure that the KPIs which Eircom is required to report and publish are still relevant and fit-for-purpose.

[1] Response to Consultation and Decision on the Introduction of Key Performance Indicators for Regulated Markets, ComReg Document 11/45, June 2011 ('**ComReg Decision D05/11'** or 'the **2011 KPI Decision'**)
[2] ComReg Decision D05/15, Market Review - Wholesale Fixed Voice Call Origination and Transit Markets. Response to Consultation and Decision, ComReg Document 15/82, July 2015.
[3] ComReg Decision D10/18, Wholesale Central Access: Decision Instrument Response to Consultation and Decision. Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products, ComReg Document 18/94 , 19 November 2018.
[4] ComReg Decision D10/18, Market Review – Wholesale Local Access (WLA) provided at a Fixed Location and Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products, ComReg Document 18/94 , 19 November 2018.
[5] In this Consultation, ComReg refers to operators or Undertakings seeking to purchase services in the FACO, WLA and WCA Markets as '**Access Seekers'**.

1.3 As in 2011 it is staill the case that the metrics by which Eircom's performance is measured should allow to compare Eircom's treatment of Access Seekers with the treatment of its own downstream arm so that ComReg can monitor compliance with Eircom's non discrimination obligations. Furthermore KPI help provide Access Seekers with confidence in the access products they purchase from Eircom and their ability to compete with Eircom on an equivalent and non-discriminatory basis. However, a number of changes are required to ensure that the KPI Metrics are relevant to the regulated markets and appropriate, to improve the clarity and granularity of KPI Metrics reporting, and to provide for mechanisms allowing for the update of KPIs as required to ensure they remain effective and meaningful.

Regulated access products subject to performance monitoring

KPI Metrics proposed to be extended to NGA and CEI

1.4 At present the KPI Metrics against which Eircom is required to report performance in effect do not include Next Generation Access ('**NGA**') products and services. It is imperative in ComReg's view to expand upon the existing KPI requirements by adding a new set of KPI Metrics that address NGA products and services. As CGA access products remain essential inputs at this point, the requirement that Eircom publish KPIs for those products remains justified. By contrast, demand for Local Loop Unbundling (**'LLU'**)[6] products and service has declined to a level such that the burden of reporting these KPI Metrics outweighs their benefits. Therefore, ComReg proposes that the requirement to puiblish KPIs in respect of the LLU product suite be withdrawn.

1.5 Current KPI metrics as set out in ComReg Decision D05/11 also includes no metrics to monitor performance for the provision of access to Civil Engineering Infrastructure[7] ('**CEI**'). In ComReg Decision D10/18, ComReg expressed the view that a set of KPIs with respect to CEI access was required and indicated that a separate consultation may be held separately at the appropriate time. The present consultation includes a consultation on an appropriate set of KPI Metrics for CEI access, including on the appropriate time when Eircom ought to commence monitoring for CEI performance.

1.6 Subject to consultation, ComReg is of the view that consumption of CEI access by Access Seekers at this time is too low to support meaningful reporting of CEI KPI Metrics. Given the similarities in the provisioning of NGN Ethernet orders and that of Duct and Sub-duct Access, ComReg proposes that performance monitoring for CEI ought to commence when order volumes for CEI reach the

[6] The LLU portfolio includes the Unbundled Local Metallic Path ('**ULMP**') product, and Line Share whereby the high frequency capacity of a line is made available to the Access Seeker.

[7] CEI also known as passive access infrastructure means the physical access path facilities deployed by Eircom to host cables such as copper wires, optical fibre and co-axial cables. It includes, but is not limited to, subterranean or above-ground assets such as Sub-Ducts, Ducts, Chambers and Poles.

average order volume of the NGN Ethernet provisioning and service assurance orders in the period between Q3 2019 and Q3 2020. ComReg proposes that until this threshold is reached, reporting requirements for CEI are limited to a report to ComReg only of the quarterly number of CEI orders..

Keeping KPIs current

1.7 As the regulated product portfolio evolves to meet changing customer preferences or technology, KPI Metrics must mirror these realities. ComReg proposes that a mechanism is set up to allow for the addition or removal of products and services from the suite of KPI Metrics reflecting the dynamic nature of the demand for regulated access products and services.

1.8 First, ComReg proposes that the requirement to monitor performance on a new regulated product applies from launch, using the KPI Metrics that apply to the new product's nearest regulated product in terms of functionality, and that Eircom includes in the notification for new product required under the relevant decision (ComReg Decision D05/15 or its successor following the ongoing FACO Consultation or ComReg Decision D10/18 in respect of the WLA and WCA markets) detail of the KPI Metrics that will be applied.

1.9 Second, ComReg proposes that when the demand for a regulated access product or service falls below a threshold such that the population size becomes so small that meaningful conclusions can no longer be drawn from the data, Eircom can seek in writing that ComReg removes the relevant metrics from Eircom's reporting obligation. In deciding whether or not to allow Eircom to no longer publish the relevant KPI Metrics, ComReg will assess the continued requirement or otherwise of the relevant KPI Metrics and may consult on the matter.

Wholesale inputs and Retail Equivalents

1.10 For KPIs to facilitate the easy review of information on the relative quality of wholesale products and services compared to Eircom's self-supply of products and services, an appropriate basis for comparison must be selected. In order that the wholesale products and services that Access Seekers and Eircom consume can be compared, the network products and services that Eircom self-consumes when providing retail products and services to End User ('**Retail Equivalents**') [8] must be selected for each wholesale inputs used by Access Seekers. Wholesale inputs and Retail Equivalents may or may not be the same depending on the market concerned and how Eircom self-supplies.

1.11 In the case of the FACO market, both Eircom and Access Seekers consume SB-WLR, so the wholesale inputs and Retail Equivalents are the same. In the case

[8] See paragraphs 3.13 to 3.15 of this Consultation where retail equivalents and wholesale inputs are explained.

of the WLA market, Access Seekers consume Eircom's Virtual Unbundled Access[9] ('**VUA**') product, but not Eircom. Rather, Eircom consumes Bitstream+ ('**BS+**') (a product that is offered to Access Seekers on a regulated basis in the Regional WCA market, downstream from WLA). As there are no material differences in terms of the ordering, provisioning and assurance processes for BS+ and VUA products, ComReg is of the view that BS+ is an appropriate Retail Equivalent for VUA. In the case of CEI Access, ComReg proposes to select Eircom's NGN Ethernet products (both Eircom's Wholesale Symmetrical Ethernet Access (**'WSEA'**) and Wholesale Ethernet Interconnection Link (**'WEIL'**) products) as the Retail Equivalents given the similarities in the provisioning of NGN Ethernet orders and that of Duct and Sub-duct Access.

KPI Metrics

1.12 In order that KPI Metrics provide transparency as regards the access provided to Access Seekers and to Eircom's downstream arm, it is essential that they measure all critical points in the product and service ordering, provisioning and service assurance lifecycles. ComReg proposes to expand materially the range of the KPI Metrics so that KPI Metrics are set by reference to five main categories measuring ordering, provisioning and service assurance (to the extent the metrics apply to any relevant product or service) including:

(i) Appointment-based metrics;

(ii) Order (including e.g. accepted, rejected and undeliverable orders, completed and cancelled orders);

(iii) Supply;

(iv) Fault and repair; and

(v) Quality of supply (by reference to numbers of Dead-on-Arrival (hereafter, '**DOA**')[10] orders and Early-Life-Failures (hereafter, **'ELF'**) orders.[11]

1.13 ComReg proposes further a number of measures designed to ensure that the

[9] Virtual Unbundled Access means the wholesale active access product provided by Eircom. It is an enhanced Layer 2 product which allows the handover or interconnection of aggregate End Users' connections at the MPoP. It allows the Undertaking a level of control similar to that afforded to the Undertaking connecting their own equipment to an unbundled Local Loop. VUA includes VUA provided on a stand-alone basis or VUA provided with SB-WLR;

[10] "Installation failures / Dead on Arrival (DOA) are instances where open eir advised an OAO that the requested service was provisioned when, in reality, the service was never provisioned correctly in the first instance. For the avoidance of doubt this excludes all provisioning work carried out by an Operator on behalf of open eir." https://www.openeir.ie/wp-content/uploads/2020/06/NGA-IPM-V18_0-Unmarked-15062020.pdf

[11] " An Early Life Fault or ELF is a fault which is reported in the 28 day period following the provisioning and is localised and cleared to the Eircom network elements impacted by the provisioning process. https://www.openeir.ie/wp-content/uploads/2020/06/NGA-IPM-V18_0-Unmarked-15062020.pdf

KPI Metrics are truly representative of performance and to increase transparency as regards their calculation. ComReg proposes in particular to explicitly require Eircom to calculate KPI Metrics on the basis of all collected data and to prohibit the use of filtering, especially as regards faults, that is, the use of certain rules the effect of which is to exclude certain data from metrics calculation. ComReg proposes that Eircom be required to publish the business rules used by Eircom to calculate the metrics and to create a fault category for No Fault Founds.[12] Finally ComReg proposes that audits may be conducted by ComReg from time to time (relying on third party auditors as appropriate) and that Eircom be required to keep the data collected for the purpose of the KPI Metrics for a period of two years.

1.14 ComReg considered whether additional KPI Metrics should be proposed that would be designed to measure differences in Eircom's performance in the delivery of access as between different Access Seekers, for instance, by devising tests designed to measure statistical variations (such as z-testing) across different operators. At this point in time, however, ComReg has not established that reporting on such KPI Metrics is necessary and proportionate. ComReg intends, however, to request random data sets from Eircom from time to time and conduct such statistical analysis.

Reporting and publication

1.15 Finally, ComReg proposes to keep largely in place current reporting and publication of KPI Metrics, and in particular to require Eircom to furnish a KPI Report of all KPI Metrics to ComReg, and to publish a non-confidential version of the Report on its publicly available website on a quarterly basis. In order to increase readability and ease of reference ComReg proposes to require Eircom to prepare the Report using the format set out in the Consultation (Schedule 4 of the Draft Decision Instrument).

Submissions

1.16 ComReg invites interested parties to make submissions, providing reasons along with all relevant factual or other evidence supporting views presented, on or before **Wednesday, May 19th, 2021.**

[12] See patgaph 4.20

Chapter 2

2 Introduction and Background

2.1 ComReg is the national regulatory authority ('**NRA**') for the electronic communications sector in Ireland. Section 10 of the Communications Regulation 2002 lists among ComReg's statutory functions, ensuring compliance by Undertakings[13] with obligations in relation to the supply of and access to electronic communications networks and services and transmission on such networks, carrying out investigations and, for the purpose of contributing to an open and competitive markets, collect, compile, extract, disseminate and publish information from undertakings, in relation to such supply and access and transmission. ComReg's statutory objectives include, under section 12 of the Act the promotion of competition in electronic communications networks and services, contributing to the development of the internal market, and promoting the interests of the users within the European Union. ComReg is further required to take all reasonable measures which are aimed at ensuring that there is no distortion or restriction of competition in the electronic communications sector.

2.2 As the NRA under the European regulatory framework for electronic communications, ComReg is tasked with reviewing electronic communications markets and where ComReg finds that relevant markets are not competitive, with imposing obligations on operators found to have significant market power (hereafter, '**SMP**'). Obligations which ComReg may impose include obligations to meet reasonable requests for access including obligations to provide access to certain specified regulated access products (hereafter, '**RAPs**'), obligations of transparency and non-discrimination, obligations of price control and cost accounting and obligations of accounting separation.

2.3 Since 2011, as part of its obligations of transparency in a number of regulated markets, Eircom has been required to publish on a regular basis KPIs. In particular, under ComReg Decision D05/11,[14] Eircom has been required to measure its operational performance by reference to metrics which allow for a comparison between regulated access wholesale inputs supplied by Eircom to other operators and the inputs consumed by Eircom for its own supply of access to end-users. The KPIs allow comparison of Eircom's performance in respect of ordering, provisioning and service assurance when delivering RAPs to Access

[13] Undertaking is defined in Regulation 2 of the the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011) ('**the Framework Regulations**') as "*a person engaged or intending to engage in the provision of electronic communications networks or services or associated facilities".*

[14] Response to Consultation and Decision on the Introduction of Key Performance Indicators for Regulated Markets, ComReg Document 11/45, June 2011 ('**ComReg Decision D05/11'** or 'the **2011 KPI Decision'**)

Seekers and when providing access to its downstream arms. The publication of KPIs allows transparency and supports confidence in the provision of access by Eircom on a non-discriminatory basis. They provide both ComReg and Access Seekers with a means of identifying any equivalence concerns and take action accordingly and as appropriate.

2.4 Eircom is currently subject to an obligation to publish KPIs in respect of fixed access and call origination, wholesale central access and wholesale local access as set out in Section 10.15 of the Decision Instrument at Appendix H of ComReg Decision D05/15 regarding the Fixed Access and Call Origination markets, Section 10.18 of the Decision Instrument at Annex 20 of ComReg Decision D10/18 in respect of the Wholesale Local Access market and Section 10.17 of the Decision Instrument at Annex 21 of ComReg Decision D10/18 in respect of Wholesale Central Access market. Each of these provisions requires Eircom to publish KPIs, as specified in ComReg Decision D05/11[15]. As such, the requirement to publish KPIs is a specification, further to Regulation 18 of the Access Regulations, of the obligations of transparency and non-discrimination imposed on Eircom further to Regulations 9 and 10 of the Access Regulations in respect of markets where Eircom has been found to have SMP and is also subject to access obligations.

2.5 The purpose of this Consultation is to review the specification of Eircom's obligations in respect of KPIs, and to that effect, review existing KPI Metrics and assess their continued relevance, and propose new KPIs where appropriate, having regard to the evolution in the regulated access products offered by Eircom since 2011. ComReg believes the time is opportune. ComReg notes that the European Electronic Communications Code ('**EECC**'),[16] due to be transposed in Irish law, makes it a requirement to have KPIs in place where obligations are imposed on an operator in respect of wholesale access network infrastructure. Article 69 EECC, which is concerned with obligation of transparency, now requires NRAs such as ComReg, "*where an undertaking has obligations under Article 72* [Access to Civil Engineering] *and Article 73* [Obligations of access to, and use of, specific network elements and associated facilities] *concerning wholesale access network infrastructure […] to ensure that key performance indicators are specified, where relevant, as well as corresponding service levels, and closely monitor and ensure compliance with them".* The EECC therefore confirms the relevance and importance of having KPIs in place.

[15] KPIs relating to the Terminating Segments of Wholesale of Leased line in ComReg Decision D05/11 have been replaced by the KPI requirements set out in ComReg Decision D03/20, Market Review – Wholesale High Quality Access at a fixed location, ComReg Document 20/06, 24 January 2020 (the '**WHQA Decision'**).Therefore, the WHQA KPI metrics are not in scope for the purpose of this consultation.

[16] Directive EU 2018/1972 of the European Parliament and the Council of 11 December 2018 establishing the European Electronic Communications Code (Recast).

2.6 Furthermore, since the development of the KPI Metrics in 2011, access network technology deployed in Eircom's network and the associated regulated broadband access products have changed significantly with the introduction of NGA i.e. Fibre-To-The-Cabinet (hereafter, **'FTTC'**)[17] and Fibre-To-The-Home (hereafter, **'FTTH'**)[18] access network technology. This has led to the new and more complex provisioning[19] and service assurances processes for NGA[20] and changes to the existing CGA processes, with performance for these new products not adequately measured by existing KPIs. A review of current KPIs in order that they remain meaningful and relevant, and provide information in particular in respect of all relevant process points that could impact on End User[21] experience, is accordingly warranted to ensure that equivalence of access between Eircom and Access Seekers is ensured.

2.7 This Consultation accordingly considers and proposes amendments to the KPIs in place in order that they align more closely with operational processes affecting End Users, and that the KPI metrics are sufficiently granular to ensure that the necessary transparency is provided to Access Seekers.

2.8 ComReg also takes the opportunity of reviewing the workings of how KPIs are processed and reported, and the Consultation includes proposals to improve the overall management and clarity of existing KPI metrics. ComReg in particular makes proposals to ensure that the KPI metrics used in respect of regulated access products remain current and meaningful, by making sure that the KPIs that Eircom is required to publish are aligned to the regulated access products and related processes availed of by, or available to, Access Seekers.

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[17] Fibre to the Cabinet or FTTC means fibre to the cabinet which is a variant of the FTTN access network architecture where the Node used to house active equipment is the street cabinet.
Fibre to the Node" or "FTTN means an access network architecture where fibre optic cable is used to connect a Node in the local access network to the ODF in an Exchange.

[18] Fibre to the Home or FTTH means an access network architecture where fibre optic cable is used to connect the End User premises to the ODF in an Exchange. Fibre to the Home or FTTH means an access network architecture where fibre optic cable is used to connect the End User premises to the ODF in an Exchange.

[19] This is illustrated by way of the NGA FTTH provisioning. The provisioning process for FTTH requires an Optical Network Termination (hereafter, 'ONT') component and fibre Network Termination Unit (hereafter **'NTU'**) to be installed in the End User's (customer's) premises, and a fibre optic cable to be physically connected from the fibre distribution point to the ONT device. In many instances, the NGA FTTH provisioning requires remediation of the lead in duct or distribution poles (e.g. This remediation may include removing blockages from duct(s), the installation of and/or replacement of pole(s)). These remediation tasks are in addition to the standard interaction and co-ordination with the End User that is required for an NGA FTTH provisioning.

[20] Eircom currently publish KPI metrics for NGA on voluntary basis, the 2011 KPI Decision did not require Eircom to publish KPI metrics for NGA products and service because NGA products and services were not launched until 2013.

[21] in accordance with Regulation 2 of the Framework Regulations, End User means "a user not providing public electronic communications networks or publicly available electronic communications services". For the avoidance of doubt, End Users include any natural or legal person who facilitates or intends to facilitate the provision of public communications networks or publicly available electronic communications services to other End Users and who is not acting as an Undertaking.

2.9 For these purposes and in order to ensure the accuracy of the KPIs published, ComReg requires access to the underlying data supporting the KPIs. ComReg proposes accordingly to maintain Eircom's obligation to make such data available. In specifying KPIs and reporting and publication requirements, ComReg relies on Regulation 18 of the Access Regulations, and on Regulation 18 (1) of the Authorisation Regulations whereby ComReg may require an undertaking to provide information in respect of SMP obligations, where that requirement is proportionate and justified for systematic or case-by-case verification of compliance with SMP obligations.

2.10 In making the proposals set out in this Consultation, and subject to Respondents' views, ComReg believes that its proposals are justified and proportionate and sees no other or less intrusive remedy available to achieve ComReg's objectives.

2.11 This Consultation, including the Draft Decision Instrument at Annex 1 , is published in accordance with the requirements of Regulation 12(3) of the Framework Regulations, which requires ComReg to publish the text of a proposed measure, give the reasons for it, including information as to which of ComReg's statutory powers give rise to the measure, and specify the period within which submissions relating to the proposal may be made by interested parties. Once ComReg has considered the submissions received and amended (or not) its draft decision, ComReg intends, in accordance with Article 32 of the EECC, to notify the proposed decision to the European Commission, other NRAs and BEREC. In accordance with Regulation 12(4) of the Framework Regulations, having considered in addition to the submissions received, any comments from the European Commission, ComReg will then take the measure with or without amendment.

2.12 ComReg invites all interested parties to respond to the questions set out in this Consultation, and to comment on any other aspect of the Consultation, providing reasons along with all relevant factual or other evidence supporting views presented. Respondents should note that all non-confidential responses to this Consultation will be published, subject to the provisions of ComReg's Guidelines on the treatment of confidential information. Where Respondents include confidential information in a submission, a non-confidential version of the submission must also be provided by the closing date set out below, which clearly mark the confidential elements of the submissions as such, using the following format: [✂ text deemed to be confidential ✂], and be set out in a separate document which must also be provided to ComReg by the closing date set out below.

2.13 All responses should be sent preferably by email (in an unprotected electronic format in order to facilitate their subsequent publication by ComReg) to the address below to arrive on or before 17.30 on **Wednesday, May 19th, 2021**. Responses should be marked for the attention of:

Sean.Mooney@ComReg.ie
Commission for Communications Regulation
1 Dockland Central Guild Street
Dublin 1 D01 E4X0

2.14 This is a non-confidential version of the Consultation. Certain information within the Consultation has been redacted for reasons of confidentiality and commercial sensitivity, with such redactions indicated by the symbol ✂.]

Chapter 3

3 Scope of the KPI requirement

3.1 Current scope

3.1 As set out in Chapter 2, the requirement that Eircom report to ComReg and publish KPIs has been in place in Ireland since ComReg's 2011 KPI Decision. KPIs provide key information to Access Seekers and ComReg and facilitate the easy review of information on the relative quality of wholesale products and services compared to Eircom's self-supply of products and services. ComReg notes that Eircom publishes certain wholesale performance statistics using the Service Level Agreement (hereafter, **'SLA'**) reports[22]. However, these statistics do not, on their own, demonstrate the absence of discrimination in the relevant markets.

3.2 In helping demonstrate whether wholesale inputs supplied by Eircom are of comparable in quality and are delivered in similar timeframes to Eircom's self–supplied retail equivalents, KPIs foster Access Seekers' confidence that there is equal treatment between them and Eircom, between the wholesale inputs they consume and the inputs consumer by Eircom's retail arm. However, in order for KPIs to play this role in full, they must be meaningful in terms of the regulated access products concerned, and provide an objective measure of Eircom's key ordering, provisioning and service assurance processes.

3.3 ComReg Decision D05/11 requires Eircom to publish KPIs in respect of a number of regulated markets where Eircom has been designated with Significant Market Power by reference to specific products provided by Eircom on these markets. At present the obligation to publish the KPIs specified in ComReg Decision D05/11 applies in respect of the following markets:

(a) The Regional WCA Market under ComReg Decision D10/18;

(b) The WLA Market, under ComReg Decision D10/18; and

(c) The FACO Market under ComReg Decision D05/15. The FACO Market is currently under review. In ComReg Consultation 20/46[23], ComReg proposed to deregulate the Urban FACO Market and to

[22] Service Level Agreement reports lists the performance target and actual performance for each product and service parameter that has a performance target.
[23] Retail Access to the Public Telephone Network at a Fixed Location for Residential and Non-Residential Customers - Wholesale Fixed Access and Call Origination, ComReg Document 20/46, 17 June 2020 (the **'FACO Consultation'**).

maintain regulation in the Regional FACO Market, including the obligation to publish KPIs.[24]

3.4 Since 2011, the obligation on Eircom to publish KPIs in respect of the RAPs provided on these markets was maintained in the market analysis decision reviewing the relevant market(s), by referring to ComReg Decision D05/11, as a further specification of (in particular) Eircom's obligation of transparency. There has been no amendment made to the KPIs themselves, or the products included in ComReg Decision D05/11. As markets have evolved and the regulated product range offered by Eircom has extended to NGA and physical infrastructure products, it is no longer the case that the KPIs that Eircom is required to publish cover all the regulated products availed of by Access Seekers and consumed by Eircom's retail arm.

3.5 Set out below are proposals designed to address this discrepancy by extending the scope of the products for which KPIs must be published, and to ensure that KPIs remain relevant for the duration of regulation of a market.

3.2 Relevant products and services

CGA and NGA Products and Services

3.6 It is imperative in ComReg's view to expand upon the existing KPI Metrics so that they include NGA products and services.

3.7 Access remedies in the regulated WLA and Regional WCA Markets are divided into two broad categories of access products and services: CGA and NGA. Since the introduction of NGA products, End Users have been migrating from CGA-based products and services to NGA-based products and services, where available, in order to benefit from higher line and broadband speeds. ComReg anticipates that the NGA products will replace CGA product and services over time. The important role played by NGA products in delivering regulated broadband access means that it is essential that Eircom's performance is tracked.

3.8 This does not mean, however, that CGA, and KPIs for CGA, are no longer relevant. CGA products and services continue to be important for certain cohorts of End Users particularly in some rural areas where Eircom may not supply NGA products and services. In the medium term, ComReg envisages that the

[24] While reference is made to Eircom's current obligations in this Consultation Document, including in the Draft Decision Instrument in Annex 1, were, as ComReg expects, the FACO Consultation be completed and a decision adopted prior to the finalisation of this consultation process, ComReg's final decision on KPI will refer to the FACO Decision then applicable and only those regulated products and services under the applicable FACO Decision will fall within the scope of the final KPI Decision. In particular, if and when the geographic scope of the regulated FACO market changes, requirements in terms of KPI metrics will apply to products and services sold within the regulated FACO market geographic boundaries.

consumption of the CGA products and services, namely the Bitstream portfolio, as well as the FACO access products and services, will continue its current downward demand trajectory. For the time being, however, these products remain essential inputs and ComReg believes that it is justified and appropriate to continue to require Eircom to publish KPIs for those products but potentially subject to a number of changes, discussed in Chapter 4 and 5.

3.9 Regarding the LLU product portfolio, in ComReg's preliminary view, the demand for LLU products and service has declined to a level[25] such that the burden of reporting these KPI metrics outweighs their benefits. Therefore, ComReg is proposing that the reporting of current LLU KPI metrics is withdrawn.

CEI Products and Services

3.10 In addition to NGA products and services, the regulated product range which Eircom is required to provide has been expanded to include access to CEI, including in particular as a result of ComReg Decision D10/18. In the Consultation document prior to ComReg Decision D10/18, ComReg noted that "t*he 2011 KPI Decision identified the importance of KPIs as a means of monitoring performance of the SMP operator with respect to its non-discrimination obligations"* and ComReg was of the view that it was "*necessary to develop a set of KPIs with respect to CEI access"* and that it would consider a separate consultation on specific CEI KPIs, at the appropriate time. Having taking into account Respondents' views, including Eircom's view that it would not be appropriate to consult on KPIs with respect to CEI access until it has been established that there is commercial demand for the products and that all parties have had some experience of their operation so that robust KPIs, could be produced, ComReg retained its view that it is necessary to develop a set of KPIs with respect to CEI access and it will consider consulting separately on specific CEI KPIs, at the appropriate time.[26] .

3.11 ComReg believes that it is appropriate to consult at this time on the KPI Metrics for CEI and this consultation includes proposals in respect of appropriate KPIs, including the time at which they ought to be triggered.

3.12 In particular, while ComReg's preliminary view is that current consumption for CEI access is too low to support meaningful reporting of CEI KPI metrics, ComReg expects consumption of CEI products and services to increase, having regard in particular to current ongoing product developments, such as the development of a sub-duct self-install access product. When consumption has increased to a sufficient volume, KPI Metrics should be in place in order to ensure that performance monitoring can commence without delay. Proposals in respect

[25] LLU and LS new connection for June, July and August 2020 [✂[redacted]✂] orders respectively, from the confidential content of Eircom's "Equivalence KPI Q3 July – Sept 2020"
[26] ComReg Decision D10/18, para. 7.973-7.974; 7.1029-7.1030; and 7.1091-7.1095.

of appropriate CEI KPI metrics are set out in section 4.6 including in respect of the appropriate trigger to commence reporting of CEI KPI metrics.

Wholesale inputs Vs Retail Equivalents

3.13 For KPIs to facilitate the easy review of information on the relative quality of wholesale products and services compared to Eircom's self-supply of products and services, an appropriate basis for comparison must be selected. In order that the wholesale products and services that Access Seekers and Eircom consume can be compared, "retail equivalents" for Eircom must be identified for each wholesale inputs used by Access Seekers and chosen carefully to ensure that they appropriately align with the wholesale inputs used by Access Seekers in the relevant markets.

3.14 Wholesale inputs refer to the access provided to Eircom's network delivered through Eircom's wholesale products and services that are consumed by Access Seekers. Retail equivalents are the network products and services that Eircom self-consumes when providing retail products and services to End Users. The wholesale inputs and the retail equivalents may or may not be the same depending on the market concerned and how Eircom self-supplies.

3.15 In the case of the FACO market, both Eircom and Access Seekers consume SB-WLR, so the wholesale inputs and Retail Equivalents are the same. In the case of the WLA market, Access Seekers consume Eircom's VUA[27] product, but not Eircom. Rather, Eircom consumes Bitstream+ (BS+)[28] (a product that is offered to Access Seekers on a regulated basis on the Regional WCA market, downstream from WLA). BS+ combines an access path (i.e. VUA without a local handoff) and a backhaul component used to transport aggregated End User traffic to a network interconnection point. As there are no material differences in terms of the ordering, provisioning and assurance processes for BS+ and VUA products, ComReg is of the view that BS+ is an appropriate Retail Equivalent for VUA, for the purpose of the KPIs, and proposes to compare the performance of the common ordering, provisioning and service assurance operational processes for VUA and BS+ to see whether they operate in the same way, with the same degree of reliability and performance.

3.16 In the case of CEI, ComReg proposes to use as the Retail Equivalent the NGN Ethernet products (both Eircom's Wholesale Symmetrical Ethernet Access ('**WSEA**' and Wholesale Ethernet Interconnection Link ('**WEIL**) products) offered by Eircom (including as part of the regulated offering in the regulated Wholesale High Quality Access market). ComReg notes that NGN Ethernet provisioning

[27] For purposes of this Consultation VUA products includes both exchange and cabinet based products.
[28] For purposes of this Consultation BS+ products includes both exchange and cabinet based products.

orders are typically sub-divided into two parts, namely: (a) Site survey, Sub-Duct design and installation of Sub-Duct, or "CEI component", and (b) Installation of fibre and the active element i.e. installation and configuration of the Ethernet equipment. ComReg explained in ComReg Decision D10/18 that the provisioning of the CEI component of an Ethernet NGN order and the provisioning of the CEI access products are directly comparable[29]. It appears to ComReg accordingly that the CEI component of the NGN Ethernet products is the appropriate Retail Equivalent of CEI access products for the purposes of CEI KPI metrics.

Products and services in scope

3.17 In practical terms, ComReg proposes that KPIs are published in respect of the following products and services:

(a) The suite of Eircom NGA WLA wholesale products and services (to include white-label products[30]) including (i) all order types based on Electronic Enablement (ii) all order types requiring field intervention and (iii) all appointments-based orders, and their Retail equivalents, namely the network products and services that Eircom self-consumes when providing retail products and services to End Users.

(b) The suite of Eircom CEI WLA wholesale products (duct, sub-duct and pole) and services and their Retail Equivalents (i.e. the CEI component of the NGN Ethernet products, WSEA and WEIL).

(c) The suite of Eircom NGA Regional WCA wholesale products and services (including white-label products) including (i) all order types based on Electronic Enablement (ii) all order types requiring field intervention and (iii) all appointments-based orders, and their Retail Equivalents.

(d) The suite of Eircom CGA Regional WCA wholesale products and services (including white-label products) including (i) all order types based on Electronic Enablement, (ii) all order types requiring field intervention, and (iii) all appointments-based orders, and their Retail Equivalents, to cover more specifically all wholesale and retail DSL based[31] products and service.

(e) The suite of Eircom FACO wholesale products and services and their Retail Equivalents, to include (i) SB-WLR, (ii) White Label Access (ii) all order types based on Electronic Enablement (including migrations to SB-WLR & White Label Access) and (ii) all order types requiring field intervention.

[29] See paragraphs 7.352 to 7.354 of WLA Decision
[30] Please see Eircom's White Label Factsheet for a description of its white label products.
[31] DSL based includes all products variants, including but not limited to BEA, POTS based BS SA BS.

3.18 In order to have full transparency as regards the wholesale inputs, retail equivalents and associated order types that are in scope for the KPI metrics, ComReg proposes that Eircom populates and maintains a table, to be published on its publicly available website, that lists the wholesale inputs and their retail equivalents with their associated order types, subject to ComReg's review and approval.

3.19 For further clarity on ComReg's proposals and how it would translate in practice, Table 1 below sets out what the table once populated by Eircom would look like, reflecting what ComReg believes are at this point in time relevant wholesale inputs and their retail equivalents with their associated order types.

Table1:

Wholesale Inputs		Eircom Retail Equivalent	
PRODUCT TYPE	**ORDER TYPE**	**PRODUCT TYPE**	**ORDER TYPE**
POTS-based FTTH VUA	PNO,PNN,PNW, PNS	POTS-based FTTH Bitstream +	PNO,PNN,PNW, PNS
FTTH VUA SA	PNO,PNN,	FTTH BS+ SA	PNO,PNN,
POTS-based FTTC VUA	PNO,PNN,PNW, PNS	POTS-based FTTC Bitstream +	PNO,PNN,PNW, PNS
CEI	Type 1, Type 2	NGN Ethernet	PDC

‘

3.3 Keeping the scope of KPIs current

Amendment of existing KPIs

3.20 Experience shows that over time markets evolve, and products and services develop. These changes are typically caused by the evolution of access network technology or changes in End User preferences for products and services. In short, the demand for regulated access products and services is dynamic. Consequently, KPIs may lose some of their relevance unless they are updated. For example, since the 2011 KPI Decision, NGA products, for which no KPI Metrics were defined in 2011, have become key products for the supply of broadband access. In that context, ComReg proposes that a mechanism is set up to allow for the addition or removal of products and services from the suite of metrics.

3.21 ComReg proposes that the list of KPI metrics and products and services concerned may be amended by ComReg from time to time by way of direction to Eircom, as necessary and appropriate to maintain the usefulness of KPIs and ensure transparency in the delivery of products and services availed of by Access Seekers, subject as the case may be, to public consultation. In this regard, ComReg would not envisage that a consultation would be required prior to directing minor adjustments to existing KPIs; but ComReg would envisage that more significant changes to existing KPIs, or the introduction of KPIs for existing products may require (and benefit from) public consultation.

3.22 ComReg also proposes to establish the principle that when the demand for regulated access products and services falls below a threshold such that the product population size becomes so small that meaningful conclusions can no longer be drawn from the data. In such cases Eircom could request in writing that ComReg removes the relevant obligation . In coming to a decision ComReg would assess the continued requirement or otherwise of the relevant KPI Metrics and may seek input from Undertakings and/or third-party experts as ComReg considers necessary to reach its decision, as appropriate.

Introduction of New Products

3.23 With the view to keeping KPIs current in terms both of the metrics and the products and services concerned, ComReg also proposes that when a new regulated product is launched, KPI Metrics for that new product will be included by default in the subsequent KPI report. As the regulated product portfolio evolves to meet the needs of the market because of customer preferences or technology changes, KPI Metrics must mirror these realities. While regulated products and services may change over time, the fundamental requirement to measure the supply of service (provisioning activities) and repair of service (service assurance activities) are the same for current and future products and services. To ensure that the KPIs are available without delay for new products and services, ComReg proposes that a pragmatic approach be adopted for the launch of new products and services in relation to KPI metrics and that Eircom inform ComReg of any new products which should factor into the updated versions of the KPI reports to reflect all new products, using the same notification timeline (i.e. seven months) prior to publication and processes currently used to notify new products and services to ComReg.

3.24 An example where this approach could apply for instance would be for Eircom's proposed FTTH NTU connection product[32]. In this example, the KPI Metrics for the new FTTH NTU connection product would be based on current metrics for the FTTH ONT connection product because of the similarities between the two

[32] The FTTH NTU connection products connection will facilitate for an operator to provide and install their own ONT, which enables an operator to develop a solution where the ONT functionality will be built into an operator supplied residential gateway.

products. However, additional metrics may be added where appropriate to ensure transparency is maintained.

3.25 This approach for adding new KPI Metrics should be considered in conjunction with the volume threshold outlined above (paragraph 3.21, whereby when the demand for a product reaches a low threshold, Eircom can request the suspension of applicable KPI Metrics i.e. where continuing to report KPI Metrics would no longer be useful or meaningful. In this way the KPI Metrics will be dynamic and can be in effect be suspended with minimum overheads. Similarly, the default KPI Metrics approach means that when a new regulated product is launched, KPI Metrics are available promptly. However, if a new category of KPI Metrics is considered necessary for a new product or service, this would be subject to prior public consultation.

Q. 1. Do you agree with ComReg's proposals regarding the scope of relevant product and services ? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

Q. 2. Do you agree with ComReg's approach to keeping KPIs current? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

Chapter 4

4 Proposed KPI metrics

4.1 The fundamental objective of the KPI metrics is to enable ComReg and Access Seekers to assess whether products and services offered on a wholesale basis are being provided in a non-discriminatory manner by Eircom.

4.2 To achieve this objective, it is important to ensure that the reported KPI Metrics provide comparisons between wholesale inputs and the Retail Equivalents at the appropriate points in the product and service ordering, provisioning and service assurance lifecycles, and that the KPI Metrics are accurate and fully transparent.

4.3 ComReg proposes to continue with, and expand, the approach under ComReg Decision D05/11 and require publication of KPI Metrics for key aspects of the ordering, provision and assurance lifecycles of access products and service. ComReg has accordingly classified and grouped the proposed KPI Metrics to align with the lifecycles of regulated access products and services. Each proposed KPI Metric is designed to have a specific purpose from a transparency perspective and to monitor the most relevant ordering, provisioning and service assurance processes. The reasons and benefits of each proposed KPI Metric, and any changes that are required with respect to the processing and reporting of all KPI Metrics, are set out in paragraphs 5.1 to 5.26 below.

~~4.4~~ In order to better understand the scope of the changes proposed , ComReg has included a table for metric each. The tables are included in and contain the following information:

(a) Metric reference number(s), which is a unique identifier;

(b) A description of the metrics;

(c) Status, which indicates whether the metric is a new metric, an amended or an existing metric; ;

(d) A flag to indicate the reporting requirements.

4.5 ComReg proposes to group the KPI Metrics into five categories, with each category containing several KPI Metrics as follows:

Appointments metrics

(a) Appointment met

(b) Average number of appointments per order

Order metrics

(a) Accepted orders

(b) Rejected orders
(c) Undeliverable orders
(d) Completed orders
(e) Cancelled orders
(f) Cancellation Requests
(g) Referred orders

Supply metrics

(a) Supply of service

Fault metrics

(a) Accepted and Rejected faults
(b) Repair of service
(a) Repeat faults
(b) Multiple pending clears
(c) Fault allocation of faults
(d) No Fault Found
(e) No entry obtained

Quality of supply metrics

(a) Dead-on-Arrival
(b) Early-Life-Failures

4.6 The categories of KPI Metrics listed in paragraph 4.5 above represent the full suite of KPI Metrics. It is important to note that not all KPI Metrics will apply in respect of each regulated access product and service, as illustrated by tables in Annex: 2 Rather they will will vary according to the relevant product's ordering, provision and assurance lifecycle and associated processes.

4.7 As a result of the proposed extension of KPI Metrics to include NGA and CEI products, the proposed KPI Metrics expand on the existing metrics as set out in the 2011 KPI Decision. In arriving at the proposed KPI Metrics in this Consultation, ComReg has built on the metrics used to date, and experience and learnings on their workings and the metrics which Eircom uses for the purpose of SLA. ComReg has also taken into account new requirements arising from the NGA suite of products which may rely on different ordering, provision and assurance processes as compared with narrowband access and CGA products. This means that two new categories of metrics, one to deal with appointment-based orders, the other with orders, are proposed, several new

metrics have been added to the existing repair of service and repeat fault metrics in the fault category while the metrics proposed for supply and quality of supply are the existing metrics. ComReg believes that the resulting proposed KPI Metrics, while expanded upon as compared to the 2011 KPI Decision, are necessary and proportionate, and reflect the increased scope of the regulated products and services availaed of by Access Seekers, and the more complex or different ordering, provisioning and assurance processes applicable to NGA products, as compared with CGA.

4.1 Appointments met metrics

Appointments met

4.8 An appointments-based provisioning model is used for some regulated products and services (wholesale inputs) and their Retail Equivalents. This provisioning model is used when a technician visit is necessary to provision the product or service.

4.9 An example of where an appointments-based provisioning model is used would be in the case of a non in-situ FTTC/FTTH provide order. In this example an End User appointment is required because access is required to the End User's premises to install line terminating equipment, for example a copper Network Termination Unit (hereafter, **'NTU'**) or an Optical Network Terminal (hereafter, **'ONT'**) device. The appointment time slot is agreed with the End User at the point-of-sale, so that the End User can make the necessary arrangements to facilitate the technician's visit (for instance by taking time off work). In terms of a relationship management perspective, it is generally important to the End User that the Eircom technician meets the scheduled appointment time. An appointment is considered met when the Eircom technician is physically at the End Users premises at the agreed time. The 'appointment met' metric is used to measure the percentage of scheduled End User appointments that have been met by Eircom technicians at the agreed timeslot.

4.10 ComReg is of the preliminary view that this is an important metric from the Access Seeker's perspective because the appointment is typically the first engagement that the Access Seeker has with the End User (customer), following the completion of the sales process, either for a new service offering or for an upgraded service offering. Therefore, it is a very sensitive time in establishing or maintaining a good End User (customer) relationship. Failure to meet an agreed appointment could have negative consequences for the Access Seeker i.e. cancellation of an order and loss of the customer.

4.11 For these reasons, ComReg considers that accurately monitoring the percentage of appointments met by Eircom is a necessary metric to include in the set KPI of metrics.

Average number of appointments per order metric

4.12 Another important appointment related metric is the average number of appointments required to complete a provisioning order. Sometimes, unforeseen access network related technical issues and/or a customer related issue (e.g. a blocked duct or the need to replace a pole) can prevent order completion on the first attempt. Consequently, one or more appointments may be required. In such cases multiple appointments may inconvenience the End User (customer) resulting in negative consequences such as order cancellations, delay etc.

4.13 ComReg considers that this metric is necessary to reassure Access Seekers that the average number of appointments required per order is equivalent. The aim of this metric is to identify any differences, should they exist, in the average number of appointments required to complete an appointments-based provisioning order. This metric will highlight the need investigation to identify the root cause of any such differences in average number of appointments per order.

4.14 ComReg appreciates that there may be a need for additional appointments on occasions. On balance, it would be reasonable to expect that the average of number of appointments per order would be broadly similar for wholesale inputs and their retail equivalents, perhaps with some legitimate variations Where these variations are significant and recurring, Eircom will need to explain and justify the variations.

4.15 In summary, ComReg considers that the appointment metrics will provide the necessary transparency to reassure Access Seekers that they are receiving equivalent treatment in terms of appointment when it comes to the provisioning of the wholesale inputs requested.

4.16 Please see full detail of the proposed KPIs for appointsments at: Appointments_metrics_table.

Q. 3. Do you agree with ComReg's proposed KPIs for appointments for the NGA products and services? Are there other KPIs you would like to see included in this category? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

4.2 Order metrics

4.17 The next KPI metric class is the order and supply of service metric category. To understand these KPI metrics, it is important to appreciate the meaning of order

status (order statuses are explained in the inter-operator process manuals[33,34,35]) information and the relationship between the various statuses.

4.18 The three relevant order statuses are recorded, accepted and rejected. Because of the close relationship between these order statuses, ComReg will explain them together.

4.19 ComReg understands that when a provisioning order is processed that the order is automatically given a status of recorded. The recorded order is then validated, and once the validation process is completed the order will be assigned either an accepted or rejected status.

Accepted and rejected order metric

4.20 An accepted order[36] [37] status means that an Access Seeker has entered an order using one of the order submission mechanisms (e.g. Unified. Gateway[38] (**'U.G'**)) containing all the required data accurately within the mandatory fields. A rejected order[39] means that the order has not been accepted due to validation failing i.e. there is missing data or inaccurate data. Once an order is accepted the provisioning process can begin.

4.21 To successfully have a provisioning or a fault order validated, Access Seekers and Eircom need access to certain data i.e. exchange code etc. Knowing whether there are differences in the percentage of accepted and rejected orders as a percentage of recorded[40] orders between Access Seekers and Eircom will help to highlight whether there are any potential differences in the information available to Access Seekers or whether there are differences in the order validation processes.

4.22 ComReg appreciates that there may be legitimate reasons for differences in the percentage of accepted and rejected orders between Access Seekers and Eircom. Monitoring for relative differences in the percentage of accepted and

[33] See page 23 of Eircom's NGA IPM Version 18 dated 5 June 2020 https://www.openeir.ie/wp-content/uploads/2020/06/NGA-IPM-V18_0-Unmarked-15062020.pdf
[34] See page 64 of Eircom's Bitstream IPM Version V40 date 1 May 2018 https://www.openeir.ie/wp-content/uploads/2020/04/Bitstream-IPM-V40_0-Unmarked-01052018.pdf
[35] See Eircom's Single Billing through Wholesale Line Rental IPM Version 17 dated 11 December 2020 https://www.openeir.ie/products/voice/single-billing-wholesale-line-rental/
[36] An accepted order is an order has been accepted by open eir, the operator has submitted an order which contains all the required data within the mandatory fields.
[37] ComReg notes that the 'number of accepted orders' will be used as a baseline parameter to calculate other metrics e.g. completed orders as a percentage of accepted orders
[38] Unified Gateway is an interface into Eircom's OSS used by Access Seekers in order to avail of regulated wholesale services, including WLA products, services and facilities.
[39] A rejected order means the order is rejected when it is not accepted by the UG due to a validation failing on the order, i.e. there is missing data on the order.
[40] A recorded order is an order that an operator enters an Order into the UG and automatically this Order has a status of recorded but has not yet been accepted or rejected by the UG.

rejected orders, should they exist, will assist in establishing whether Access Seekers receive equal treatment.

Undeliverable orders metric

4.23 The proposed undeliverable order[41] metric measures the percentage undeliverable orders as a percentage of accepted orders. When an order is accepted and an appointment is arranged by the Access Seeker with the End User, the End User will have an expectation that the product or service that they ordered will be delivered. If the requested product or service is not provided as expected, then End User (customer) dissatisfaction is likely to arise. This may reflect unfavourably on the Access Seekers and will have financial impacts such as cost-of-sale (expenditure such as the Access Seeker's sales team, call centre agent time handling queries from End Users etc.) and potential loss of future revenue (e.g. lost revenue from monthly subscriptions to services and rental charges).

4.24 Measuring the extent and relative differences in undeliverable orders of Eircom versus Access Seekers is important due to the potential for End User satisfaction, the operational cost and revenue impacts related to undelivered orders.

Completed orders metric

4.25 The proposed completed order[42] metric is designed to measure the percentage of accepted orders that successfully completed the provisioning process (i.e. has the End User been provided with the product or service that they requested from their Access Seeker or Eircom). ComReg considers that it is necessary to monitor of completed orders through a KPI metric because a difference in percentage of completed orders between Access Seekers and Eircom could have negative consequences, such as raising costs through repeat order, additional End User engagement etc. which could negatively impact on competition.

Cancelled orders metric

4.26 The proposed cancelled[43] order metric is designed to measure the percentage of cancelled orders as a percentage of accepted orders. ComReg considers that a KPI metric reporting the percentage of cancelled is necessary. As a high percentage of cancelled orders may be symptomatic of potential underlying process differences. Without a KPI metric to monitor potential differences between Access Seekers and Eircom such potential differences could remain

[41] An Undeliverable order is an order obtains the undeliverable status when the Order cannot be delivered, however it was not rejected.
[42] A complete order is an order that an operator enters an Order into the UG and automatically this Order has a status of
recorded but has not yet been accepted or rejected by the UG.
[43] A cancelled order is an order that an operator has requested that an Order is to be cancelled; this can only be implemented prior to the Order reaching delivered status.

undetected i.e. a hypothetical example could be that undelivered orders could be diverted into the cancelled order category thereby underestimating the percentage of undeliverable orders.

4.27 ComReg is cognisant that Access Seekers and Eircom cancel orders for themselves. Therefore, the actual number of Access Seeker cancelled orders is not directly in the control of Eircom. However, the reason for the cancelled orders may be related to process issues that Eircom does control. Unless there is a metric to monitor and highlight any potential differences in the percentage of cancelled orders, the cause of any potential process or End User engagement differences should they exist, legitimate or otherwise, may not be detected. Consequently, without this proposed metric the need for corrective action may not be identified in the case of unjustifiable differences.

Request to Cancel metric

4.28 The proposed cancellation request metric measures the percentage accepted provisioning orders that require cancelling and re-submitting (i.e. a new provisioning order) because of incorrect data that was entered and identified post acceptance.[44] Unless the order is re-submitted within five working days, Eircom will categorise the order as undelivered. The reason for the cancellation request is captured in the reason code associated with the order, for example, Code 71 represents “Incorrect address on Order”.

Referred orders metric

4.29 Another important metric in this class is referred orders (i.e. orders that become non-standard). Referred orders can occur due to a variety of reasons, such as due to an access network issue (e.g. FTTH Distribution Point not lit – i.e. no optical carrier) or a customer issue, for instance, a blocked customer duct is identified during the provisioning process which prevents order completion. When an order is referred it can be either because action is required by Eircom or the Access Seeker or the customer (End User). The action required depends on the circumstance that caused the referral. The reason for the referral is identified with a refer code.

4.30 There four are categories of referral reasons: Customer, Local Arrangements, Non-standard, and open eir. For the purpose of this consultation, the referred order KPI metrics will be limited non-standard referrals that Eircom is responsible for resolving.

[44] This means that a provisioning order completed Eircom’s validation process, but at later stage an error was discovered, for example the exchange code was incorrect in the data provided to Access Seekers. The error is only discovered at some stage during the provisioning process.

4.31 A referred non-standard order is effectively parked awaiting resolution of the issue that caused the referral in the first place. When the cause of the referral has been resolved the order becomes active again and the provisioning process can resume.

4.32 ComReg's proposed referred order metric has two parts, a percentage metric and complementary statistical metrics. The first part of the referred order metric measures referred orders as a percentage of accepted orders; the second, statistical, part of the referred order metric is the mean, median and standard deviation for the cumulative parked time (interval between initial message and resolution message)[45] of the referred orders in scope. Knowing the percentage of orders that are referred and the mean, median and standard deviation for the cumulative parked time for referred orders, will provide Access Seekers with further transparency on potential key issues affecting the provisioning process.

4.33 The metrics described in paragraphs 4.17 to 4.32 above are collectively referred to as the order and supply of service metrics. ComReg considers that each of these metrics are complementary and inter-related and are required to effectively monitor equivalence between the ordering and provisioning processes for wholesale inputs and their retail equivalents.

4.34 Please see full detail of the proposed KPIs for order related metrics at: Accepted_orders_table, Undeliverable_orders_table Completed_orders_table, Cancelled_orders_table, Request_to_cancel_table, Referred_orders_table

Q. 4. Do you agree with ComReg's proposed order related KPI Metrics? Are there other KPIs you would like to see included in this category? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

4.3 Supply of service metrics

4.35 The supply of service metrics are designed to measure the cumulative percentage of provisioning orders completed at set intervals, measured in working days from the date when the orders were accepted e.g. the cumulative percentage of completed orders measured after 2, 5 and 10 working days.

[45] For details on these message, see Eircom's NGA IPM Version 18 dated 5 June 2020 NGA IPM

4.36 To better understand the importance of the supply of service metrics, it is important to have a basic understanding of the provisioning order flow and the differences between order types. When an End User decides on the service(s) that they require, they will select their retail provider/ Access Seeker. During the sales process, the Access Seeker will determine what services are available at the End Users premises and the status of those services using data queries. Based on the type of service requested by the End User, the current status of the network infrastructure at the premises and the type of infrastructure serving the End Users premises is copper or fibre. The Access Seeker will select the appropriate provisioning order type. There are three categories of provisioning order types namely Electronic Enablement[46] (hereafter, **'EE'**), Non In-situ[47] and Other connections Appointments-based[48]. The time taken to complete the provisioning process will depend on the type of wholesale input requested and the provisioning order. For example, an Electronic Enablement order do not require physical intervention by an Eircom technician, so EE orders are normally completed within a few hours.

4.37 In ComReg's preliminary view the supply of service metrics are important from the Access Seeker's perspective. The time taken to supply the service (i.e. supply time) following the completion of the sales process is important in establishing and maintaining a good End User (customer) relationship. Differences in the supply time between wholesale inputs and their retail equivalent could be detrimental to Access Seekers and ultimately End Users. Therefore, it is necessary to know with an objective measurement whether there are differences in the time taken (measured in working days) between the provisioning processes for wholesale inputs and their retail Equivalents in equivalent circumstances.

4.38 ComReg considers that the supply of service metrics are necessary for transparency purposes as they provide reassurance to Access Seekers that they are receiving equal treatment. Also, it is important to note that the supply of service metrics are published in the current KPI metrics report, so there is no change in the scope of this obligation.

4.39 Please see full detail of the proposed KPIs for supply of service at: Supply_of_service_tables

[46] "Electronically Enabled orders" means narrowband line or broadband line that is activated remotely, through systems configuration, without the need of physical intervention.
[47] Non in-situ orders" means orders that cannot be automatically fulfilled, and an intervention is required by a field technician to complete the order.
[48] "Other connections appointment based" means all orders with an appointment requirement which do not fall into the categories Electronically Enabled or Non in-situ belongs to Other Connections appointment based category.

Q. 5. Do you agree with ComReg's proposed KPIs for supply of service in the NGA, CGA and SB-WLR product and services? Are there other KPIs you would like to see included in this category? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

4.4 Fault Metrics

Accepted and Rejected fault orders metric

4.40 ComReg understands that when a fault order is logged it is automatically given a status of recorded[49]. When the fault order validation process is completed, a fault transitions to either a reported status (meaning the order is accepted on Eircom's assurance systems) or the fault order is rejected. The difference between the number of orders in the recorded status and the number of fault order in a reported status is the rejection rate for fault orders.

4.41 Unless there is a metric to monitor and to highlight any potential differences in the percentage of accepted and rejected fault orders. The cause of any potential process differences should they exist, legitimate or otherwise, may not be detected. Consequently, without this proposed metric the need for corrective action may not be identified in the case of unjustifiable differences.

4.42 This metric will help to identify potential differences in the fault order validation processes between Access Seekers and Eircom.

Repair of service metrics

4.43 Once a fault has been accepted the most critical aspect from the Access Seekers and the End User's point of view is the time taken to restore service. Faults in the access and core networks result in the interruption of services such as internet access, indirect services including Over-The-Top (hereafter, **'OTT'**) – Voice, video streaming services, medical and security alarms etc. Considering the impact to End Users services when faults occur, the time taken to restore service is extremely important from a quality of experience perspective. The time taken to repair a fault and to restore services may influence the End User's decision to switch or to remain with their current Access Seeker. Therefore, it is vital to ensure that there are objective measurements available to demonstrate that the service assurance performance of wholesale inputs and their retail equivalent are the equivalent.

[49] See section 3.7 of Eircom's NGA IPM Version 18 dated 5 June 2020 https://www.openeir.ie/wp-content/uploads/2020/06/NGA-IPM-V18_0-Unmarked-15062020.pdf

4.44 The faults metrics are designed to measure the cumulative percentage of faults permanently[50] cleared, at set intervals, measured in working days from the date the fault was reported and timestamp. For example, the cumulative percentage of permanently cleared fault metric is measured after 2, 5 and 10 working days respectively and align with current SLA repair performance measurement points.

Repeat fault metrics

4.45 The repeat fault metric is designed to measure whether the service assurance process has effectively resolved the reported fault i.e. whether the true root cause of the fault has been identified and fixed.

4.46 ComReg is cognisant that faults are primarily linked to the underlying network rather than a product or service. Therefore, a network fault with a recurring root cause (e.g. water ingress (rain) caused by damage to the cable's insulation) can impact multiple services. When a fault is reported and cleared, and another fault then reported and cleared for the same access path within a 28 calendar-day window (28 calander-days is current window used for repeat faults, so no change has been proposed), those faults must be counted as repeat faults irrespective of the product or service the fault was reported against in each case unless a different root cause can be verifiably demonstrated for each reported fault. If the cleared faults are not counted as a repeat fault, using the scenario above as an example, the repeat fault KPI metric would be underreported.

4.47 Repeat faults cause service interruption which may impact on the perception of the Undertaking's capability to provide service to its customer. The inclusion of the repeat fault KPI metric will provide transparency to Access Seekers regarding the incidences of repeat faults.

Fault Allocation Metrics

4.48 The aim of this metric is to ensure that all reported faults are allocated and accounted for in the KPI fault metrics. This proposed KPI metric has two purposes, firstly to demonstrate that all reported faults are included in the published fault metrics thereby providing reassurance to Access Seekers, in a transparent way, that the methodology and processes for counting reported faults are robust. This will ensure that all faults are accounted for in the context of KPI metrics. Secondly, these metrics will demonstrate that the methodology for allocating reported faults to each market and to the products and services within that market is consistent.

[50] "The issue has been permanently cleared - the Trouble Ticket is closed. A trouble ticket is the mechanism by which all NGA faults will be recorded by the Operator." See Eircom's NGA IPM Version 18 dated 5 June 2020 https://www.openeir.ie/wp-content/uploads/2020/06/NGA-IPM-V18_0-Unmarked-15062020.pdf

4.49 To illustrate with a hypothetical example -- 200 thousand reported faults occur in a Data Collection Period for wholesale inputs and their retail equivalent. The wholesale input faults are allocated and accounted as follows: NGA 60 thousand (60%), CGA 20 thousand (20%) and FACO 20 thousand (20%) and for the retail equivalent: NGA 58 thousand (58%) CGA 22 thousand (22%), and FACO 20 thousand (20%). In both examples, the total reported faults tally to 100 thousand (100%) for wholesale inputs and their retail equivalents.

4.50 The total number of faults and their allocation to the wholesale inputs and their retail equivalents must be justified using documented criteria. The criteria must be explained using a worked examples. The criteria and worked example must be included in the KPI process documentation.

NFF Metric Category

4.51 ComReg is proposing a new KPI metric category NFF. This KPI metric category is designed to quantify the number of reported faults that have been cleared according to a specific set of permanent clear codes. (The detail of the clear codes is explained in paragraph 4.21.)

4.52 To better understand this metric, a high-level understanding of the service assurance process is required. When a fault is reported, after validation by Eircom the fault is typically assigned to an Eircom field technician to identify the root cause of the fault and, usually, to make the necessary repairs to the network.

4.53 As part of the service assurance process the Eircom technician assigns a clear code(s) to identify the root of the fault. However, some permanently cleared faults may be assigned clear codes which mean that the technician could not identify a network fault or could not complete the fault diagnoses process at the time as they require access to the End User's premises to fully investigate. ComReg considers that the clear codes assigned in these instances fall into the "NFF" category.

4.54 ComReg considers that to ensure such fault incidences are fully accounted for, it is necessary for Eircom to record and report them in a separate "NFF" metric category. NFFs are not actually considered faults but are important fault-related metric to provide transparency regarding potential differences in the fault diagnoses processes should they exist. Some examples of clear codes within the NFF category would include: "Right When Tested" (hereafter, **'RWT'**)[51], "Found O.K." (hereafter, **'F.O.K'**)[52]. The RWT and F.O.K identifiers are used to indicate that either the service centre or the field technician could not replicate the fault reported during the fault analysis process. There are several possible

[51] The clear code RWT (001) is a clear code used by service centre staff.
[52] The clear code F.O.K (002) is clear code used by field staff.

causes for NFFs – reporting errors, technician errors, a temporal fault (a temporary fault condition) etc. In cases where the fault cannot be confirmed, ComReg considers it would be inappropriate to include these non-fault incidences in the repair of service KPI metric.

4.55 The NFF metric will provide transparency regarding the relative performance of Eircom's fault diagnosis process and other operational practices. This NFF metric will be particularly useful in cases where Access Seekers can demonstrate that they have fully executed the required diagnosis process prior to raising faults, but the fault is ultimately categorised by Eircom as RWT or F.O.K.

4.56 Even though NFFs are not considered faults *per se*, ComReg considers that they need to be monitored to ensure equivalence of treatment.

4.57 Of course, ComReg accepts that errors can occur. However, monitoring the absolute levels and the relative performance of NFFs will allow identification of potential issues within the fault management processes and where appropriate, corrective action, if required, could be taken.

No entry obtained

4.58 "No entry obtained" is the clear code (003) used when a technician has been assigned a fault that requires that the technician gain entry to the End Users premises to be resolved, but the technician cannot enter the End Users premises. The No Entry obtained KPI metric is designed to measure the incidence of clear code 003

4.59 When a field technician has already attended to a reported fault and has set the fault to a pending clear status with a clear code of 003, this triggers a notification through the U.G alerting the Access Seeker that a site visit is required. The Access Seeker will then engage with the End User to agree a convenient date and time and book an appointment with Eircom for the technician visit. These activities will consume Access Seeker resources and places a requirement on the End User. It is accordingly an important measure in ensuring that that Access Seekers receive equal treatment as compared to Eircom Retail, and that any material differences in the incidences of no entry obtained are justified appropriately.

4.5 Quality of Supply metrics

4.60 ComReg is proposing two supply of service KPI metrics: ELF and Installation failures /DoA).[53]

[53] "Installation failures / Dead on Arrival (DOA) are instances where open eir advised an OAO that the requested service was provisioned when, in reality, the service was never provisioned correctly in the first instance. For the avoidance of doubt this excludes all provisioning work carried out by an Operator

4.61 The ELF KPI metric is designed to measure the incidence of latent fault(s) that occur within a specified period (i.e. a 28 calendar-day window) after the post provisioning order completion notification. The ELF KPI metric primary purpose is to measure the quality of the provisioning process.

4.62 The DoA KPI metric is designed to measure the incidence of latent faults or faults prior to post completion notification[54] of the order for the provision of a new product or service in each of the regulated markets.

4.63 Eircom manages[55] most faults using the same fault order process, except for DoA faults[56], which are managed through Open eir Customer Care (hereafter, **'OeCC'**). A DoA is a fault that is identified in the time interval between the completed order and the post completed order statuses. When a provisioning order reaches the completed status, this is the final status in the provisioning process and means that the technical tasks required for the product or service to be operational are finished. Such tasks include the required IT system processes having been run. Until such time as those IT system processes are run, the provisioning process is deemed 'not posted' i.e. the provisioning order is not fully finished. As a result, it is not possible to record a fault order through the U.G.To overcome this system limitation, in the time interval between the order delivered and order post-completion notification, any faults must be logged through OeCC. Therefore, a separate DoA KPI metric is required to monitor DoA faults.

4.64 ComReg considers that a fault incidence which occurs within a short period after an End User changes service type or switches Access Seeker is likely to impact on the customer's perception of their Access Seeker. The ELF and DoA KPI metrics are intended to provide objective measures for the Access Seeker to monitor fault incidences more accurately and, if necessary, to manage End User perceptions.

4.65 Please see full detail of the proposed KPIs for no entry obtained at: Repair_of_service, Repeat_faults, Fault_allocations, NFF_table No_Entry_Obtained and Quality_of_supply.

on behalf of open eir." https://www.openeir.ie/wp-content/uploads/2020/06/NGA-IPM-V18_0-Unmarked-15062020.pdf

[54] "Post-completion Notification sent to Gaining Operator when the Order has fully Posted" https://www.openeir.ie/wp-content/uploads/2020/06/NGA-IPM-V18_0-Unmarked-15062020.pdf

[55] See page 105 section 11.7.2 Eircom's NGA IPM Version 18 dated 5 June 2020 https://www.openeir.ie/wp-content/uploads/2020/06/NGA-IPM-V18_0-Unmarked-15062020.pdf

[56] See page 57 section 6.71 Eircom's NGA IPM Version 18 dated 5 June 2020 https://www.openeir.ie/wp-content/uploads/2020/06/NGA-IPM-V18_0-Unmarked-15062020.pdf page 57 section 6.71

[56] See Eircom's NGA IPM Version 18 dated 5 June 2020 - https://www.openeir.ie/wp-content/uploads/2020/06/NGA-IPM-V18_0-Unmarked-15062020.pdf

Q. 6. Do you agree with ComReg's proposed fault related KPIs metrics? Are there other KPIs you would like to see included in this category? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

4.6 CEI KPI metrics

4.66 ComReg is of the view that it is necessary to adopt a different approach to the CEI KPI metrics for several reasons. First of all, the ordering, provisioning and service assurance processes for CEI products and services are less complex when compared to the physical or virtual unbundled WLA access products and services. Consequently, the required number of processes and process points to be monitored for transparency purposes is significantly reduced. As a result, the scope and the type of CEI KPI metrics required can be scaled back accordingly. To provide the necessary transparency to Access Seekers, ComReg is proposing the following suite of CEI KPI metrics:

(a) Accepted/rejected order metric;

(b) Completed order metric; and

(c) Repair of service metrics.

4.67 The purpose of these metrics has already been explained in paragraphs 4.20, 4.25 and 4.10 above. To recap, when an order is received and validated there are two outcomes, the order is either accepted or rejected. Access Seekers need to know (1) how many orders were accepted and rejected as a percentage of orders received, (2) how many accepted orders that have completed the provisioning process as a percentage of accepted orders. In addition, Access Seekers need to know the cumulative percentage of reported CEI faults that are repaired within a fixed time period of the reported date measured in calendar days.

4.68 In ComReg's preliminary view these are the CEI KPI metrics required, at this time, to provide the necessary reassurance to Access Seekers that they are receiving equal treatment regarding CEI access.

4.69 Second, as noted in paragraph 3.12, the demand for CEI is subdued at present. ComReg notes that a number of Access Seekers have sought changes to the CEI products and services, and these requests are progressing through Eircom's product development process. ComReg expects that until these requested changes are implemented and the CEI products and services are aligned with the operational requirements of Access Seekers, demand for CEI access is likely to remain subdued. Once these operational issues are resolved, ComReg anticipates that the demand for CEI products and services will rise accordingly. Without sufficient CEI order volumes, in ComReg's preliminary view it would not be possible to draw reliable conclusions from CEI KPI metrics. In order to have meaningful and useful CEI KPI metrics, sufficient order volumes are required.

4.70 Therefore, ComReg proposes that the processes for gathering, processing and reporting of CEI KPI metrics are put in place, but Eircom's obligation to publish such metrics delayed until demand for CEI has grown to a level that is sufficient to produce meaningful and useful CEI KPIs.

4.71 ComReg proposes, because of the close relationship between the CEI component of the NGN Ethernet products and the CEI access products, to use the average order volume of the NGN Ethernet provisioning and service assurance orders in the period between Q3 2019 and Q3 2020 as the threshold to trigger the publication of the CEI KPI metrics. In ComReg's preliminary view, when the CEI order volumes reaches the NGN Ethernet average order threshold, this would be sufficient to produce meaningful and useful CEI KPI metrics.

4.72 In order to facilitate ComReg's monitoring of the threshold trigger, ComReg believes that it is necessary and appropriate to require Eircom to report to ComReg only on the quarterly number of CEI orders .

Q. 7. Do you agree with ComReg's approach to the implementation of KPIs for CEI access, including the delaying of the Eircom's obligation to publish KPIs until demand for CEI has grown to a sufficient level? Please provide reasons for your answer.

4.73 Please see full detail of the proposed KPIs for appointsments at:
CEI_Supply_and_Repair_tables

Q. 8. Do you agree with ComReg's proposed KPIs for the CEI products and services ? Are there other KPIs you would like to see included in this category? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

Chapter 5

5 KPI processing, reporting and auditing

5.1 Overview

5.1 ComReg has explained in chapter 4 what each of the proposed KPI metrics is designed to measure in relation to ordering, provisioning and service assurance processes for transparency purposes. In addition to the primary KPI metrics, there are equally important KPI building blocks or ancillary requirements that must be in place in order to ensure that the KPI metrics are effective and useful. In the 2011 Decision a number of ancillary requirements were established, which included in particular reporting, publication requirements and verification of metrics. Based on ComReg's experience of KPI metrics since 2011, ComReg has identified changes to these ancillary requirements and new ancillary requirements that ComReg considers are necessary to improve the effectiveness of KPI metrics. The details of these proposals are explained below in paragraphs 5.2 to 5.26.

5.2 KPI measurement intervals

5.2 ComReg proposes that in order to leverage off existing monitoring processes, that KPI metrics, where possible, are aligned to reflect the existing measurement intervals for similar KPI metrics and SLA performance metrics. ComReg would like to emphasise, however, that the purpose and function of KPI metrics and SLA performance metrics are significantly different. SLA performance metrics measure the performance of the regulated products, services and facilities against Eircom's contractual commitments in the SLAs and are required to be included as part of the reference offer which Eircom is required to publish in respect of all regulated products, services and facilities, in order to set the minimum standard of performance. The SLAs can be changed/amended post launch by agreement between the Access Seeker(s) and Eircom. By contrast KPI metrics are regulatory requirements that cannot be changed by agreement between Eircom and an Access Seeker whose intended purpose is to provide transparency with regards to Eircom's performance in its access obligations to Access Seekers and to assist with the effective application of the non-discrimination obligations.

5.3 ComReg is proposing to align, at least initially, the KPI measurement points with current SLAs measurement intervals, where ComReg considers it appropriate to do so, in order to minimise the burden on Eircom. For example, currently the

measurement points for the FTTH VUA provisioning SLA are 11, 21, 41, 66 and 131[57] working days respectively. Over time the SLA measurement points to trigger service credits may change by agreement between Access Seekers and Eircom, causing the KPI and SLA measurement points to diverge.

5.4 Either as a result of this or independently, ComReg may come to the view that different measurement points would be beneficial from a transparency perspective. In either circumstance, ComReg, at its discretion, may decide to change the interval between data collection periods. ComReg is proposing that, with six months advance notice in writing to Eircom, that the measurement point for KPI metrics may be changed. For example, the measurement points for completed FTTH VUA orders as percentage of accepted orders from 11, 21, 41, 66 and 131 working days could be changed for instance to 11, 15, 25, 50 and 100 working days, respectively. This approach provides the flexibility that ComReg considers is necessary to cater for future changes to the access products and services and their associated processes as access products and services evolve over time and mature.

5.3 Fault Exclusions

5.5 The current fault KPI metrics exclude some faults from the KPI metrics based on certain criteria. This filtering alters the fault KPI metrics because the fault KPI metric under-reports the actual level of reported faults for Eircom's access network. To better understand the implication of fault filtering on transparency, a high-level understanding of the service assurance process and an understanding of the concept of valid and non-valid[58] reported faults is required.

5.6 Regarding the service assurance process, when a fault is reported after validation that fault is typically assigned to a field technician to identify the fault's root cause and to make the necessary network repairs. As part of the service assurance process the technician assigns a clear code that identifies the fault type with a clear code. For each product/service, Eircom has defined a list of valid and non-valid reported faults. In the case where a clear code assigned by a technician to a reported fault is included in the non-valid fault list, then this fault is excluded from fault KPI metrics.

5.7 ComReg understands that the concept of valid and non-valid reported fault originated from SLAs and was carried forward into the KPI metrics. The impact

[57] These represent to the number of working days 11, 21, 41, 66 and 131 for 80%, 85%,90% 95% and 100% of FTTH or non-standard orders to orders completed in a measuring period will be post-completed working days plus parked time from the order being recorded on the UG.

[58] The list of valid and non-valid clear codes used by Eircom for current regulated access products can be found at https://www.openeir.ie/wp-content/uploads/2020/05/Fault-Clear-codes-Nov-2019.xlsx

of using this concept of valid and non-valid reported faults in the context of KPI metrics has not been quantified. The consequences of the filtering faults in the fault KPI metrics will be explained with an example. In the month of January, Operator A reports one thousand faults for a service and the one thousand faults are all cleared using a non-valid faults clear code with average repair time of ten working day. In the month of January, Operator B reports one thousand faults for the same service and the one thousand faults are all cleared using a non-valid fault clear codes with average repair time of one working day. Using the current filtering approach, all of the faults used in the hypothetical example above would be excluded from current the KPI metrics report, even though there is an obvious difference in average repair time for operators A and B. Another consequence is that two thousand faults are excluded from the overall level of reported faults received.

5.8 The hypothetical example above demonstrates how the use of filtering could mask differences in repair time in equivalent circumstances

5.9 There are circumstances where inaccurate or inappropriate use of clear codes could result in the exclusion of faults that could distort the KPI metrics.

5.10 ComReg is aware from information provided by Eircom that a [✂ ✂] percentage of FNC[59] and FNH[60] [✂ ✂] [61] respectively for FTTH and FTTC standalone connections; [✂ ✂] respectively for FTTH and FTTC POTs based connections) recorded faults are categorised as invalid faults and are therefore excluded from the KPI metrics based on Eircom's document entitled "*Business Rules for Metrics in KPI Equivalence Report"* ('**Eircom's Business Rules for KPI Metrics**').[62]

5.11 To avoid the removal of faults from the calculation of the KPI metris as a result of a filtering process (e.g., the removal of non-valid reported faults), potentially masking equivalence issues, ComReg proposes that filtering be prohibited and that the KPIs metrics for faults must include all faults, thereby providing greater transparency and accuracy to the metrics.

5.4 Frequency of Publication

5.12 To maximise the benefits of KPIs, ComReg believes that KPIs reports need to be published on a regular basis so that if necessary, timely actions can be taken on foot of the information. At the same time, ComReg is mindful that resources

[59] Fault on NGA fibre to the cabinet order type - code used to log an FTTC fault.
[60] Fault on NGA fibre to the home order type - code used to log an FTTH fault.
[61] Information Request with respect to the reporting of Eircom's Wholesale RAP products equivalence KPIs issued by ComReg to Eircom on 21 May 2020 and response received by ComReg on 3 July 2020.
[62] Version 1 dated 19 June 2019.

are required for Eircom to publish, review and investigate potential differences in the reported KPI metrics.

5.13 When the KPI obligation was first introduced in 2011, the preparation of KPI reports was largely manual. At that time, ComReg considered it necessary to balance the need for timely publication of the KPIs metrics with the additional burden of compiling and preparing the reports on Eircom.

5.14 In the interim, data collection and analysis tools have advanced significantly. Eircom's Business Rules for KPI Metrics indicate that Eircom has migrated from largely manual processes to a largely automated process for the preparation of KPIs, which reporting capabilities can be built upon and re-used. Therefore, ComReg anticipates that the calculations for and the preparation of the updated KPI metrics report will be primarily an automated process, with potentially some manual validation or quality checks.

5.15 Considering the potential for automation of the KPI metrics report, ComReg's preliminary view is that the KPI metrics reports should be published no later than thirty working days from the end of each quarterly reporting period. Based on the information available to ComReg, thirty working days appears a reasonable period of time for Eircom to run validation checks to identify any potential anomalies and to conduct an initial investigation of the root cause(s) that are identified. In cases where thirty working days is insufficient to conclude the investigation, and subject to engagement and agreement with ComReg on a relevant timeframe, Eircom would be required to publish the KPI report flagging that further analysis is required and to publish an expected timeline for the conclusion of its investigation. When the investigation has concluded, Eircom would be required to publish the findings of its investigation and, if necessary, amend the published KPI metrics report.

5.5 Implementation, report milestone publication of Metrics

5.16 ComReg understands from Eircom's Business Rules for KPI Metrics that data from Eircom's Operation Support Systems is gathered using a File Transfer Protocol (hereafter, **'FTP')** and processed using Extract Transform and Load (hereafter, **'ETL'**) procedures. The resulting data set is stored in Eircom's Enterprise Data Warehouse, which is processed using software modules (mainly SQL scripts) to create the KPI metrics tables for publication. Since Eircom can re-use and modify existing processes and scipts the implementation effort for the KPI changes proposed would be characterised as a smallscale/minor project.

5.17 In light of what appears to ComReg to be a limited impact on Eircom's processes, ComReg believes that a period of six months following the effective date of ComReg's final decision is sufficient to allow Eircom to make any amendments

required to existing systems and processes to comply with the requirements of ComReg's final Decision.

5.18 ComReg proposes that Eircom continues to prepare two versions of the KPI metrics report: a confidential version for ComReg containing the numerical data values and calculations such as percentage values etc.; and a non-confidential version excluding numerical data and calculations, as appropriate. The detailed content for the KPI metric reports is set out in Schedule [4] of this Consultation. ComReg proposes that the confidential version of the KPI metric report should be provided to ComReg at the same time as the published quarterly reports thirty working days after Q1 (January – March) , Q2 (April -June), Q3 (July – September) and Q4 (October - December).

5.19 In relation to their availability, ComReg is proposing that the KPI metrics report are published by Eircom on its publicly available website. Publicly available for the purposes of this Consultation and draft Decision Instrument means that there must be no restrictions[63] in accessing either current or historical non-confidential versions of the KPI metrics reports, such as password-controlled access or similar.

5.6 Verification and Audit of KPI metrics

5.20 ComReg may from time to time audit the KPI metrics preparation processes. The audit of KPI metrics may include inter alia the collection of source data, the processing of the source data, the calculation of KPI metrics, the application of business rules, and the KPI reporting processes. ComReg may conduct its audits with the assistance of third-party experts, as appropriate. The scope of the audit will be determined when the audit process commences. ComReg will provide one month's advance notice to Eircom of the audit in writing. ComReg may issue a direction following the audit to amend, change the KPIs on foot of the audit. ComReg may appoint an independent external firm to conduct the audit on its behalf.

5.7 Statistical Verification KPI Metrics

5.21 KPI metrics as currently structured only provide transparency at the macro level between Eircom on the one hand, and Access Seekers collectively on the other. This approach alone does not allow for identifying any potential discrimination in the treatment of individual Access Seekers by Eircom. ComReg considered proposing additional KPI metrics that would have monitored for the existence of potential discrimination between Access Seekers on a recurring basis. These metrics would have been focussed on the provisioning and service assurances

[63] ComReg notes that the non-confidential version of the KPI metric reports have been published on Eirom's publicly available website since 2011.

processes using sample based z-testing and other approaches, allowing monitoring for potential discrimination between Access Seekers in a structured way using objective measurements and addressing this potential gap in transparency.

5.22 However, on balance, ComReg is of the view that requiring Eircom to implement new processes to conduct recurring sample based z-testing or similar would be disproportionate, at this time and that less burdensome approaches should be used, first.

5.23 Rather than placing the burden of this type of statistical analyses on Eircom, ComReg proposes that, on an annual basis or as necessary, ComReg may request Eircom to provide it with the undelying data sets used to prepare the KPI Metrics, for ComReg's analysis and Eircom should ensure that it can facilitate ComReg in this regard and have in place a process. ComReg proposes in particular that Eircom be required to retain or be able to reproduce the underlying data set it used to prepare the KPI metrics contained in the KPIs reports for a period of not less than two years. Upon request Eircom shall provide the data as requested, in the format requested, within 15 working days from the date of the written request. For the avoidance of doubt, where issues are identified or for example for the purpose of a compliance investigation, ComReg may require Eircom to ensure that specific data sets are retained beyond the two year period.

5.24 If ComReg's analysis highlights potential discrimination issue(s) or there are other concerns that need further investigation, ComReg may undertake a more extensive data analysis and may require additional data sets from Eircom beyond the random samples indicated above.

5.25 For the avoidance of doubt, ComReg's above reference to Z-testing does not mean that ComReg will confine its analysis to that one statistical analysis method. ComReg will be guided, as appropriate, by the third-party experts that ComReg may appoint to assist ComReg with this task.

5.8 Publication of the KPI reporting business processes

5.26 ComReg's preliminary view is that the business processes used by Eircom for the preparation and reporting of the KPI metrics should be published and maintained by Eircom on its publicly available website.This document should cover all regulated access products in scope for the KPI metrics proposed in this Consultation and describe in adequate detail the processes for gathering, processing and reporting of the KPI metrics.

Q. 9. Do you agree with ComReg's proposals regarding processing, reporting, publication and auditing requirement to improve the effectiveness of KPI metrics? Do you have any other observations in relation to the requirements being proposed? Please provide reasons for your answers.

5.27 ComReg proposes that the KPI metrics are reported in tables and those tables (i.e. the non-confidential versions) are published on Eircom's publicly available website, and the confidential and non-confidential versions submitted to ComReg.

5.28 In order to facilitate reporting and enhance consistency, comparison and readability of metrics, ComReg proposes to direct that Eircom uses a standardised format for the tables, as set out in Schedule 4 of the Draft Decision Instrument.

Chapter 6

6 Regulatory Impact Assessment

6.1 A Regulatory Impact Assessment (hereafter, '**RIA**') is a detailed consideration of the likely effect of proposed new regulations or changes to existing regulations. A RIA seeks to establish if the proposals for change are necessary and, in doing so, identifies any possible effects which might result from their implementation. A RIA also identifies alternative regulatory options and, ultimately, establishes whether a proposed regulation is likely to have the desired impact. It is a structured approach to policy development and analyses the impact of the proposed regulation, and other regulatory options, on different stakeholders, in this case, on Eircom, End Users, and Access Seekers. Appropriate use of a RIA should ensure identification of the most effective regulatory option.

6.2 In carrying out a RIA, ComReg adheres to its RIA Guidelines[64] and takes account of the Better Regulation programme.[65] ComReg is also cognisant of international best practice, such as guidance from the European Commission (hereafter, '**EC**') and the Organisation for Economic Co-operation and Development (hereafter, '**OECD**').

6.3 Section 13(1) of the Communications Regulation Act 2002 (as amended) requires ComReg to comply with Ministerial Policy Directions. Section 6 of the Ministerial Policy Direction to ComReg of 21 February 2003 requires that, prior to imposing regulatory obligations on Undertakings, ComReg shall conduct a RIA in accordance with international best practice, and otherwise in accordance with measures that may be adopted under the Better Regulation programme.

6.4 The ultimate aim of conducting a RIA of proposed regulation in the relevant markets is to ensure that the regulatory measures which are implemented are appropriate, proportionate and justified. As Decisions can vary in terms of their impact, if, after initial investigation, a Decision appears to have relatively low impact, ComReg may carry out a lighter RIA in that respect.

6.5 ComReg's approach to carrying out a RIA follows five steps:

(a) Step 1: Describe the policy issue and identify the objectives;

(b) Step 2: Identify and describe the regulatory options;

[64] ComReg Document 07/56a, ComReg, "Guidelines on ComReg's Approach to Regulatory Impact Assessment", 10 August 2007 (hereafter, the '**RIA Guidelines'**).
[65] Department of the Taoiseach, "Regulating Better", January 2004. See also "Revised RIA Guidelines: How to conduct a Regulatory Impact Analysis", June 2009, (hereafter, the '**Revised RIA Guidelines**'), available from: http://publicspendingcode.per.gov.ie/wp-content/uploads/2012/07/Revised_RIA_Guidelines_June_20091.pdf

(c) Step 3: Determine the impact on stakeholders;

(d) Step 4: Determine the impact on competition; and

(e) Step 5: Assess the impacts on stakeholders and competition and choose the best regulatory option.

6.6 In the analysis set out below, ComReg carries out each of these steps in respect of each of the relevant markets.

6.7 The purpose of carrying out a RIA is to aid decision-making through identifying regulatory options and analysing the impact of those options in a structured manner. The Revised RIA Guidelines state that:

> *"RIA should be conducted at an early stage and before a decision to regulate has been taken."*[66]

6.8 The EC, in its review of impact assessments, notes that:

> *"Impact assessments need to be conducted earlier in the policy development process so that alternative courses of action can be thoroughly examined before a proposal is tabled."*[67]

6.9 A RIA should be carried out as early as possible in the assessment of potential regulatory options, where appropriate and feasible. The consideration of regulatory impacts facilitates the discussion of options, and a RIA should therefore be integrated into the overall preliminary analysis. This is the approach which ComReg follows in this Consultation and this RIA should be read in conjunction with the overall Consultation. A RIA will be finalised in the Response to Consultation and final Decision arising from this Consultation, having taken into account responses to this Consultation, and any comments from the EC.

6.1 Principles in Selecting Remedies

6.10 ComReg has conducted this RIA having regard to the proposed regulatory remedies and analysis in this Consultation, along with consideration of other potential options. This RIA sets out ComReg's preliminary assessment of the potential impact of the proposed regulatory intervention in the relevant markets..

6.11 ComReg sets out the legislative basis for the imposition of remedies on Eircom, which has been designated with SMP in the FACO, WLA and WCA Markets. In choosing appropriate remedies, ComReg is obliged, pursuant to Regulation 8(6) of the Access Regulations,[68] to ensure that they are:

[66] See paragraph 2.1 of the Revised RIA Guidelines.
[67] Communication from EC, "Second strategic review of Better Regulation in the European Union", COM(2008)32, p.6.
[68] As mirrored at Article 68(4) of the EECC.

(a) Based on the nature of the problem identified;

(b) Proportionate and justified in the light of the objectives laid down in Section 12 of the Communications Regulation Act 2002 (as amended), and Regulation 16 of the Framework Regulations;[69] and

(c) Only imposed following consultation in accordance with Regulations 12 and 13 of the Framework Regulations.[70]

6.12 Section 12(1)(a) of the Communications Regulation Act 2002 (as amended) sets out the objectives of ComReg in exercising its functions in relation to the provision of electronic communications networks, services and associated facilities, namely to:

(a) promote competition,

(b) contribute to the development of the internal market, and

(c) promote the interests of users within the European Union.

6.2 WLA Markets, Regional WCA and FACO Regulatory Impact Assessment

Step 1: Describe the Policy Issue and Identify the Objectives

6.13 Following market review processes, Eircom was designated with SMP in the WLA, Regional WCA and FACO markets (hereafter, the '**Relevant Markets**'). Consequently, obligations were imposed upon Eircom, which included a transparency obligation to publish KPI metrics on a regular basis, in each of the Relevant Markets, in accordance with the KPI metrics specified in 2011 KPI Decision. The 2011 KPI Decision specified the set of KPI metrics required for certain products and services, the formulas and methodology for calculation of the KPI metrics, and the process for publication of the KPIs.

6.14 Since the 2011 KPI Decision, significant changes have occurred including changes to the regulated markets (i.e. the WBA market is now the WCA market, the WPNIA market is now the WLA market referenced in the 2011 KPI Decision, the segmentation of the markets (i.e. the emergence of sub-geographic markets), the development of new access network technology and a wider portfolio of regulated access products, and changes relating to service delivery and service assurance processes. Besides these market, technology, product and process changes, the dependence of End Users on broadband products and services

[69] As mirrored at Article 3 of the EECC.
[70] As mirrored at Articles 23 and 32 of the EECC.

delivered over NGA products has greatly increased, so that End Users are now more sensitive to delays with service delivery and/or service assurance.

6.15 Consequently, ComReg considers that it is necessary to modify the existing KPIs where appropriate and to add new forms of KPIs to augment Eircom's transparency obligations on the relevant markets identified above and to ensure the effectiveness of the non-discrimination obligations. This is because the existing published KPIs do not provide a complete set of necessary performance data, and do not monitor all relevant process points to the appropriate level of granularity.

6.16 In line with the principles set out above (paragraphs 6.10 to 6.12), a key ComReg objective is to ensure that transparency exists in the provision by Eircom of wholesale products and services. Transparency is intended to promote competition in the interest of End Users of electronic communications services by ensuring that all Access Seekers, End Users and ComReg can observe the price and non-price terms which underpin important investment decisions concerning entry and expansion in markets where Eircom has been designated with Significant Market Power. Transparency obligations are also, in part, designed to allow ComReg to determine whether the SMP operator is meeting its non-discrimination obligations. Non-discrimination obligations require the SMP operator, *inter alia*, to supply products and services to all Access Seekers to an equivalent quality, including to its own downstream retail arm. Effective non-discrimination obligations are thus critical in promoting undistorted competition in the best interests of End Users.

6.17 ComReg considers that the existing transparency obligations in the following Relevant Markets should be enhanced and tailored in order to provide the necessary transparency concerning Eircom's performance in the provision of wholesale inputs:

(a) The Wholesale Local Access market,

(b) The Wholesale Central Access market, and

(c) The Fixed Access Call Origination market.

6.18 In respect of the FACO market, ComReg notes that a review is ongoing and that ComReg has proposed in ComReg Consultation Document No. 20/26 to deregulate part of the currently regulated market (the Urban FACO Market) but to maintain regulation in other parts (the Regional FACO Market) including obligations of non-discrimination and transparency including the obligation to publish KPIs.

6.19 The enhancements proposed by ComReg are designed specifically to address the shortcomings identified by ComReg in the existing KPIs applicable to those markets, and to add new KPIs where it is considered necessary to do so, as well as ensuring that the processing and methodology related to underlying metric data does not result in misleading conclusions.

6.20 In summary, the proposals presented by ComReg in this Consultation are intended to ensure that a complete set of relevant, accurate, performance data is made available, on a regular basis, in respect of the Relevant Markets set out above.

6.21 The improved KPI metrics will assist Access Seekers in comparing critical aspects of wholesale products and services with Eircom's retail equivalent on an objective basis.

6.22 The improved KPI metrics will also assist Access Seekers in analysing product performance over time. Evidence, through published KPIs, of inferior performance wholesale inputs when compared to their Retail Equivalent, or evidence of a degraded wholesale product is critical proof for Access Seekers when negotiating with Eircom for better services, or to maintain an appropriate standard of service.

6.23 The improved KPI metrics will provide an objective data source for ComReg for monitoring compliance with non-discrimination obligations, while further equipping Eircom with a means to more effectively verify its own performance, thereby contributing to effective regulatory processes for handling potential complaints or disputes.

6.24 The improved KPI metrics will assist operators in competing for customers in downstream retail markets. For instance, such information would enable operators to confirm to retail customers the quality of service assurance available, and to provide them with evidence of service quality. End Users would, in turn, benefit from greater information on the retail choices available to them and have increased confidence in competing retail operators. Enhanced retail competition should also deliver important benefits to consumers in terms of price and product innovations over the medium to longer term.

6.25 The proposed changes to the KPI metrics and the resulting expected benefits are aimed at promoting long term sustainable competition to the ultimate benefit of End Users.

Step 2: Identify and describe the regulatory options

6.26 ComReg recognises that regulatory measures should be restricted to the minimum necessary to address the identified market failure in an effective, efficient and proportionate manner. ComReg has identified three options:

(a) **Option 1**: Withdraw the current transparency obligation to publish KPIs;

(b) **Option 2**: Leave the current transparency obligation to publish KPIs unchanged; or

(c) **Option 3**: Further specify the current transparency obligations to publish KPIs as set out in this Consultation.

6.27 The impact of these options are discussed, in paragraphs 6.29 to 6.44 below.

6.28 Regarding the third option to further specify the current transparency obligation to publish KPIs, in order to give an overview of the proposed changes, these further specifications are briefly described below:

(a) KPI metrics required for new product and service launch (see paragraph 3.23 to 3.25);

(b) The broadening scope of KPI metrics to ensure that the necessary processes are monitored with KPIs metrics; (see paragraph 4.3);

(c) Inclusion of fault allocation metric to demonstrate that all faults are accounted for and allocated appropriately (see paragraphs 4.48 to 4.50);

(d) A dedicated fault category for NFFs (see paragraphs 4.51 to 4.57);

(e) CEI metrics (see paragraphs 4.66 to 4.72);

(f) Fault exclusion from KPIs being no longer permitted (see paragraphs 5.5 to 5.11);

(g) Verification and Audit (see paragraphs 5.20);

(h) Measures to ensure greater transparency in Eircom's performance, and to facilitate comparison of the service delivery and service assurance processes (e.g. via statistical analysis and Z-testing) provided by Eircom to different Access Seekers (see paragraphs 5.21 to 5.25) and

(i) Publication of Eircom's KPI business rules (see paragraph 5.26).

Step 3: Determine the impact on stakeholders

6.29 This section summarises the impact of the proposed changes on stakeholders. ComReg seeks to consider the potential burden incurred by Eircom in complying with the proposed further specification of the KPI obligations while also considering and evaluating the potential benefits that would accrue to Eircom, its wholesale customers, and End Users as a result of the obligations being imposed.

Option 1: Withdraw the obligation to publish KPIs

6.30 ComReg's preliminary view is that the withdrawal of the obligation to publish KPIs would have a detrimental effect on Access Seekers. Since their implementation in 2011, KPIs have contributed to a higher level of transparency in Eircom's services, demonstrating equivalence (or lack thereof) between the products and services offered to its wholesale customers, compared to that offered to its own downstream arm, and helping to establish Access Seekers' (as well as End Users' and ComReg's) confidence in Eircom's wholesale offerings. On certain occasions in the past, ComReg's analysis of the published KPIs has identified equivalence issues that resulted in ComReg opening a compliance investigation and issuing an Opinion of Non-compliance[71] to Eircom. As a result of these compliance investigations, Eircom implemented process changes to address the identified equivalence issues. This ensured that issues relating to the implementation of Eircom's non-discrimination obligation could be addressed, for the benefit of Access Seekers and ultimately, End Users. Therefore, the publication of the KPIs serves as an important tool for ComReg, and potentially Access Seekers in dispute cases, to identify issues and to effectively monitor Eircom's compliance with its obligations. As a result, ComReg considers that withdrawing the obligation to publish KPIs would hamper the effective application of Eircom's non-discrimination obligations and would reduce overall transparency and is, therefore, not appropriate or justified.

Option 2: Leave the current transparency obligation to publish KPIs unchanged

6.31 ComReg's preliminary view is that leaving the current KPIs unchanged would also be inappropriate. The current KPIs were specified in 2011. In the interim, significant changes have impacted the KPIs, including, but not limited to, the introduction of NGA access network technology, changes to the demand pattern for CGA products and services, the introduction of a new service delivery model (i.e. appointments based) and changes to market definitions that existed in 2011. These changes mean that current KPIs are now out-of-date and are becoming progressively less meaningful and useful over time. Therefore, in ComReg's preliminary view, to leave the current KPI metrics unchanged would result in a similar outcome to withdrawing the obligation to publish KPIs i.e. it would hamper the effective application of the non-discrimination obligations and would reduce overall transparency, and consequently, Access Seekers (and ultimately End Users) would be negatively impacted. Therefore, ComReg does not consider that leaving the current KPIs unchanged would be appropriate or justified.

[71] Reference Number: 16/102, Reference Number 16/101, Reference Number: 16/100, and Reference Number: 16/99

Option 3: Further specify the current transparency obligations to publish KPIs as set out in this Consultation

6.32 This option involves further specifying to Eircom's transparency obligations with respect to the scope and content of KPI metrics to be published, and certain changes relating to the processing and publication of KPIs, as summarised in paragraphs 5.2 to 5.8 above. ComReg considers it appropriate to implement these proposed changes collectively because the proposals are complementary to each other and each of them is required to deliver the overall improvement in transparency that is considered necessary, to ensure the effectiveness of the non-discrimination obligation and to provide a useful basis for ComReg (and other stakeholders) to monitor Eircom's performance or compliance with its obligations. Therefore, ComReg considers it appropriate to assess the impact of the proposals in this Consultation on stakeholders collectively, rather than assessing each proposed change to the KPIs on a separate and individual basis.

Impact on Eircom

6.33 ComReg acknowledges that additional effort would be necessary for Eircom in order to produce the updated set of KPI metrics associated with its regulated wholesale products and services. However, ComReg considers that the additional effort should not be overly burdensome for Eircom for the reasons outlined below.

6.34 ComReg notes that Eircom's ordering, service delivery and service assurance processes are automated for its high-volume products and services. These automated systems control, track and report status information of orders as they progress from creation to completion. More importantly, the data from the various automated systems, which manage end-to-end order flow, are gathered, transferred to, and loaded into, an Enterprise Data Warehouse, thereby creating a centralised data repository **Error! Bookmark not defined.**.

6.35 More specifically, ComReg understands from Eircom's KPI documentation, including in particular the document entitled "*Business Rules for Metrics in KPI Equivalence Report*" that data from Eircom's Operation Support Systems is gathered using a File Transfer Protocol (hereafter, '**FTP**') and processed using Extract Transform and Load (hereafter, '**ETL**') procedures. The resulting data set is stored in Eircom's Enterprise Data Warehouse, which is processed using software modules to create the KPI metrics tables for publication.

6.36 The net effect of the proposals set out in this Consultation will be an evolution of Eircom's KPI processing capabilities with the continued publication of existing KPIs and new KPIs. New KPIs will be generated by processing data already available to Eircom from its Operation Support Systems and building upon Eircom's existing capabilities and expertise.

6.37 Furthermore, the publication of performance metrics would also generate benefits for Eircom, since the published data would enable Eircom greater visibility over the performance of its own wholesale products, and will help Eircom to identify potential equivalence issues both at the industry level and between individual Access Seekers, should they exist. Also, the metrics could be used to identify process and other changes so that Eircom can hone its wholesale products and services[72] to ensure the best possible quality of experience for End Users.

Impact on Access Seekers

6.38 The proposed changes would improve the ability of wholesale customers to compare the performance of Eircom's regulated wholesale inputs with that of retail equivalents The improved transparency would instil wholesale customers with greater confidence in Eircom's regulated wholesale products, by offering greater knowledge on the performance of Eircom's wholesale product suite. As a result of increased visibility of Eircom's ongoing wholesale performance, wholesale customers should have greater confidence and be more comfortable investing in markets dependent upon Eircom's regulated wholesale inputs. This should, in turn, promote competition in the associated downstream retail markets.

Impact on End Users

6.39 The proposed changes would afford End Users the confidence that Eircom's competitors are able to compete on a level playing field in the downstream retail markets and provide End Users with greater clarity around the performance of their telecommunications productsImpact on regulation

6.40 The proposed changes would provide a mechanism that allows ComReg to effectively and efficiently monitor Eircom's compliance with its non-discrimination obligations in the aforementioned relevant markets. In addition, the changes would also meet ComReg's ultimate strategic objective of promoting competition in the markets concerned for the benefit of End Users.

Step 4: Determine impact on competition

6.41 ComReg provided examples of potential competition problems and their impact on competition and End Users[73]. ComReg notes that its objective in regulating each market is to prevent the restriction or distortion of competition and to promote effective competition in downstream and related markets.

[72] For instance, consider the hypothetical situation where the NFF rates for Access Seekers and Eircom is 55percentage for all reported faults. This may indicate that training of field staff is required or that other process changes may be required.
[73] See Paragraphs 8.1 to 8.2 of FACO Decision, see paragraphs 11.1 to 11.7 of WLA Decision, and see paragraphs 6.1 to 6.8 of WLA Decision

6.42 The imposition of appropriate and specific *ex-ante* remedies to address such competition problems in the relevant markets was discussed and justified in ComReg's FACO, WCA and WLA Decisions, which established it was appropriate and justified to require Eircom to publish KPI metrics as part of its transparency obligations in those markets.

6.43 The further specification of the existing transparency obligations to publish a broader and updated set of KPIs in this Consultation is specifically aimed at addressing vertical leveraging (i.e. quality discrimination[74]) competition problems in a more targeted manner in those markets.

6.44 Without the proposed changes to KPI metrics important process points in the ordering, provisioning and fault repairing would not be monitored or would not be effectively monitored.

Step 5: assess the impacts and choose the best option

6.45 Having assessed the potential burden in terms of the changes Eircom will need to make to its KPI processing capabilities versus the benefits arising from having a more up-to-date, robust and granular set of KPIs that monitor the most relevant process points of interest to stakeholders, ComReg considers that the changes proposed in this Consultation are justified, reasonable and proportionate for the following reasons:

(a) The effort incurred in implementing the proposed measures is not considered overly burdensome, taking account of the current KPIs already produced by Eircom and modifications required to current processes for gathering, processing and producing the data set, and publication of KPIs;

(b) The publication of product performance metrics helps Eircom to demonstrate the performance of its wholesale products to existing and potential wholesale Access Seekers, as well as compliance with regulatory obligations imposed by ComReg;

(c) The benefits of the proposed KPIs would be substantial in terms of enhancing investor and consumer confidence in Irish telecommunications markets and the resulting promotion of competition and reduction of ongoing regulation costs. The benefits would apply across the board to Eircom, Access Seekers, End Users and to ComReg.

(d) The KPIs can be used by Eircom as a form of control to help identify issues and mitigate the potential risk of non-compliance.

[74] Quality discrimination means providing downstream competitors with wholesale inputs at a lower quality of service (or inferior information) to that which Eircom provides to its own downstream arm (or to certain other competitors). For example, the Eircom could give priority to its own retail customers when ordering, provisioning and fault repairing.

6.46 On the basis of the foregoing, the anticipated benefits associated with the proposed changes to the KPI metrics, namely a strengthened regulatory and competitive process capable of delivering important pricing and product innovations to End Users, mean that, overall, ComReg considers the benefits to exceed the burden involved. ComReg therefore considers that it is justified, reasonable and proportionate to proceed to consult on Option 3.

Annex: 1 DRAFT – Decision Instrument

1 STATUTORY POWERS GIVING RISE TO THIS DECISION INSTRUMENT

1.1 This Decision Instrument is made by the Commission for Communications Regulation:

(i) Pursuant to and having regard to sections 10 and 12 of the Communications Regulation Act 2002 and Regulation 16 of the Framework Regulations;

(ii) Pursuant to Regulation 18 of the Access Regulations;

(iii) Pursuant to Regulation 18(1)(a) of the Authorisation Regulations;

(iv) Having regard to Regulations 8, 9 and 10 of the Access Regulations;

(v) Having regard to Regulation 10(13) of the Framework Regulations;

(vi) Having, where applicable, pursuant to Section 13 of the Communications Regulation Act 2002, complied with Ministerial Policy Directions;

(vii) Having regard to ComReg Decision D05/15, including in particular Section 9 and Section 10.15 of the FACO Decision Instrument;

(viii) Having regard to ComReg Decision D10/18, including in particular Section 9 and Section 10.18 of the WLA Decision Instrument and Section 9 and Section 10.17 of the WCA Decision Instrument;

(ix) Having regard to the analysis and reasons set out in ComReg Document No. 21/33;

(x) Having consulted with, and taken into account the submissions received from, interested parties, pursuant to Regulations 12(3) of the Framework Regulations;

(xi) Having notified the proposed final decision to the European Commission, BEREC and the national regulatory authorities of other EU Member States pursuant to Regulation 27 of the Framework Regulations and at the same time published the proposed final decision in accordance with Article 32 of the EECC by way of Information Notice ●/●;

(xii) Having regard to the analysis and reasons set out in ComReg Document ●/● *[the final decision document to which the Decision Instrument is an annex];*

(xiii) Having taken the utmost account of the comments received from the European Commission.

1.2 This Decision Instrument shall be construed consistently with the provisions of ComReg Decision D10/18, ComReg Document No.18/94 and ComReg Decision D05/15, Document No. 15/82 to the extent that it further specifies the obligations contained therein.

PART I – GENERAL PROVISIONS

2 DEFINITIONS

2.1 In this Decision Instrument, unless the context otherwise requires:

"Access" shall have the same meaning as under Regulation 2 of the Access Regulations;

"Access Regulations" means the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011), as may be amended from time to time or replaced with equivalent effect;

"Authorisation Regulations" means the European Communities (Electronic Communications Networks and Services) (Authorisation) Regulations 2011 (S.I. No. 335 of 2011);

"Communications Regulation Act 2002" means the Communications Regulation Act 2002 (No. 20 of 2002), as amended;

"ComReg" means the Commission for Communications Regulation, established under Section 6 of the Communications Regulation Act 2002;

"ComReg Decision D10/18" means ComReg Document No. 18/94, entitled "Market Review – Wholesale Local Access (WLA) provided at a Fixed Location & Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products: Response to Consultation and Decision", dated 19 November 2018;

"ComReg Decision D05/11" means ComReg Document No. 11/45, entitled "Response to Consultation and Decision on the Introduction of Key Performance Indicators for Regulated Markets", dated 29 June 2011;

"ComReg Decision D05/15" means ComReg Document No. 15/82, entitled "Market Review – Wholesale Fixed Voice Call Origination and Transit Markets", dated 24 July 2015;

"Decision Instrument" means this decision instrument which is made in accordance with the statutory powers and requirements set out in Section 1;

"Effective Date" means the date set out in Section 14.2 of this Decision Instrument;

“Eircom” means Eircom Limited, a company incorporated in Jersey (Number 116389), registered as a Branch in Ireland (Number 907674), with an Irish registered Branch Office at 2022 Bianconi Avenue, Citywest Business Campus, Dublin 24, D24 HX03;

“End User(s)” shall have the same meaning as under Regulation 2 of the Framework Regulations. For the avoidance of doubt, End User(s) shall be deemed to include any natural or legal person who facilitates or intends to facilitate the provision of public communications networks or publicly available electronic communications services to other End Users and who is not acting as an Undertaking;

“FACO Decision Instrument” means the Decision Instrument at Appendix H of ComReg Decision D05/15;

“Framework Regulations” means the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011);

“Implementation Date” means the date set out in Section 4.2 of this Decision Instrument;

“Publicly available wholesale website” means the website, or that part of a website, used by Eircom in respect of its wholesale business that is accessible to the general public;

“Regulated Product or Service” means a product, service or associated facility which Eircom is required to provide under ComReg Decision D05/15 or ComReg Decision D10/18, and may include a Retail Equivalent;

“Relevant Decision Instrument” means the WLA Decision Instrument, the WCA Decision Instrument, or the FACO Decision Instrument;

“Retail Equivalent” means the network products and services that Eircom self-consumes when providing retail products and services to End Users which are comparable in functionality to the products and services consumed by Access Seekers;

“Undertaking” shall have the same meaning as under Regulation 2 of the Framework Regulations;

“WCA Decision Instrument” means the Decision Instrument at Annex 21 of ComReg Decision D10/18;

“Working Day” means Monday to Friday excluding bank and public holidays;

"WLA Decision Instrument" means the Decision Instrument at Annex 20 of ComReg Decision D10/18.

"Quarter" means means a 3 month period (July to September, October to December, January to March or April to June) of a calendar year.

3 SCOPE AND APPLICATION

3.1 This Decision Instrument shall apply to Eircom and its subsidiaries and any related companies, and any entity which it owns or controls, and any entity which owns or controls Eircom, and its successors and assigns, and the terms "subsidiary" and "related company" shall have the meaning ascribed to them in the Companies Act 2014.

3.2 This Decision Instrument specifies, and hereby directs Eircom to comply with, the following requirements:

3.2.1 Requirements relating to Eircom's obligation to publish KPIs under Section 10.18 of the WLA Decision Instrument, Section 10.17 of the WCA Decision Instrument and Section 10.15 of the FACO Decision Instrument and references therein to ComReg Decision D05/11 shall be construed as references to this Decision and Decision Instrument; and

3.2.2 Requirements to provide ComReg with certain information that is necessary for the verification of compliance by Eircom of its obligation of non-discrimination under Section 9 of the WLA Decision Instrument, Section 9 of the WCA Decision Instrument and Section 9 of the FACO Decision Instrument.

PART II – KEY PERFORMANCE INDICATORS

4 REGULATED PRODUCTS AND SERVICES

4.1 Eircom is required to monitor performance in respect of its provision of the Regulated Products and Services which it is required to provide under ComReg Decision D10/18 and ComReg Decision D05/15, including, where applicable, the Retail Equivalent products and services which Eircom consumes for its own purposes and which are comparable in functionality to the products and services consumed by Access Seekers.

4.2 Eircom shall commence monitoring of performance for the Regulated Products and Services on the first day of the first Quarter six months after the Effective Date (the '**Implementation Date**') and ensure that all necessary measures for the monitoring of performance as further detailed in this Decision Instrument have been put in place by the Implementation Date.

4.3 Eircom shall, within four weeks of the Effective Date, notify to ComReg, and at least 15 Working Days in advance of the Implementation Date, publish a list of

the Regulated Products and Services (the '**List**' or the '**List of Regulated Products and Services**') which fall within the scope of Section 4.1 on its publicly available wholesale website in the format set out in Schedule 2, as notified to ComReg or amended as ComReg may direct. Eircom shall keep the List up to date, including without limitation in terms of the Regulated Products and Services which fall within the scope of Section 4.1 and the monitoring of a new product or services added to the List shall commence immediately on the launch of the product unless otherwise agreed on Eircom's request by ComReg, in the manner set out in Section 7 below.

4.4 On or without Eircom's application, ComReg may review the list of Regulated Products and Services published by Eircom and following consultation as and if applicable, may direct Eircom to amend the List including without limitation to add, or withdraw, a Regulated Product and Service from the List.

5 KPI METRICS

5.1 Each Quarter from the Implementation Date, Eircom shall collect and retain the data that is necessary for monitoring the performance of each Regulated Product or Service ('**Quarterly Data**') in term of the following indicators:

- Ordering,
- Provisioning and Supply,
- Faults and Repair, and
- Quality of Supply,

and measure performance by reference to the performance metrics that are applicable to the relevant Regulated Products and Services calculated in accordance with the definitions and requirements set out in Schedule 3 ('**KPI Metrics**').

5.2 ComReg may amend the definitions and requirements set out in Schedule 3 and any such amendment shall apply upon six months' notice to Eircom, following notification to Eircom and publication by ComReg.

5.3 Eircom shall ensure that the KPI Metrics are calculated on the basis of the full set of the Quarterly Data as collected and in accordance with the requirements specified in Schedule 3 from time to time. Eircom shall set out in full the rules, known as the "business rules", applied to the data to arrive at the KPI Metrics, and make them available on Eircom's publicly available website (save that confidential and commercially sensitive information may be redacted for publication) at least 5 Working Days in advance of the publication of the first KPI Report required under Section 6 below. Eircom may not provide in the business rules for the application of filters, and may not apply filtering, to the Quarterly Data, including in particular as regards the faults to be taken into account for the purpose of monitoring performance.

5.4 Where demand for a Regulated Product or Service falls below the population threshold from which meaningful conclusions can be drawn from the data, Eircom may seek the agreement of ComReg in writing to cease the monitoring of the performance of the Regulated Product or Service. ComReg may in respect of the Regulated Product or Service decide, which decision shall be made public, to:

5.4.1 Accede to Eircom's request in full, in which case Eircom shall update without delay the List of Regulated Products and Services; or

5.4.2 Refuse Eircom's request in full, in which case monitoring of performance shall continue in accordance with the requirements under this Decision Instrument; or

5.4.3 Accede to Eircom's request in part, in which case Eircom shall continue to monitor performance by reference to the KPI Metrics as specified by ComReg.

5.5 ComReg may for the purpose of Section 5.4 consult with other Undertakings and/or seek input from third-party experts, as ComReg considers appropriate.

6 KPI REPORT

6.1 From the Implementation Date, at the end of each Quarter, within 30 Working Days of the end of the Quarter to which the KPI Metrics relate, Eircom shall furnish the KPI Metrics to ComReg, in the format set out in Schedule [4] (the '**KPI Report**') including an editable comma separate file of the KPI Report and at the same time, publish on its publicly available wholesale website the KPI Report excluding any KPI metric which is identified to be for ComReg only in Schedule [3] ('the **Non-Confidential KPI Report**').

6.2 Eircom shall ensure that provide true and accurate information in the KPI Report.

6.3 Where Eircom identifies anomalies with the Quarterly Data or the KPI Metrics in respect of any Quarter, Eircom shall investigate those anomalies and seek to rectify them as soon as possible and in any event within 30 Working Days of the end of Quarter to which the data relate, and inform ComReg. Where anomalies remain unresolved at the end of the 30 Working Days, Eircom shall:

(i) Furnish the KPI Report to ComReg and publish the Non-Confidential KPI Report setting out the issues arising and unresolved together with the expected timeline for resolution;

(ii) Update ComReg of the investigation's progress at least every ten Working Days until resolution;

(iii) Following conclusion of the investigation, publish the outcome of its findings and, if necessary, amend or replace the KPI Report and the Non-Confidential KPI Report.

7 NEW PRODUCT AND AMENDMENT TO EXISTING PRODUCT

7.1 The applicable KPI Metrics for a new product or an amended product within the meaning of the Relevant Decision Instruments shall be the KPI Metrics applicable to the existing Regulated Product or Service that is the nearest equivalent in terms of functionality.

7.2 When Eircom introduces a new product, or Eircom makes an amendment to an existing product, in each case within the meaning of the applicable Relevant Decision Instrument, Eircom shall include as part of the documents notified to ComReg in accordance with the requirements of the Relevant Decision Instrument a draft updated List and set out the detail of the KPI Metrics and calculations which apply in accordance with Section 7.1. Eircom shall publish the updated List at the same time that the relevant documents required to be published under the Relevant Decision Instrument are published and performance monitoring for the new or amended product shall commence immediately upon launch, by reference to the KPI Metrics as notified or as otherwise directed by ComReg within the notification period under the Relevant Decision Instrument, including without limitation further to Section 7.3 below.

7.3 On notifying ComReg of a new product under the Relevant Decision Instrument, Eircom may request that the commencement of performance monitoring be delayed until a specified date, setting out the reasons therefor, and ComReg shall within the notification period under the Relevant Decision Instrument grant or refuse, in part or in full, Eircom's request as follows:

7.3.1 ComReg may refuse Eircom's request in full, in which case Eircom shall commence monitoring the performance of the new product immediately on launch; or

7.3.2 ComReg may accept Eircom's request for delay, in which case Eircom shall mark in the List the date on which monitoring of the performance of the new product will commence, which date shall be the date notified to ComReg or another date directed by ComReg as the case may be; or

7.3.3 ComReg may accept Eircom's request in part, namely in respect only of certain of the KPI Metrics by which performance is measured in accordance with Section 5, in which case Eircom shall commence monitoring the performance of the new product immediately on launch in respect of the relevant KPI Metrics [and ComReg may as it sees fit amend Schedule 3].

8 VERIFICATION AND AUDIT

8.1 Eircom shall retain the Quarterly Data for a period of two years following the end of the Quarter to which the data relate.

8.2 Strictly without limitation to the exercise of its statutory powers at any point in time, ComReg may request in writing copy of any Quarterly Data for the purpose of and Eircom shall meet any such request within 15 Working Days where the request is made within two years of the end of the Quarter to which the data relate, or as otherwise agreed with ComReg.

8.3 In particular, ComReg may from time to time request one or more Quarterly Data sets with the view to performing checks and statistical analysis and producing additional KPI metrics for the purpose of verifying compliance with Eircom's obligations of non-discrimination. ComReg may publish any such additional KPI Metrics as ComReg believes is appropriate in accordance with statutory requirements and its statutory powers.

8.4 ComReg may from time to time audit, or cause to be audited by a third party, the processes used by Eircom to collect, compile, calculate and report the KPI Metrics, including without limitation the processes used by Eircom for the collection of source data, the processing of the source data for KPI Metrics, the processing of the KPI Metrics, the application of the business rules, the calculation of KPI Metrics, and the KPI reporting processes, on giving Eircom one month's advance notice of the audit and its scope, and Eircom shall facilitate ComReg's access to all relevant documentation and systems.

PART III – OPERATION AND EFFECTIVE DATE

9 STATUTORY POWERS NOT AFFECTED

9.1 Nothing in this Decision Instrument and these Directions shall operate to limit ComReg in the exercise and performance of its statutory powers or duties conferred on it under any primary or secondary legislation in force prior to or after the Effective Date of this Decision Instrument.

10 MAINTENANCE OF OBLIGATIONS

10.1 Unless expressly stated otherwise in this Decision Instrument, all obligations and requirements contained in Decision Notices and Directions made by ComReg applying to Eircom and in force immediately prior to the Effective Date of this Decision Instrument, including all obligations specified in ComReg Decision D10/18 and ComReg Decision [D05/15] continue in force and Eircom shall comply with same.

11 WITHDRAWAL AND TRANSITIONAL ARRANGEMENTS

11.1 ComReg Decision D05/11 is hereby withdrawn and any references to that decision in any ComReg decisions or directions shall be construed as a reference to this Decision Instrument from the Effective Date, unless the context otherwise requires, save that Eircom shall continue to meet the requirements of ComReg Decision D05/11 until the Implementation Date.

12 CONFLICT

12.1 For the avoidance of doubt, to the extent that there is any conflict between a ComReg Decision Instrument or ComReg document dated prior to the Effective Date and Eircom's obligations now set out herein, this Decision Instrument shall prevail.

13 SEVERANCE

13.1 If any Section(s), clause(s) or provision(s), or portion(s) thereof, contained in this Decision Instrument, is(are) found to be invalid or prohibited by the Constitution, by any other law or judged by a court to be unlawful, void or unenforceable, that(those) Section(s), clause(s) or provision(s), or portion(s) thereof, shall, to the extent required, be severed from this Decision Instrument and rendered ineffective as far as possible without modifying the remaining Section(s), clause(s) or provision(s), or portion(s) thereof, of this Decision Instrument, and shall not in any way affect the validity or enforcement of this Decision Instrument or other Decision Instruments.

14 PUBLICATION, NOTIFICATION AND EFFECTIVE DATE

14.1 This Decision Instrument shall be published on ComReg's website (www.comreg.ie) and notified to Eircom.

14.2 The Effective Date of this Decision Instrument shall be the date of its notification to Eircom.

14.3 This Decision Instrument shall remain in force until further notice by ComReg.

GARRETT BLANEY
COMMISSIONER
THE COMMISSION FOR COMMUNICATIONS REGULATION
THE […]TH DAY OF […] 202[.]

SCHEDULE 1

DEFINITIONS

1. Acronyms used in this Schedule, in Schedule 2 [List], Schedule 3 [Metrics] and Schedule 4 [Tables] shall be understood as follows:

   BS+, Bitstream plus
   CGA, Current generation access
   DOA, Dead on arrival
   DSL, Digital Subscriber Line
   ELF, Early life failures
   FTTC, Fibre to the cabinet
   FTTH, Fibre to the home
   MPC, Multiple pending clears
   NGA, Next generation access
   POTs, Plain old telephone service
   PSTN, Public switched telephone network
   RWT , Right when tested
   SB-WLR, Single billing wholesale line rental
   ULMP, Unbundled line metallic path
   VUA, Virtual unbundled access
   WHL, Whitelabel

2. The following definitions shall apply for the purpose of the Decision Instrument, this Schedule 1, Schedule 2, Schedule 3 and Schedule 4 of the Decision Instrument:

   "**Accepted order**" means the Order has been accepted by Eircom, the operator has submitted an Order which contains all the required data within the mandatory fields.

   "Access Line" means the connection, either physical or logical, between an End User's premises and the physical point where access is provided to Eircom's network, and such connections include without limitation a connection from the Copper Network Termination Unit to the Local Switch, RSU or MSAN, a connection from the Optical Network Termination to the Aggregation node, a connection from the Fibre Network Termination Unit to the Aggregation node, a connection from the Copper Network Termination Unit to Main Distribution Frame, a connection from the Optical Network Termination to the Optical Distribution Frame, and a connection from the Fibre Network Termination Unit to the Optical Distribution Frame.

"Access Path" means the connection from the NTU/ONT in the End User's premises to the Point of Handover, including the MDF (for metallic) and the ODF (for fibre) in the Exchange, and (for virtual access) the WEIL at the serving Aggregation Node for the End User, i.e., at the MPoP;

"Access Seeker" means a Service Provider ('**SP**') that purchases wholesale services from another SP.

"Aggregation Node" means a network concentration point for Access Paths.

"All Other Connections" means Lines that are not In-Situ SB-WLR Connections and includes those that are new-build and Pending Available.

"All Other Retail Connections" means Lines that are not In-Situ Retail PSTN Connections and includes those that are new-build and Pending Available.

"All Retail Connections" means In-Situ Retail Connections and All Other Retail Connections.

"All Wholesale Connections" means In-Situ Wholesale Connections and All Other Wholesale Connections.

"Appointment Based order" means an order in respect of a Line that is not Electronically Enabled or is Non in-situ for which completion requires a technician's visit at the End User's premises.

"**Bitstream**" means Eircom's wholesale product which consists of an Access Path to the End User's premises and a transmission service to a defined set Points of Handover.

"Bitstream Plus or BS+" means a specific implementation of the Bitstream Wholesale product. The Bitstream Plus product is described in detail in Eircom's product description "NGA Product Description Bitstream Plus" V3.0 dated 16 June 2017;

"Civil Engineering Infrastructure" or "CEI" means the physical access path facilities deployed by Eircom to host cables such as copper wires, optical fibre and co-axial cables. It includes, but is not limited to, subterranean or above-ground assets such as Sub-Ducts, Ducts, Chambers and Poles.

"CGA Fault" means an incident of disrupted or degraded Bitstream service excluding PSTN/SB-WLR related fault.

"Clear – Permanent" means the issue has been permanently cleared and the trouble ticket has been closed.

"Completed Order" means the order status used by Eircom to indicate that all tasks relating to the Order are finished and the billing commences against the account / telephone number.

"Completion Date" means the date an order was posted on the system for billing purposes.

"**Copper Network Termination Unit**" means the passive copper physical interface which provides the service demarcation or Point of Handover of the wholesale service within the customer premises.

"Customer" means a natural or legal person, or their representative making a valid request for a service at a specified address or the operator submitting the SB-WLR order in the case of wholesale orders.

"Data" means the data relating to the KPI Metrics.

"Data Collection Period" means the quarterly period in respect of which Eircom collects Data. There are four Data Collection periods in a Year: 1 July to 30 September; 1 October to 31 December; 1 January to 31 March and 1 April to 30 June.

"Date received" means the date that an order is first registered on the order handling system.

"Day" means a calendar day.

"Dead on Arrival" or **"DOA"** means the instances where Eircom advised an Access Seeker that the requested product or service is provisioned. However, the product or service never worked or has a Fault.

"DSL" means digital subscriber line.

"DSL Connection" means the activation of a DSL Service on a DSL Line, excluding any connections that require work to be performed at a Customer premises.

"DSL Fault" means an incident of disrupted or degraded DSL Service excluding PSTN related faults.

"DSL Fault Repair" means the repair of a DSL Fault resulting in the restoration of the DSL Service to normal working order.

"DSL Fault Repair Time" means the duration from the instant of a DSL Fault Report to the instant of DSL Fault Repair.

"DSL Fault Report" means a DSL Fault reported by a Customer which is valid unless it can be reasonably attributed to components outside the Eircom network.

"**DSL Fault Repair**" means the repair of a DSL Fault resulting in the restoration of the DSL Service to normal working order.

"DSL Lines" means those Access Lines that carry a DSL Service.

"DSL Supply Time" means the duration from the date all Valid DSL Connection Orders in respect of a DSL Connection are received by Eircom to the date a working DSL Service is made available for use.

"Early Life Fault (ELF)" means a fault reported in the 28-day period following provisioning and localised and cleared to the Eircom network elements impacted by the provisioning process.

"Electronically Enabled" means a line that is activated remotely, through systems configuration, without the need of physical intervention.

"End User(s)" shall have the same meaning as under Regulation 2 of the Framework Regulations.

"Exchange" means an Eircom network premises or equivalent facility used to house network and associated equipment and may include a Remote Subscriber Unit (RSU). The Exchange sometimes, but not always, houses the MPoP.

"**Found OK or F.OK**" means that Eircom field staff could not identify a network fault.

"Fault" means an incident of disrupted or degraded service.

"Fault Repair" means the restoration of the service to normal working order.

"Fault Repair Time" means the duration from the instant of a Fault Report to the instant of Fault Repair.

"Fault Report" means a Fault recorded that can be attributed to a component(s) of the Eircom network.

"**Fibre Network Termination Unit**" means the passive fibre physical interface which provides the service demarcation or Point of Handover of the wholesale service within the customer premises.

"**Fibre to the Cabinet"** or **"FTTC"** means fibre to the cabinet which is a variant of the FTTN access network architecture where the Node used to house active equipment is the street cabinet.

"Fibre to the Home" or **"FTTH"** means an access network architecture where fibre optic cable is used to connect the End User premises to the ODF in an Exchange.

"Fibre to the Node" or **"FTTN"** means an access network architecture where fibre optic cable is used to connect a Node in the local access network to the ODF in an Exchange.

"In-Situ Connection" means an Electronically Enabled Line and includes pre-cabled.

“Line” means an Access Line which is providing narrowband and/ or broadband service to a Customer.

“**Local Switch**” means the node that connects SB-WLR copper access paths to the network and switch the communications (voice) traffic from the originating local network to the destination local network by means of transmission links.

“MDF” means main distribution frame.

“MSAN or Multi Service Access Node” means the network equipment that connects access paths to the packet switched network. Each MSAN is controlled by a centrally located Soft Switch.

“Metropolitan Point of Presence” or **“MPoP”** means the point of inter-connection between the access and core networks of an Undertaking.

“Migration” means the provision of a service on an existing active Line with another operator.

“NFF” or No Fault Found” means a reported fault which is found not to lie within the Eircom network.

“Network Termination Point” means the physical point at which a subscriber is provided with access to a public communications network; in the case of networks involving switching or routing, the network termination point is identified by means of a specific network address, which may be linked to a Customer number or name.

“Network Termination Unit” or **“NTU”** means the physical interface which provides the service demarcation or Point of Handover of the wholesale service within the customer premises.

“NGA Fault” means an incident of disrupted or degraded VUA or Bitstream plus services excluding PSTN/SB-WLR related faults

“NGA orders” include Wholesale VUA, Wholesale BS+, WHL and Retail NGA orders, and “type of NGA orders” shall be understood accordingly.

“**Number Port or Porting**” shall have the same meaning as under Regulation 25 of the Universal Service Regulations.

“**No entry obtained**” means in respect of a fault, that it could not be repaired by reason that entry to the End User’s premises was required for the technician, but the technician could not enter the End User’s premises.

“Non in situ order” means an order that requires intervention by a field technician in order to be completed.

“Non-Standard Order” means an order that cannot be progressed without the completion of an additional activity such as provision of new cable infrastructure.

“ODF” means optical distribution frame.

“ONT” or **“Optical Network Terminal”** means the device that terminates the fibre Access Path at the End User’s premises.

“Appointment Based” means all orders with an appointment requirement which are not Electronically Enabled or Non in-situ.

“Pending Clear or PC” means the code used by Eircom to indicate that an Eircom technician has attended to the logged fault and is waiting operator confirmation of fault resolution.

“POTS Based or “PB” means that both the narrowband and broadband or the virtual access path products are supplied by Eircom.

“PSTN” means Public Switched Telephone Network**.**

“PSTN Fault” means an incident of disrupted or degraded PSTN services.

“Point of Handover” means the physical point at which two networks are interconnected to allow traffic to pass between these networks.

“Point-of-Validation” means date and time when the validation of a CEI access order is completed.

“Quarter” (year) means a 3month period (being either July to September, October to December, January to March or April to June) of a calendar year.

“**Recorded order**” means an order entered into the U.G. that has not yet been accepted or rejected by the UG.

“**Referred order**” means that an order er has been assigned a non-standard reason code that Eircom is responsible for resolving.

“**Rejected order”** means an order for which validation failed on the U.G.

“**Repeat Fault**” means a Fault that is reported in respect of a Line within 28 days of a Fault on that same Line and that is not the result of a separate network failure.

“**Request to Cancel**” means in some scenarios where the data on the order is incorrect the order must be cancelled and re-issued to allow delivery of the order complete.

“RSU” or “**Remote Subscriber Unit**” means the node that connects SB-WLR copper access paths to the network and the that runs under the control of a Local switch- each RSU is parented from a local Switch.

"**Right-When-Tested or RWT"** means that service centre staff could identify a network fault.

"Standalone" or "SA" means in respect of a Connection, that only the broadband or virtual access path product is supplied by Eircom.

"Supply Time" means the duration from the date a Valid Service Order in respect of a Line is received by Eircom to the date the working service is made available for use.

"**Soft Switch**" means a node connected to the IP network that controls the switching of voice traffic to and from SB-WLR lines connected to MSANs

"Transferred Connection" means "all Electronic Transfer of Broadband services to/from OAOs (incl. eir Retail) (excludes transfers with jumpering)

"**Undeliverable**" means in respect of an order, a validated order that cannot be delivered.

"Unified Gateway" or **"U.G"** means the interface offered by Eircom to Access Seekers into its Operation Support Systems to place orders for regulated wholesale services, products, services and facilities.

"Universal Services Regulations" means the European Communities (Electronic Communications Networks and Services) (Universal Service and Users' Rights) Regulations 2011 (S.I. No. 337 of 2011)

"Valid Service Order" means an order by a Customer for a Line, that is not later deemed invalid during the Data Collection period.

"**Virtual Unbundled Access**" or **"VUA"** means the wholesale active access, enhanced Layer 2, product provided by Eircom allowing the handover or interconnection of aggregate End Users' connections at the MPoP, on a Standalone basis, or with SB-WLR.

"Working Day" means 09:00 – 17:00 from Monday – Friday (excluding Saturday, Sunday, bank and public holidays).

"**Working Hour**" means any 60 minutes duration between 9.00 – 17.00 from Monday – Friday (excluding Saturday, Sunday, bank and public holidays).

"**Working Line**" means a Line that has an active service.

"Year" means the period between 1 July, Year X to 30 June, Year X + 1.

SCHEDULE 2

RELEVANT PRODUCTS AND SERVICES AND RETAIL EQUIVALENTS

1. The definitions set out in section 2 of the decision instrument and Schedule 1 shall apply to this Schedule 2.

2. Relevant Products and Services including Retail Equivalents include the following:

Wholesale Inputs		Eircom Retail Equivalent	
PRODUCT TYPE	**ORDER TYPE**	**PRODUCT TYPE**	**ORDER TYPE**

SCHEDULE 3

DEFINITION AND CALCULATION OF KPI METRICS

1. **Definitions**

1.1. The definitions capitalised terms set out in section 2 of the decision instrument and schedule 1 shall apply to this schedule 2.

2. **NGA Orders**

2.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of NGA orders, for each type of NGA orders, itemising further separately for FTTC and FTTH POTs based and standalone connections:

METRIC 1. The **total number of NGA orders recorded** within the Data Collection Period

METRIC 2. The **total number of accepted NGA orders** within the Data Collection Period

METRIC 3. The **total number of rejected NGA orders** within the Data Collection Period

METRIC 4. The **total number of Appointment Based NGA orders** within the Data Collection Period

METRIC 5. The **number of referred NGA orders** within the Data Collection Period

METRIC 6. The **total number of cancelled NGA orders** within the Data Collection Period

METRIC 7. The **number of cancel requested NGA orders** within the Data Collection Period

METRIC 8. The **number of completed orders** within the Data Collection Period

METRIC 9. The **number of completed referred orders,** defined as the number of referred NGA orders that were completed within the Data Collection Period

METRIC 10. The **cumulative parked time for referred orders** completed within the Data Collection Period, calculated as the sum of the parked time for referred NGA orders completed within the Data Collection Period

METRIC 11. The **number of undeliverable NGA orders** within the Data Collection Period

METRIC 12. The **number of undeliverable referred NGA orders** defined as the Total number of referred NGA orders that had been set to non-standard that were undeliverable within the Data Collection Period

METRIC 13. The **total number of accepted orders as a percentage of recorded NGA orders** in the Data Collection Period as follows:

(Total number of orders accepted within the Data Collection Period x 100) / (Total number of orders recorded within the Data Collection Period)

METRIC 14. The **total number of rejected NGA orders as a percentage of recorded NGA orders** in the Data Collection Period, calculated for each type of orders as follows:

(Total number of rejected orders within the Data Collection Period x100)/ (Total number of recorded orders within the Data Collection Period)

METRIC 15. The **number of appointed NGA orders as a percentage of accepted NGA orders** in the Data Collection Period, calculated for each type of orders as follows:

(Total number of appointed orders within the Data Collection Period x 100) / (Total number of accepted orders within the Data Collection Period)

METRIC 16. The **number of referred NGA orders as a percentage of accepted NGA orders** in the Data Collection Period, calculated for each type of orders as follows:

(Total number of referred NGA orders within the Data Collection Period x 100) / (Total number of NGA orders accepted within the Data Collection Period)

METRIC 17. **The total number of cancelled NGA orders as percentage of accepted NGA orders** calculated for each type of orders as follows:

(Total number of cancelled NGA orders within the Data Collection Period x 100)/ (Total number of accepted NGA orders within the Data Collection Period)

METRIC 18. The **number of completed NGA orders as a percentage of accepted NGA orders** in the Data Collection Period, calculated for each type of orders as follows:

(Total number of NGA orders completed within the Data Collection Period x 100)/ (Total number of accepted NGA orders within the Data Collection Period)

METRIC 19. The **number of completed referred NGA orders as a percentage of accepted NGA orders** in the Data Collection Period, calculated for each type of orders as follows:

(Total number of referred NGA orders completed within the Data Collection Period x 100) / (Total number of NGA orders completed within the Data Collection Period)

METRIC 20. The **number of undeliverable NGA completed orders as a percentage of accepted NGA orders** in the Data Collection Period, calculated for each type of NGA orders as follows:

(Total number of undeliverable NGA orders within the Data Collection Period x 100) / (Total number of NGA orders accepted within the Data Collection Period)

METRIC 21. The **number of met appointments as a percentage of accepted NGA orders** in the Data Collection Period, calculated for each type of NGA orders as follows:

(Total number of appointments met for appointed NGA orders within the Data Collection Period x 100)/ (Total number of appointed NGA orders within the Data Collection Period)

METRIC 22. The **number of cancelled NGA orders as a percentage of accepted NGA orders**, calculated for each type of NGA orders as follows:

(Total number of cancelled NGA orders within the Data Collection Period x 100) / (Total number of accepted NGA orders within the Data Collection Period)

METRIC 23. The percentage of Cancel requested NGA orders within the data collection period

(Total number of Cancel requested NGA orders within the Data Collection Period x 100) / (Total number of accepted NGA orders within the Data Collection Period)

METRIC 24. The **mean number of appointments per accepted NGA order** in the Data Collection Period, calculated for each type of NGA orders as follows:

(Total number of appointments for NGA orders within the Data Collection Period*100) / (Total number of accepted orders within the Data Collection Period)

METRIC 25. The **mean, median and standard deviation of parked time for completed referred NGA orders** in the Data Collection Period, calculated for each type of NGA orders according to the following formula:

$$\sigma = \sqrt{\frac{\sum(x_i - \mu)^2}{N}}$$

σ - standard deviation
∑ - summation
μ - population mean
N - population size

Where μ is calculated as (Total parked time for completed referred NGA orders within the Data Collection Period*100)/N,

N is the total number of completed referred NGA orders within the Data Collection Period, and

the Median is the middle value in the ascending series of parked time for each of the completed referred NGA orders delivered in the Data Collection Period.

2.2. Metrics 1, 2, 3, 4, 5, 6, 8, 9, 10,11 and 12 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

3. Appointment Based NGA orders

3.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of NGA orders whose delivery is appointment-based, for each type of NGA orders, itemising further separately for FTTC and FTTH POTs based and standalone connections:

METRIC 26. The **number of Appointment Based NGA orders completed within (i.e. <=) 6 working days** in the Data Collection Period

METRIC 27. **The number of Appointment Based NGA orders completed within (i.e. <=) 11 working days** in the Data Collection Period

METRIC 28. **The number of Appointment Based NGA orders completed within (i.e. <=) 21 working days** in the Data Collection Period

METRIC 29. **The number of Appointment Based NGA orders completed within (i.e. <=) 41 working days** in the Data Collection Period

METRIC 30. **The number of Appointment Based NGA orders completed within (i.e. <=) 66 working days** in the Data Collection Period

METRIC 31. **The number of Appointment Based NGA orders completed within (i.e. <=) 133 working days** in the Data Collection Period

METRIC 32. **The mean, median and standard deviation for the number of working days to complete appointed NGA orders** in the Data Collection Period, calculated using the following formula:

$$\sigma = \sqrt{\frac{\sum(x_i - \mu)^2}{N}}$$

σ - standard deviation
∑ - summation
μ - population mean
N - population size

Where μ is calculated as (Total completion time for appointed NGA orders within the Data Collection Period*100)/N,

N is the Total number of completed appointed NGA orders within the Data Collection Period, and

the Median is the middle value in the ascending series of the for each of the completed NGA appointed orders in the Data Collection Period.

METRIC 33. **The percentage of Appointment Based NGA orders completed in the Data Collection Period delivered within (i.e. <=) 6 working days,** calculated as follows:

(Total number of appointed NGA orders completed in the Data Collection Period within (i.e. <=) 6 working days x100)/ (Total number of appointed NGA orders completed in the Data Collection Period)

METRIC 34. **The percentage of Appointment Based NGA orders completed within (i.e. <=) 11 working days**, calculated as follows:

(Total number of appointed NGA orders completed in the Data Collection Period within (i.e. <=) 11 working days x 100) / (Total number of appointed NGA orders completed in the Data Collection Period)

METRIC 35. **The percentage of Appointment Based NGA orders completed in the Data Collection Period within (i.e. <=) 21 working days**, calculated as follows:

(Total number of appointed NGA orders completed in the Data Collection Period which have been completed within (i.e. <=) 21 working days x 100) / (Total number of appointed NGA orders completed in the Data Collection Period)

METRIC 36. **The percentage of Appointment Based NGA orders completed in the Data Collection Period within (i.e. <=) 41 working days,** calculated as follows:

(Total number of appointed NGA orders completed in the Data Collection Period within (i.e. <=) 41 working days x 100) / (Total number of appointed NGA orders completed in the Data Collection Period)

METRIC 37. **The percentage of Appointment Based NGA orders completed in the Data Collection Period within (i.e. <=) 66 working days,** calculated as follows:

(Total number of appointed NGA orders completed in the Data Collection Period within (i.e. <=) 66 working days x 100) / (Total number of appointed NGA orders completed in the Data Collection Period)

METRIC 38. **The percentage of Appointment Based NGA orders completed in the Data Collection Period within (i.e. <=) 133 working days**, calculated as follows:

(Total number of appointed NGA orders completed in the Data Collection Period (i.e. <=) 133 working days x 100) / (Total number of appointed NGA orders completed in the Data Collection Period)

3.2. Metrics 26, 27, 28,29, 30 and 31shall be reported to ComReg only; they shall be kept confidential and shall not be published.

4. Quality of Supply of Appointment Based NGA orders

4.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of the quality of supply of appointment-based NGA orders, for each type of NGA orders, itemising further separately for FTTC and FTTH POTs based and standalone connections:

METRIC 39. The number of Appointment Based NGA orders that are DOA in the Data Collection Period

METRIC 40. The number of Appointment Based NGA orders that are ELF in the Data Collection Period

METRIC 41. The percentage of Appointment Based NGA orders that are DOA in the Data Collection Period, calculated as follows:

(Total number of DOA appointed NGA orders in the Data Collection Period x 100) / (Total number of appointed NGA orders completed in the Data Collection Period)

METRIC 42. The percentage of Appointment Based NGA orders that are ELF in the Data Collection Period, calculated as follows:

(Total number of ELF appointed NGA orders in the Data Collection Period x 100)/ (Total number of appointed NGA orders completed in the Data Collection Period)

4.2. Metrics 39 and 40 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

5. Non In-Situ based delivery NGA orders

5.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of NGA orders with a non in-situ based delivery, for each type of NGA orders, itemising further separately for FTTC and FTTH POTs based and standalone connections:

METRIC 43. The number of non in-situ NGA orders completed within (i.e. <=) 6 working days in the Data Collection Period

METRIC 44. The number of non in-situ NGA orders completed within (i.e. <=) 11 working days in the Data Collection Period

METRIC 45. The number of non in-situ NGA orders completed within (i.e. <=) 21 working days in the Data Collection Period

METRIC 46. The number of non in-situ NGA orders completed within (i.e. <=) 41 working days in the Data Collection Period

METRIC 47. The number of non in-situ NGA orders completed within (i.e. <=) 66 working days in the Data Collection Period

METRIC 48. The number of non in-situ NGA orders completed within (i.e. <=) 133 working days in the Data Collection Period

METRIC 49. The mean, median and standard deviation for the number of working days to deliver non-in situ NGA orders completed in the Data Collection Period, calculated using the following formula:

$$\sigma = \sqrt{\frac{\sum(x_i - \mu)^2}{N}}$$

σ - standard deviation
∑ - summation
μ - population mean
N - population size

Where μ is calculated as: (Total time for completed non in-situ NGA orders within the Data Collection Period*100)/N,

N is the total number of completed NGA orders within the Data Collection Period, and

the Median is the middle value in the ascending series of the for each of the completed NGA orders in the Data Collection Period.

METRIC 50. The percentage of non on-situ NGA orders completed within (i.e. <=) 6 working days in the Data Collection Period, calculated as follows:

(Total number of non in-situ NGA orders completed in the Data Collection Period within (i.e. <=) 6 working days x 100) / (Total number of non in-situ NGA orders completed in the Data Collection Period)

METRIC 51. The percentage of non on-situ NGA orders completed within (i.e. <=) 11 working days in the Data Collection Period, calculated as follows:

(Total number of non in-situ NGA orders completed in the Data Collection Period within (i.e. <=) 11 working days x 100) / (Total number of non in-situ NGA orders completed in the Data Collection Period)

METRIC 52. The percentage of non on-situ NGA orders completed within (i.e. <=) 21 working days in the Data Collection Period, calculated as follows:

(Total number of non in-situ NGA orders completed in the Data Collection Period within (i.e. <=) 21 working days x 100) / (Total number of non in-situ NGA orders completed in the Data Collection Period)

METRIC 53. The percentage of non on-situ NGA orders completed within (i.e. <=) 41 working days in the Data Collection Period, calculated as follows:

(Total number of non in-situ NGA orders completed in the Data Collection Period within (i.e. <=) 41 working days x 100) / (Total number of non in-situ NGA orders completed in the Data Collection Period)

METRIC 54. The percentage of non on-situ NGA orders completed within (i.e. <=) 66 working days in the Data Collection Period, calculated as follows:

(Total number of non in-situ NGA orders completed in the Data Collection Period within (i.e. <=) 66 working days x 100) / (Total number of non in-situ NGA orders completed in the Data Collection Period)

METRIC 55. The percentage of non on-situ NGA orders completed within (i.e. <=) 133 working days in the Data Collection Period, calculated as follows:

(Total number of non in-situ NGA orders completed in the Data Collection Period within (i.e. <=) 133 working days x 100) / (Total number of non in-situ NGA orders completed in the Data Collection Period)

5.2. Metrics 43, 44, 45,46, 47 and 48 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

6. Quality of supply for non on-situ NGA orders

6.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of the quality of supply of non in-situ NGA orders, for each type of NGA orders, itemising further separately for FTTC and FTTH POTs based and standalone connections:

METRIC 56. The number of non in-situ NGA orders that are DOA in the Data Collection Period

METRIC 57. The number of non in-situ NGA orders that are ELF in the Data Collection Period

METRIC 58. The percentage of non in-situ NGA orders that are DOA in the Data Collection Period, calculated as follows:

(Total number of DOA non in-situ NGA orders in the Data Collection Period x 100)/ (Total number of DOA appointed NGA orders completed in the Data Collection Period)

METRIC 59. The percentage of non in-situ NGA orders that are ELF in the Data Collection Period, calculated as follows:

(Total number of ELF non in-situ NGA orders in the Data Collection Period x 100) / (Total number of non in-situ NGA orders completed in the Data Collection Period)

6.2. Metrics 56 and 57 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

7. Electronically enabled NGA orders

7.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of the quality of supply of non in-situ NGA orders, for each type of NGA orders, itemising further separately for FTTC and FTTH POTs based and standalone connections:

METRIC 60. The number of electronically enabled NGA orders completed within (i.e. <=) 2 working days in the Data Collection Period

METRIC 61. The number of electronically enabled NGA orders completed within (i.e. <=) 5 working days in the Data Collection Period

METRIC 62. The mean, median and standard deviation for the number of working days to deliver electronically enabled NGA orders in the Data Collection Period, calculated using the following formula:

$$\sigma = \sqrt{\frac{\sum(x_i - \mu)^2}{N}}$$

σ - standard deviation
∑ - summation
μ - population mean
N - population size

Where μ is calculated as: (Total time for completed electronically enabled NGA orders within the Data Collection Period*100)/N,

N is the total number of completed electronically enabled NGA orders within the Data Collection Period, and

the Median is the middle value in the ascending series of time for each of the completed electronically enabled NGA orders delivered in the Data Collection Period.

METRIC 63. The percentage of electronically enabled NGA orders completed within (i.e. <=) 2 working days in the Data Collection Period, calculated as follows:

(Total number of electronically enabled NGA orders completed within (i.e. <=) 2 working days in the Data Collection Period x 100) / (Total number of electronically enabled NGA orders completed in the Data Collection Period)

METRIC 64. The percentage of electronically enabled NGA orders completed within (i.e. <=) 5 working days in the Data Collection Period, calculated as follows:

(Total number of electronically enabled NGA orders completed within (i.e. <=) 5 working days in the Data Collection Period x 100) / (Total number of electronically enabled NGA orders completed in the Data Collection Period)

7.2. Metrics 60 and 61 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

8. Quality of supply for Electronically Enabled NGA orders

8.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of the quality of supply of electronically enabled NGA orders, for each type of NGA orders, itemising further separately for FTTC and FTTH POTs based and standalone connections:

METRIC 65. The number of Electronically Enabled NGA orders that are DOA in the Data Collection Period

METRIC 66. The number of Electronically Enabled NGA orders that are ELF in the Data Collection Period

METRIC 67. The percentage of Electronically Enabled NGA orders that are DOA in the Data Collection Period, calculated as follows:

(Total number of DOA electronically enabled NGA orders in the Data Collection Period x 100)/ (Total number of electronically enabled NGA orders in the Data Collection Period)

METRIC 68. The percentage of Electronically Enabled NGA orders that are ELF in the Data Collection Period, calculated as follows:

(Total number of ELF electronically enabled NGA orders in the Data Collection Period x 100)/ (Total number of electronically enabled NGA orders in the Data Collection Period)

8.2. Metrics 65 and 66 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

9. NGA Faults

9.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of faults, for each type of NGA orders, itemising further separately for FTTC, FTTC POTs based, FTTH and FTTH POTs based and standalone connections:

METRIC 69. The number of NGA faults cleared within (i.e. <=) 2 working days in the Data Collection Period

METRIC 70. The number of NGA faults cleared within (i.e. <=) 4 working days in the Data Collection Period

METRIC 71. The number of NGA faults cleared within (i.e. <=) 10 working days in the Data Collection Period

METRIC 72. The number of rejected NGA faults in the Data Collection Period

METRIC 73. The number of NGA NFF faults in the Data Collection Period

METRIC 74. The number of NGA faults having RWT in the Data Collection Period

METRIC 75. The number of NGA faults having F.OK in the Data Collection Period

METRIC 76. The number of NGA faults having No Entry Obtained in the Data Collection Period

METRIC 77. The number of repeat faults within 28 days in the Data Collection Period, calculated as the Number of repeat NGA Faults reported with the Data Collection Period occurring within 28 days of repair

METRIC 78. The mean, median and the standard deviation of the number of days to clear faults in the Data Collection Period, calculated using the following formula:

$$\sigma = \sqrt{\frac{\sum(x_i - \mu)^2}{N}}$$

σ - standard deviation
∑ - summation
μ - population mean
N - population size

Where μ is calculated as: (Total time for completed electronically enabled NGA orders within the Data Collection Period*100)/N,

N is the total number of completed electronically enabled NGA orders within the Data Collection Period, and

the Median is the middle value in the ascending series of time for each of the completed electronically enabled NGA orders delivered in the Data Collection Period.

METRIC 79. The percentage of NGA faults cleared within (i.e. <=) 2 working days in the Data Collection Period, calculated as follows:

(The number of NGA faults cleared within 2 working days in the Data Collection Period x 100) / (Total number of NGA faults cleared in the Data Collection Period)

METRIC 80. The percentage of NGA faults cleared within (i.e. <=) 4 working days in the Data Collection Period, calculated as follows:

(The number of NGA faults cleared within 4 working days in the Data Collection Period x 100) / (Total number of NGA faults cleared in the Data Collection Period)

METRIC 81. The percentage of NGA faults cleared within (i.e. <=) 10 working days in the Data Collection Period, calculated as follows:

(The number of NGA faults cleared within 10 working days in the Data Collection Period x 100) / (Total number of NGA faults cleared in the Data Collection Period)

METRIC 82. The percentage of rejected NGA faults in the Data Collection Period, calculated as follows:

(The number of NGA faults rejected in the Data Collection Period) x 100) / (Total number of NGA faults cleared in the Data Collection Period)

METRIC 83. The percentage of NGA Faults NFF in the Data Collection Period, calculated as follows:

(The number of NGA faults deemed NFF in the Data Collection Period) x 100) / (Total number of NGA faults in the Data Collection Period)

METRIC 84. The percentage of NGA faults RWT in the Data Collection Period, calculated as follows:

(The number of NGA faults deemed RWT in the Data Collection Period) x 100) / (Total number of NGA faults in the Data Collection Period)

METRIC 85. The percentage of NGA faults F.OK in the Data Collection Period, calculated as follows:

(The number of NGA faults deemed NEF in the Data Collection Period) x 100) / (Total number of NGA faults in the Data Collection Period)

METRIC 86. The percentage of NGA faults having No Entry Obtained in the Data Collection Period, calculated as follows:

(The number of NGA faults having No Entry Obtained in the Data Collection Period) x 100) / (Total number of NGA faults in the Data Collection Period)

METRIC 87. The percentage of repeat faults within 28 days in the Data Collection Period calculated as the percentage of repeat NGA faults reported with the Dat Collection period occurring within 28 days of repair

9.2. Metrics 71, 72, 73, 74,75,76,77 and 77 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

10. Supply of CGA Bitstream Services

10.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of the quality of supply of CGA Bitstream services, separately for Electronically enabled CGA Bitstream orders, and CGA Bitstream orders requiring field intervention, itemising further separately for POTs based and standalone connections:

METRIC 88. The percentage of Transfer Connection in 2 Working Days in the Data Collection Period, calculated as follows:

(Number of DSL Connections completed within 2 Working Days in the Data Collection Period) x 100 / Number of DSL Connections completed within the Data Collection Period

METRIC 89. The average supply time for Transfer Connection in the Data Collection Period, expressed in Working Days, calculated as follows:

(Sum of DSL Supply Times for DSL Connections completed within the Data Collection Period) / (Total number of DSL Connections completed within the Data Collection Period)

METRIC 90. The quality of supply of Transfer Connection in the Data Collection Period, calculated as follows:

(Number of Faults reported within 28 Days for DSL Connections completed within the Data Collection Period X 100) / (Total number of DSL Connections completed within the Data Collection Period),

noting that for the purpose of the calculation, no separation between Electronically enabled orders, and orders subject to field intervention, is required.

METRIC 91. **The percentage of Other Connections completed in 5 Working Days** in the Data Collection Period, calculated as follows:

(Number of DSL Connections completed within 5 Working Day within the Data Collection Period 100) / Total number of DSL Connections completed within the Data Collection Period,

METRIC 92. **The average supply time for Other Connections** in the Data Collection Period, expressed in Working Days, calculated as follows:

(Sum of DSL Supply Times for DSL Connections completed within the Data Collection Period) / (Total number of DSL Connections completed within the Data Collection Period)

METRIC 93. **Quality of supply of Other Connections** in the Data Collection Period, calculated as follows:

(Number of Faults reported within 28 Days for DSL Connections completed within the Data Collection Period X 100) /
(Total number of DSL Connections completed within the Data Collection Period)

METRIC 94. **Number of Transfer Connection in 2 Working Days** in the Data Collection Period, calculated as the number of DSL Connections completed within 2Working Days in the Data Collection Period

METRIC 95. **Total number of Transfer Connection** in the Data Collection Period, calculated as the number of DSL Connections completed within the Data Collection Period

METRIC 96. **The total supply time for Transfer Connection** in the Data Collection Period, expressed in Working Days, calculated as the Sum of DSL Supply Times for DSL Connections completed within the Data Collection Period

METRIC 97. The number of Other Connections completed in 5 Working Days in the Data Collection Period, calculated as the Number of DSL Connections completed within 5 Working Days within the Data Collection Period

METRIC 98. The total number of Other Connections in the Data Collection Period calculated as the Number of DSL Connections completed within the Data Collection Period.

METRIC 99. The total supply time for Other Connections in the Data Collection Period, calculated as the Sum of DSL Supply Times for DSL Connections completed within the Data Collection Period

METRIC 100. The total number of faults in 28 day of other connections delivery

10.2. Metrics 92, 93, 94, 95, 96,97 and 98 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

11. CGA Bitstream Faults

11.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of CGA Bitstream faults, separately for POTs based and standalone connections, and in each case (save as regards Metric 94) with, and without, multiple Pending Clear:

METRIC 101. The percentage of DSL faults repaired within 2 Working Days in the Data Collection Period, calculated as follows:

(Number of DSL Fault Repairs completed within the Data Collection Period ithin 2 Working Days X 100) / (Total DSL Fault Repairs completed within the Data Collection Period)

METRIC 102. The percentage of DSL faults repaired within 5 Working Days in the Data Collection Period, calculated as follows:

(Number of DSL Fault Repairs completed within the Data Collection Period within 5 Working Days X 100) / (Total DSL Fault Repairs completed within the Data Collection Period)

METRIC 103. **The percentage of DSL faults repaired within 10 Working Days** in the Data Collection Period, calculated as follows:

(Number of DSL Fault Repairs completed within the Data Collection Period within 10 Working Days X 100) / (Total DSL Fault Repairs completed within the Data Collection Period)

METRIC 104. **The average repair time for DSL faults** in the Data Collection Period, calculated as follows:

(Sum of the number of working days for DSL Fault Repairs completed within the Data Collection Period) /
(Total DSL Fault Repairs completed within the Data Collection Period)

METRIC 105. **The quality of repair for DSL faults** in the Data Collection Period, measured as follows:

(Number of repeat DSL Faults reported within the Data Collection Period occurring within 28 days of repair) / (Total DSL Fault Repairs completed within the Data Collection Period)

METRIC 106. **The number of Faults repaired in 2 Working Days** in the Data Collection Period, calculated as the Number of DSL Fault Repairs completed within the Data Collection Period within 2 Working Days

METRIC 107. **The number of Faults repaired in 5 Working Days** in the Data Collection Period, calculated as the Number of DSL Fault Repairs completed within the Data Collection Period within 5 Working Days

METRIC 108. **The number of Faults repaired in 10 Working Days** in the Data Collection Period, calculated as the Number of DSL Fault Repairs completed within the Data Collection Period within 10 Working Days

METRIC 109. **The total number of faults repaired** in the Data Collection Period, calculated as the total number of DSL Fault Repairs completed within the Data Collection Period

METRIC 110. **The total fault repair time** in the Data Collection Period, calculated as the Sum of DSL Fault Repair Times of all DSL Fault repairs completed within the Data Collection Period

METRIC 111. The number of repeat faults within 28 days in the Data Collection Period, calculated as the Number of repeat DSL Faults reported within the Data Collection Period occurring within 28 days of repair

Data Collection Period Metrics 106, 107, 108, 109,110 and111 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

12. Supply of Narrowband Access Services

12.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of the supply of narrowband access services, separately for each of SB-WLR, WHL and Retail PSTN Connections:

METRIC 112. The percentage of In-Situ/EE Connections completed within 2 Working Days in the Data Collection Period, calculated as follows:

(Number of In-Situ Connections completed within the Data Collection Period where the Supply Time is within 2 Working Days X 100) / (Total number of In-Situ Connections completed within the Data Collection Period)

METRIC 113. The average In-Situ/EE Connection Time in the Data Collection Period, calculated as follows:

(Sum of Supply Times of all In-Situ Connections completed within the Data Collection Period) / (Total number of In-Situ Connections completed within the Data Collection Period)

METRIC 114. The quality of supply of In-situ/EE Connections in the Data Collection Period, calculated as follows:

(Number of Faults reported within 28 Days for all In-Situ and All Other Connections completed within the Data Collection Period X 100) / (Total number of In-Situ and All Other Connections completed within the Data Collection Period)

METRIC 115. The Average Connection Time for In-Situ/EE Connections with Number Port in the Data Collection Period, calculated as follows:

(Sum of Supply Times of all In-Situ Connections with Number Port completed within the Data Collection Period) / (Total number of In-Situ Connections completed with Number Port within the Data Collection Period)

METRIC 116. **The Quality of supply for In-Situ/EE Connections with Number Port** in the Data Collection Period, calculated as follows:

(Number of Faults reported within 28 Days for all In-Situ and All Other Connections with Number port completed within the Data Collection Period X 100) / (Total number of In-Situ and All Other Connections completed within the Data Collection Period)

METRIC 117. **The percentage of All Other Connections completed in 10 Working Days** in the Data Collection Period, calculated as follows:

(Number of All Other Connections completed within the Data Collection Period where the Supply Time is within 10 Working Days X 100) / (Total number of All Other Connections completed within the Data Collection Period

METRIC 118. **The Average Supply Time of All Other Connections** in the Data Collection Period, expressed in Working Days, calculated as follows:

(Sum of Supply Times of All Other Connections completed within the Data Collection Period) / Total number of All Other Connections completed within the Data Collection Period

METRIC 119. **The Quality of Supply for All other connections** in the Data Collection Period, calculated as follows:

(Number of Faults reported within 28 Days for All Other Connections completed within the Data Collection Period X 100) /
(Total number of All Other Connections completed within the Data Collection Period)

METRIC 120. **The percentage of Appointment-based Other Connections** in the Data Collection Period, calculated as follows:

(Number of appointment-based Other Connections completed in the Data Collection Period X 100) / (Total number of All Other Connections completed within the Data Collection Period)

METRIC 121. **The number of In-Situ Connections completed within 2 Working Days** in the Data Collection Period, calculated as the number of In-Situ Connections completed within the Data Collection Period where the Supply Time is within 2 Working Days

METRIC 122. **The total number of In-Situ Connections** completed within the Data Collection period

METRIC 123. **The total Supply Time for all In-Situ Connections** in the Data Collection Period, expressed in Working Days, calculated as the Sum of all Supply Times for the In-Situ Connections completed within the Data Collection Period

METRIC 124. **The average Supply Time for In-Situ Connections with Number Port** in the Data Collection Period calculated as follows:

(Sum of Supply Times of all In-Situ Connections with Number Port completed within the Data Collection Period)/ (Total number of In-Situ Connections with Number Port completed within the Data Collection Period)

METRIC 125. **The Quality of Supply for In-Situ Connections with Number Port** in the Data Collection Period calculated as the number of Faults reported within 28 Days for all In-Situ Connections and All Other Connections completed within the Data Collection Period

METRIC 126. **The total number of In-Situ Connections with Number Port** completed in the Data Collection Period

METRIC 127. **The total Supply Time for In-Situ Connections with Number Port** in the Data Collection Period, calculated as the Sum of Supply Times of all In-Situ Connections with Number Port completed within the Data Collection Period

METRIC 128. **The total number of Faults reported within 28 days of completion for In-Situ Connections with Number Port completed** in the Data Collection Period

METRIC 129. **The number of All Other Connections completed in 10 Working Days** in the Data Collection Period, calculated as the number of All Other Connections completed within the Data Collection Period where the Supply Time is within 10 Working Days

METRIC 130. **The total number of All Other Connections** completed within the Data Collection Period

METRIC 131. **The total Supply Time for All Other Connections** in the Data Collection Period, calculated as the Sum of Supply Times of All Other Connections completed within the Data Collection Period

METRIC 132. **The Quality of Supply for All Other Connections** in the Data Collection Period, calculated as the number of Faults reported within 28 Days for All Other Connections completed within the Data Collection Period

METRIC 133. **The number of Appointments met** in the Data Collection Period

METRIC 134. **The total number of Appointments** in the Data Collection Period

12.2. Metrics 121,122,125,126 127, 128, 129, 130, 132, 133,and 134 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

13. Repair of Narrowband Access Services

13.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of the repair of faults for narrowband access services, separately for each of SB-WLR, WHL and Retail PSTN and in each case with, and without, multiple Pending Clears

METRIC 135. **The percentage of Faults Repaired within 2 Working Days** in the Data Collection Period, calculated as follows:

(Number of Fault Repairs completed within the Data Collection Period where the Fault Repair Time is within 2 Working Days X 100) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 136. **The percentage of Faults Repaired within 5 Working Days** in the Data Collection Period, calculated as follows:

(Number of Fault Repairs completed within the Data Collection Period where the Fault Repair Time is within 5 Working Days X 100) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 137. **The percentage of Faults Repaired within 10 Working Days** in the Data Collection Period, calculated as follows:

(Number of Fault Repairs completed within the Data Collection Period where the Fault Repair Time is within 10 Working Days X 100) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 138. **The average Fault Repair Time** in the Data Collection Period, expressed in Working Days, calculated as follows:

(Sum of Fault Repair Times of Fault Repairs completed within the Data Collection Period) / (Total number of Fault Repairs completed within the Data Collection Period)

METRIC 139. **The Fault Incidence** in the Data Collection Period, calculated as follows:

(Total number of Faults for the Data Collection Period X 100)/
(average Number of Active Lines within the Data Collection Period)

METRIC 140. **The Quality of Repair** in the Data Collection Period, calculated as follows:

(Number of Repeat Faults reported within the Data Collection Period X 100) /
(Total number of fault repairs completed within the Data Collection Period)

METRIC 141. **Number of Faults Repaired within 2 Working Days** in the Data Collection Period.

METRIC 142. **Number of Faults Repaired within 5 Working Days** in the Data Collection Period.

METRIC 143. **Number of Faults Repaired within 10 Working Days** in the Data Collection Period.

METRIC 144. **The total number of Faults Repaired** in the Data Collection Period.

METRIC 145. **The Total Fault Repair Time** in the Data Collection Period.

METRIC 146. **The average number of Working Lines** in the Data Collection Period

METRIC 147. The number of Repeat Faults in the Data Collection Period

13.2. Metrics 139,140, 141, 142, 143, 144, 145,146 and 147 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

14. **Fault Allocation**

14.1. Each Data Collection Period, Eircom shall collect data, and calculate the following metrics, in respect of fault allocation:

METRIC 148. The overall number of faults reported in respect of NGA, CGA and SB-WLR services in the Data Collection Period

METRIC 149. The number of faults allocated to NGA in the Data Collection Period

METRIC 150. The number of faults allocated to CGA in the Data Collection Period

METRIC 151. The number of faults allocated to SB-WLR in the Data Collection Period

METRIC 152. The percentage of faults allocated to NGA in the Data Collection Period, calculated as follows:

(Number of faults in the Data Collection Period allocated to NGA x 100)/ (Number of NGA plus CGA plus SB-WLR faults in the Data Collection Period)

METRIC 153. The percentage of faults allocated to CGA in the Data Collection Period, calculated as follows:

(Number of faults in the Data Collection Period allocated to CGA x 100)/ (Number of NGA + CGA + SB-WLR faults in the Data Collection Period)

METRIC 154. The percentage of faults allocated to SB-WLR in the Data Collection Period, calculated as follows:

(Number of faults in the Data Collection Period allocated to SB-WLR x 100)/ (Number of NGA + CGA + SB-WLR faults in the Data Collection Period)

14.2. Metrics 148, 149,150 and 151 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

15. Supply of CEI Services

15.1. Each Data Collection Period, Eircom shall collect data, and calculate Metric 206 and 207 below.

Ducts

15.2. From the time that in a Data Collection Period Metric 207 exceeds the quarterly average number of NGN Ethernet orders that required non in-situ Duct or Sub-duct access in the Quarters between 1 July 2019 and 30 June 2020, from the subsequent Data Collection Period and each Data Collection Period thereafter, Eircom shall collect data, and calculate the following metrics, in each case, for each Wholesale product (Ducts and Sub-Ducts) and Retail Equivalent (the CEI component (duct and sub-duct) of the NGN Ethernet products, WSEA and WEIL) orders:

METRIC 155. **The percentage of Duct and Sub-duct orders validated within 4 working hours of receipt** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period validated within 4 Working hours x 100)/ (Number of orders validated in the Data Collection Period)

METRIC 156. **The percentage of Duct and Sub-duct orders validated within 8 working hours of receipt** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period validated within 8 Working hours x 100)/ (Number of orders validated in the Data Collection Period)

METRIC 157. **The percentage of Duct and Sub-duct orders validated within 16 working hours of receipt** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period validated within 16 Working hours x 100)/ (Number of orders validated in the Data Collection Period)

METRIC 158. **The percentage of duct and sub-duct orders designs completed within 7 Working Days from the Point of - Validation** in the Data Collection Period, calculated as follows:

(Number of design in the Data Collection Period completed within 7 Working days x 100)/ (Number of designs completed in the Data Collection Period)

METRIC 159. **The percentage of duct and sub-duct orders designs completed within 10 Working Days from the Point-of - Validation** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period completed within 10 Working days x 100)/ (Number of orders completed in the Data Collection Period)

METRIC 160. **The percentage of duct and sub-duct orders designs completed within 20 Working Days from the Point-of Validation** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period completed within 20 Working days x 100)/ (Number of orders completed in the Data Collection Period)

METRIC 161. **The percentage of duct and sub-duct orders designs completed within 30 Working Days from the Point-of Validation** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period completed within 30 Working days x 100)/ (Number of orders completed in the Data Collection Period)

METRIC 162. **The percentage of duct and sub-duct orders completed within 40 Working Days from Point-of Validation** in the Data Collection Period, calculated as follows:

(Number of duct and sub-duct orders in the Data Collection Period completed within 40 Working days x 100)/ (Number of orders completed in the Data Collection Period)

METRIC 163. **The number of Duct and Sub-duct orders recorded within** the Data Collection Period

METRIC 164. **The number of Duct and Sub-duct orders validated within 4 Working Hours of receipt** in the Data Collection Period

METRIC 165. **The number of Duct and Sub-duct orders validated within 8 Working Hours of receipt** in the Data Collection Period

METRIC 166. **The number of Duct and Sub-duct orders validated within 16 Working Hours of receipt** in the Data Collection Period

METRIC 167. **The number of Duct and Sub-duct designs completed within 7 Working Days of order** in the Data Collection Period

METRIC 168. **The number of Duct and Sub-duct orders completed within 10 Workings Days of order** in the Data Collection Period

METRIC 169. **The number of Duct and Sub-duct orders completed within 20 Workings Days of order** in the Data Collection Period

METRIC 170. **The number of Duct and Sub-duct orders completed within 30 Workings Days of order** in the Data Collection Period

METRIC 171. **The number of Duct and Sub-duct orders completed within 40 Workings Days of order** in the Data Collection Period

15.3. Metrics 163, 164, 165, 166, 167, 168, 169,170 and 171 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

Poles

15.4. From the time that in a Data Collection Period, Metric 210 exceeds the quarterly average number of NGN Ethernet orders that required Pole access in the Quarters between 1 July 2019 and 30 June 2020, from the subsequent Data Collection Period and each Data Collection Period thereafter, Eircom shall collect data, and calculate the following metrics, in each case, for each Wholesale product (Pole) and Retail Equivalent (the CEI component (Pole) of the NGN Ethernet products, WSEA and WEIL) orders:

METRIC 172. **The percentage of Pole orders validated within 4 Working Hours of receipt** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period validated within 4 Working hours x100)/ (Number of orders validated in the Data Collection Period)

METRIC 173. **The percentage of Pole orders validated within 8 Working Hours of receipt** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period validated within 8 Working hours x100)/(Number of orders validated in the Data Collection Period)

METRIC 174. **The percentage of Pole orders validated within 16 Working Hours of receipt** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period validated within 16 Working hours x100) / (Number of orders in the Data Collection Period)

METRIC 175. **The percentage of Pole route design completed within 7 Working Days of order** in the Data Collection Period, calculated as follows:

(Number of designs completed in the Data Collection Period within 7 Working days x100) / (Number of designs completed in the Data Collection Period)

METRIC 176. **The percentage of Pole orders completed within 10 Working Days of order** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period completed within 10 Working days x100) / (Number of orders completed in the Data Collection Period)

METRIC 177. **The percentage of pole orders completed within 20 Working Days of order** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period completed within 20 Working days x100) / (Number of orders completed in the Data Collection Period)

METRIC 178. **The percentage of pole orders completed within 30 Working Days of order** in the Data Collection Period, calculated as follows:

(Number of orders in the Data Collection Period completed within 30 Working days x100)/(Number of orders completed in the Data Collection Period)

METRIC 179. **The percentage of pole orders completed within 40 Working Days of order** in the Data Collection Period, calculated as follows:

(Number of Pole orders in the Data Collection Period completed within 40 Working days x100)/(Number of Pole orders completed in the Data Collection Period)

METRIC 180. **The number of Pole orders recorded** within the Data Collection Period

METRIC 181. **The number of Pole orders validated within 4 Working Hours of receipt** in the Data Collection Period

METRIC 182. **The number of Pole orders validated within 8 Working Hours of receipt** in the Data Collection Period

METRIC 183. **The number of Pole orders validated within 16 Working Hours of receipt** in the Data Collection Period

METRIC 184. **The number of Pole orders designs completed within 7 Working Days of order** in the Data Collection Period

METRIC 185. **The number of Pole orders completed within 10 Working Days of order** in the Data Collection Period

METRIC 186. **The number of Pole orders completed within 20 Working Days of order** in the Data Collection Period

METRIC 187. **The number of Pole orders completed within 30 Working Days of order** in the Data Collection Period

METRIC 188. **The number of Pole orders completed within 40 Working Days of order** in the Data Collection Period

15.5. Metrics 178, 179, 180, 181, 182, 183, 184,185 and 186 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

16. **Repair of CEI Services**

Ducts

16.1. From the time that in a Data Collection Period Metric 208 exceeds the quarterly average number of NGN Ethernet orders that required non in-situ Duct or Sub-duct access in the Quarters between 1 July 2019 and 30 June 2020, from the subsequent Data Collection Period and each Data Collection Period thereafter, Eircom shall collect data, and calculate the following metrics, in respect of repairs for Ducts and Sub-Ducts, for Ducts and Sub-duct hosting (1) retail and wholesale fibres, (2) wholesale only fibre cable(s) and (3) retail only fibre cable(s):

METRIC 189. **The number of Duct and Sub-duct Faults** in the Data Collection Period

METRIC 190. **The number of Duct and Sub-duct Faults repaired within 1 Working Day** in the Data Collection Period

METRIC 191. **The number of Duct and Sub-duct Faults repaired within 2 Working Days** in the Data Collection Period

METRIC 192. **The number of Duct and Sub-duct Faults repaired within 5 Working Days** in the Data Collection Period

METRIC 193. **The number of Duct and Sub-duct Faults repaired within 10 Working Days** in the Data Collection Period

METRIC 194. **The mean of Duct and Sub-duct Repair Time** in the Data Collection Period, calculated as follows:

(Sum of the repair time for Fault Repairs completed within the Data Collection) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 195. **The percentage of Duct and Sub-duct repaired within 1 Working Day** in the Data Collection Period, calculated as follows:

(Number of Fault Repairs completed within the Data Collection Period where the Fault Repair Time is within 1 Working Day x 100) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 196. The percentage of Duct and Sub-duct repaired within 2 Working Days in the Data Collection Period, calculated as follows:

(Number of Fault Repairs completed within the Data Collection Period where the Fault Repair Time is within 2 Working Days X 100) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 197. The percentage of Duct and Sub-duct repaired within 5 Working Days in the Data Collection Period, calculated as follows:

(Number of Fault Repairs completed within the Data Collection Period where the Fault Repair Time is within 5 Working Days X 100) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 198. The percentage of Duct and Sub-duct repaired within 10 Working Days in the Data Collection Period, calculated as follows:

(Number of Fault Repairs completed within the Data Collection Period where the Fault Repair Time is within 10 Working Days X 100) / (Number of Fault Repairs completed within the Data Collection Period)

16.2. Metrics 189, 190, 191, and 192 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

Poles

16.3. From the time that in a Data Collection Period, Metric 210 exceeds the quarterly average number of NGN Ethernet orders that required Pole access in the Quarters between 1 July 2019 and 30 June 2020, from the subsequent Data Collection Period and each Data Collection Period thereafter, Eircom shall collect data, and calculate the following metrics, in each case, for each Wholesale product (Pole) and Retail Equivalent (the CEI component (Pole) of the NGN Ethernet products, WSEA and WEIL) orders, for Pole hosting (1) retail and wholesale fibres, (2) wholesale only fibre cable(s) and (3) retail only fibre cable(s):

METRIC 199. The number of Pole faults in the Data Collection Period

METRIC 200. The number of Poles repaired within 1 Working Day in the Data Collection Period

METRIC 201. **The number of Poles repaired within 2 Working Days** in the Data Collection Period

METRIC 202. **The number of Poles repaired within 5 working Days** in the Data Collection Period

METRIC 203. **The number of Poles repaired within 10 Working Days** in the Data Collection Period

METRIC 204. **The mean of Pole Repair Time** in the Data Collection Period, calculated as follows:

(Sum of the repair time for fault repairs completed within the Data Collection) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 205. **The percentage of Poles repaired within 1 Working Day** in the Data Collection Period, calculated as follows:

(Number of fault repairs completed within the Data Collection Period where the fault repair Time is within 1 Working Day X 100) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 206. **The percentage of Poles repaired within 2 Working Days** in the Data Collection Period, calculated as follows:

(Number of fault repairs completed within the Data Collection Period where the fault repair Time is within 2 Working Days X 100) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 207. **The percentage of poles repaired within 5 Working Days** in the Data Collection Period, calculated as follows:

(Number of fault repairs completed within the Data Collection Period where the fault repair Time is within 5 Working Days X 100) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 208. **The percentage of Poles repaired within 10 Working Days** in the Data Collection Period, calculated as follows:

(Number of fault repairs completed within the Data Collection Period where the fault repair Time is within 10 Working Days X 100) / (Number of Fault Repairs completed within the Data Collection Period)

METRIC 209. The number of Duct and Sub-duct provisioning orders in each of the Data Collection Period.

METRIC 210. The number of Pole Access provisioning orders in the Data Collection Period.

16.4. Metrics 209 and 210 shall be reported to ComReg without the need for order volume thresholds to be exceeded; they shall be kept confidential and shall not be published.

16.5. Metrics 199, 200, 201, 202 and 203 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

SCHEDULE 4

KPI REPORTS [TABLES]

Table 1 NGA orders																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
1	The total number of recorded orders																	Y
2	The total number of accepted orders																	Y
3	The total number of rejected orders																	Y
4	The total number of appointment based orders																	Y
5	The total number referred orders																	Y
6	The total number of cancelled orders																	Y
7	The number of cancel requested orders																	Y
8	The total number of completed orders																	Y
9	The total number of completed orders -for orders that were referred																	Y
10	The cumulative parked time for referred orders																	Y
11	The total number of undeliverable orders																	Y
12	The total number of undeliverable orders- for orders that were referred																	Y
13	The total number of accepted																	N

Table 1 NGA orders																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
	orders as a percentage of recorded orders																	
14	The total number of rejected orders as a percentage of recorded orders																	N
15	The total number of appointment based orders as percentage of accepted orders																	N
16	The total number of referred orders as percentage of accepted orders																	N
17	The total number of cancelled orders as percentage of accepted orders																	N
18	The number of completed orders as percentage of accepted orders																	N
19	The number of completed orders -for referred orders as a percentage of accepted orders																	N
20	The number of undeliverable orders as percentage of accepted orders																	N
21	The met appointments as a percentage																	N

Table 1 NGA orders																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
	of accepted orders																	
22	The number of cancelled orders as a percentage of accepted orders																	N
23	The number of cancels requests as a percentage accepted orders																	N
22	The mean number of appointments per accepted order																	N
25	The mean, median and standard deviation of parked timw for referred orders																	N

Table 2 NGA orders appointment based delivery																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
26	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 6 working days																	Y
27	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 11 working days																	Y
28	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 21 working days																	Y
29	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 41 working days																	Y
30	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 66 working days																	Y
31	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 133 working days																	Y
32	The mean, median and standard deviation for the number of working days to deliver the orders which have been completed in the reporting period																	N

Table 2 NGA orders appointment based delivery																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
33	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 6 working days																	N
34	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 11 working days																	N
35	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 21 working days																	N
36	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 41 working days																	N
37	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 66 working days																	N
38	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 133 working days																	N
39	Quality of supply- The number of DOA																	Y
40	Quality of supply- The number of ELF																	Y

Table 2 NGA orders appointment based delivery																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
41	Quality of supply- The percentage of DOA																	N
42	Quality of supply- The percentage of ELF																	N

Table 3 NGA non in-situ orders based delivery																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
43	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 6 working days																	Y
44	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 11 working days																	Y
45	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 21 working days																	Y
46	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 41 working days																	Y
47	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 66 working days																	Y

Table 3 NGA non in-situ orders based delivery																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
48	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 133 working days																	Y
49	The mean, median and standard deviation for the number of working days to deliver the orders which have been completed in the reporting period																	N
50	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 6 working days																	N
51	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 11 working days																	N

Table 3 NGA non in-situ orders based delivery																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
52	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 21 working days																	N
53	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 41 working days																	N
54	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 66 working days																	N
55	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 133 working days																	N
56	Quality of supply-The number of DOA																	Y
57	Quality of supply-The number of ELF																	Y

Table 3 NGA non in-situ orders based delivery																		
Metric No.	**Metric Description**	**Wholesale VUA**				**Wholesale BS+**				**Retail**				**WHL**				**ComReg only (Y/N)**
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
58	Quality of supply-The percentage of DOA																	N
59	Quality of supply-The percentage of ELF																	N

Table 4 NGA electronic enabled orders based delivery																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
60	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 2 working days																	Y
61	The number of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 5 working days																	Y
62	The mean, median and standard deviation for the number of working days to deliver the orders which have been completed in the reporting period																	N
63	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 2 working days																	N

Table 4 NGA electronic enabled orders based delivery																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
64	The percentage of orders completed in the Data Collection Period which have been delivered within (i.e. <=) 5working days																	N
65	Quality of supply-The number of DOA																	Y
66	Quality of supply-The number of ELF																	Y
67	Quality of supply-The percentage of DOA																	N
68	Quality of supply-The percentage of ELF																	N

Table 5 NGA faults																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
69	The number of faults cleared within (i.e. <=) 2 working days																	Y
70	The number of faults cleared within (i.e. <=) 4 working days																	Y
71	The number of faults cleared within (i.e. <=) 10 working days																	Y
72	The number of rejected faults																	Y
73	The number of faults deemed as having NFF																	Y
74	The number of faults RWT																	Y
75	The number of faults FOK																	Y
76	The number of faults No Entry obtanied																	Y
77	The number of repeated faults																	Y
78	The mean, median and standard deviation for the number of working days clear faults																	N
79	The percentage of faults which have been cleared within (i.e. <=) 2 working days																	N

Table 5 NGA faults																		
Metric No.	Metric Description	Wholesale VUA				Wholesale BS+				Retail				WHL				ComReg only (Y/N)
		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		FTTC		FTTH		
		PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	PB	SA	
80	The percentage of faults which have been cleared within (i.e. <=) 4 working days																	N
81	The percentage of faults which have been cleared within (i.e. <=) 10 working days																	Y
82	The number of rejected faults as a percentage of faults																	Y
83	The number of faults deemed as NFF as a percentage of faults																	N
84	The number of reported faults deemed as RWT as a percentage of faults																	N
85	The percentage of faults FOK																	N
86	The percentage of reported faults No Entry Obtained																	N
87	The percentage of repeated faults as a percentage of reported faults																	N

KPI reports Table 6 CGA supply (percentage)					
Metric no.	Metric Description	Wholesale		Retail	
		PB	SA	PB	SA
88	The percentage TransferConnections within 2 Working Days				
89	The average transferred Connection Time				
90	The quality of transfer Supply				
91	The percentage Other Connections in 5 Working Days				
92	The average of other connections supply time				
93	The quality of other connections supply				

KPI reports Table 6 CGA supply (Number)- ComReg only					
Metrics no.	Metric Description	Wholesale		Retail	
		PB	SA	PB	SA
94	The number transfer connections within 2 Working Days				
95	The total number transfer connections				

KPI reports Table 6 CGA supply (Number)- ComReg only					
Metrics no.	Metric Description	Wholesale		Retail	
		PB	SA	PB	SA
96	The total supply time for transfer connections				
97	The number of Other Connections in 5 Working Days				
98	The total number other connections				
99	The total supply time for other connections				
100	The total number of faults in 28 day of other connections delivery				

KPI reports Table 7 CGA repair (percentage)						
Metrics no.	Metric Description	MPC included (Y/N?)	Wholesale		Retail	
			PB	SA	PB	SA
101	The percentage fault repair 2 working Days	Y				
		N				
102	The percentage fault repair 5 working Days	Y				
		N				
103	The percentage fault repair 10 working Days	Y				
		N				
104	The average repair time	Y				
		N				
105	The Quality of repair	Y				
		N				

KPI reports Table 8 CGA repair (Number)- ComReg only						
Metrics no.	Metric Description	MPC included Y/N	Wholesale		Retail	
			PB	SA	PB	SA
106	The Number fault repair 2 Working Days	Y				
		N				
107	The number fault repair 5 Working Days	Y				
		N				
108	The number fault repair 10 Working Days	Y				
		N				
109	The number fault repair	Y				
		N				
		Y				
		N				
110	The total fault repair time	Y				
		N				
111	The total repeat faults in 28 days of fault repair	Y				
		N				

KPI reports Table 9 SB-WLR supply (percentage)				
Metrics no.	Metric Description	Wholesale	Retail	WHL
112	The percentage In-Situ connections within 2 working days			
113	The average In-Situ connection time			
114	The quality of In-Situ supply			
115	The average In-Situ 'with number port' connection time			

KPI reports Table 9 SB-WLR supply (percentage)				
Metrics no.	**Metric Description**	**Wholesale**	**Retail**	**WHL**
116	The quality of In Situ 'with number port' supply			
117	The percentage All Other connections in 10 Working days			
118	The average all other connections connection time			
119	The quality of all other connections supply			
120	The percentage other connections appointment based			

KPI reports Table 10 SB-WLR supply (Number)- ComReg only				
Metrics no.	**Metric Description**	**Wholesale**	**Retail**	**WHL**
121	The number In-Situ Connections within 2 Working Days			
122	Total number In-Situ/EE Connection			
123	Total supply time for In-Situ/EE Connections			
124	The average in-situ with number port connection time			
125	The total number of faults in 28 days of EE/In-Situ delivery			
126	The total number of In-Situ/EE Connection W/Port			
127	The total supply time for In-Situ/EE Connection W/Port			
128	The total number faults in 28 days of EE/In-Situ Delivery W/Port			
129	The total number of other connections in 10 working days			
130	The total number other connections			

KPI reports Table 10 SB-WLR supply (Number)- ComReg only				
Metrics no.	**Metric Description**	**Wholesale**	**Retail**	**WHL**
131	Total Supply Time for Other Connections			
132	Total Faults in 28 days of Other Connections Delivery			
133	Number of appointments met			
134	Total Number of appointments			

KPI reports Table 11 SB-WLR repair (percentage)					
Metrics no.	**Metric Description**	**MPC included (Y/N)?**	**Wholesale**	**Retail**	**WHL**
135	the percentage fault repairs within 2 Working Days	Y			
		N			
136	The percentage fault repairs within 5 Working Days	Y			
		N			
137	The percentage fault repairs within 10 Working Days	Y			
		N			
138	The average Fault Repair Time	Y			
		N			
139	The fault incidence	Y			
		N			
140	Quality of repair	Y			
		N			

KPI reports Table 12 SB-WLR repair (Number) ComReg only					
Metrics no.	**Metric Description**	**MPC included (Y/N)?**	**Wholesale**	**Retail**	**WHL**
141	The number of fault repairs within 2 Working Days	Y			
		N			
142	The number of fault repairs within 5 Working Days	Y			
		N			
143	The number of fault repairs within 10 Working Days	Y			
		N			
144	The total number fault repair	Y			
		N			
145	The total fault repair time	Y			
		N			
146	The number of working lines	Y			
147	The number repeat faults within 28 days of fault repair	N			

KPI reports Table 13 Fault allocation		
Metrics no.	**Metric Description**	**ComReg Only (Y/N)**
148	The number of faults allocated allocated to NGA, CGA and SB-WLR	Y
149	The number of faults allocated allocated fto NGA	Y
150	The number of faults allocated to CGA	Y

KPI reports Table 13 Fault allocation		
Metrics no.	**Metric Description**	**ComReg Only (Y/N)**
151	The total number faults allocated to SB-WLR	Y
152	The percentage of faults allocated allocated to NGA	N
153	The percentage of faults allocated allocated to CGA	N
154	The percentage of faults allocated to SB-WLR	N

KPI reports Table 14 duct and sub-duct supply				
Metrics no.	**Metric Description**	**Wholesale**	**Retail**	**ComReg only (Y/N)**
155	The percentage of Duct and Sub-duct orders validated within 4 working hours			N
156	The percentage of Duct and sub-duct orders validated within 8 working hours			N
157	The percentage of Duct and sub-duct orders validated within 16 working hours			N
158	The percentage of duct and sub-duct orders designs completed within 7 Working Days			N
159	The percentage of duct and sub-duct orders completed within 10 Working Days			N
160	The percentage of duct and sub-duct orders completed within 20 Working Days			N
161	The percentage of duct and sub-duct order completed within 30 Working Days			N
162	The percentage of duct and sub-duct orders completed within 40 Working Days			N
163	The number of Duct and Sub-duct orders recorded			Y
164	The number of Duct and Sub-duct orders validated within 4 working hours			Y
165	The number of Duct and sub-duct orders validated within 8 working hours			Y

KPI reports Table 14 duct and sub-duct supply				
Metrics no.	**Metric Description**	**Wholesale**	**Retail**	**ComReg only (Y/N)**
166	The number of Duct and sub-duct orders validated within 16 working hours			Y
167	The number of duct and sub-duct orders designs completed within 7 Working Days			Y
168	The numbrt of duct and sub-duct orders completed within 10 Working Days			Y
169	The number of duct and sub-duct orders completed within 20 Working Days			Y
170	The number of duct and sub-duct order completed within 30 Working Days			Y
171	The numberof duct and sub-duct orders completed within 40 Working Days			Y

KPI reports Table 15 pole supply				
Metrics no.	**Metric Description**	**Wholesale**	**Retail**	**ComReg only (Y/N)**
172	The percentage of pole orders validated within 4 working hours			N
173	The percentage of pole orders validated within 8 working hours			N
174	The percentage of pole orders validated within 16 working hours			N
175	The percentage of poleorders designs completed within 7 Working Days			N
176	The percentage of pole order completed within 10 Working Days			N
177	The percentage of pole orders completed within 20 Working Days			N
178	The percentage of pole orders completed within 30 Working Days			N
179	The percentage of pole orders completed within 40 Working Days			N
180	The number of pole orders recorded			Y

KPI reports Table 15 pole supply				
Metrics no.	**Metric Description**	**Wholesale**	**Retail**	**ComReg only (Y/N)**
181	The number of pole orders validated within 4 working hours			Y
182	The number of pole orders validated within 8 working hours			Y
183	The number of pole orders validated within 16 working hours			Y
184	The number of pole order designs completed within 7 Working Days			Y
185	The number of pole orders completed within 10 Working Days			Y
186	The number of duct and sub-duct orders completed within 20 Working Days			Y
187	The number of pole orders completed within 30 Working Days			Y
188	The number of pole orders completed within 40 Working Days			N

KPI reports table 16- duct, subduct repair					
Metrics no.	**Metric Description**	**Wholesale and retail fibre cable(s)**	**Wholesale only fibre cable(s)**	**Retail only fibre cable(s)**	**ComReg only (Y/N)**
189	The number of duct faults				Y
190	The number of duct repairs within 1 Working Day				Y
191	The number of duct repairs within 2 working Days				Y

KPI reports table 16- duct, subduct repair					
Metrics no.	**Metric Description**	**Wholesale and retail fibre cable(s)**	**Wholesale only fibre cable(s)**	**Retail only fibre cable(s)**	**ComReg only (Y/N)**
192	The number of duct repairs within 5 working Days				Y
193	The number of duct repair within 10 working Days				Y
194	The mean duct repair time				N
195	The percentage of duct repairs within 1 working Days				N
196	The percentage duct repair within 2 working Days				N
197	The percentage duct repair within 5 working Days				N
198	The percentage duct repair within 10 working Days				N

KPI reports table 17- pole repair					
Metrics no.	**Metric Description**	**Wholesale and retail fibre cable(s)**	**Wholesale only fibre cable(s)**	**Retail only fibre cable(s)**	**ComReg only (Y/N)**
199	The number of pole faults				Y
200	The number of pole repairs within 1 Working Day				Y
201	The number of pole repairs within 2 working Days				Y
202	The number of pole repairs within 5 working Days				Y
203	The number pole repair within 10 working days				Y
204	The mean pole repair time				N
205	The percentage of pole repairs within 1 working days				N
206	The percentage of pole repairs				N

KPI reports table 17- pole repair					
Metrics no.	**Metric Description**	**Wholesale and retail fibre cable(s)**	**Wholesale only fibre cable(s)**	**Retail only fibre cable(s)**	**ComReg only (Y/N)**
	within 2 working days				
207	The percentage pole repairs within 5 working days				N
208	The percentage of pole repairs within 10 working days				N

Metrics no.	Metric Description	Wholesale	Retail	ComReg only (Y/N)
209	The number of Duct and Sub-duct provisioning orders in each of the Data Collection Period.			Y
210	The number of pole provisioning orders in each of the Data Collection Period.			Y

Annex: 2 KPI Metrics Tables

Appointments Metrics

NGA appointments			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, existing or amended metric**
4	The total number of appointment based orders	Y	New
15	The total number of appointment basedorders as percentage of accepted orders	N	New
21	The number of appointments met as a percentage of accepted orders	N	New
22	The mean number of appointments per accepted order	N	New

Accepted and Rejected orders metrics

NGA accepted and rejected orders			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New,existing or amended metric**
1	The total number of recorded orders	Y	New
2	The total number of accepted orders	Y	New
3	The total number of rejected orders	Y	New
13	The total number of accepted orders as a percentage of recorded orders	N	New
14	The total number of rejected orders as a percentage of recorded orders	N	New

Undeliverable orders metrics

NGA undeliverable orders			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, existing or amended metric**
11	The total number of undeliverable orders	Y	New
12	The total number of undeliverable orders- for orders that were referred	Y	New
20	The number of undeliverable orders as percentage of accepted orders	N	New

Completed orders metrics

NGA completed orders			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, exsiting or amended metric**
8	The total number of completed orders	Y	New
9	The total number of completed orders -for orders that were referred	Y	New
18	The number of completed orders as percentage of accepted orders	N	New
19	The number of completed orders - for those orders that were referred- as a percentage of accepted orders	N	New

Cancelled orders metrics

NGA cancelled orders			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New existing or amended metric**
6	The total number of cancelled orders	Y	New
22	The total number of cancelled orders as percentage of accepted orders	N	New

Referred orders metrics

NGA referred orders			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, existing or amended metric**
5	The total number referred orders	Y	New
10	The cumulative parked time for referred orders that were completed	Y	New
19	The number of completed orders - for those orders that were referred- as a percentage of accepted orders	N	New
23	The mean, median and standard deviation of parked time for completed referred orders	N	New

Request to cancel metrics

NGA request to cancel orders			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New existing or amended metric**
7	The total number of request to cancel orders	Y	New
23	The total number of request to cancel orders as of percentage of accepted orders	N	New

Supply of service metrics tables

NGA appointment based delivery			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, existing or amended metric**
26	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 6 working days	Y	New
27	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 11 working days	Y	New
28	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 21 working days	Y	New
29	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 41 working days	Y	New
30	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 66 working days	Y	New
31	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 133 working days	Y	New
32	The mean, median and standard deviation for the number of working days to deliver the orders which have been completed in the reporting period	N	New
33	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 6 working days	N	New
34	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 11 working days	N	New
35	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 21 working days	N	New
36	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 41 working days	N	New
37	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 66 working days	N	New
38	The percentage of orders completed in the reporting period	N	New

NGA appointment based delivery			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, existing or amended metric**
	which have been delivered within (i.e. <=) 133 working days		

NGA non in situ based delivery			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, existing or amended metric**
43	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 6 working days	N	New
44	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 11 working days	N	New
45	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 21 working days	Y	New
46	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 41 working days	Y	New
47	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 66 working days	Y	New
48	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 133 working days	Y	New
49	The mean, median and standard deviation for the number of working days to deliver the orders	N	New

NGA non in situ based delivery			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, existing or amended metric**
	which have been completed in the reporting period		
50	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 6 working days	N	New
51	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 11 working days	N	New
52	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 21 working days	N	New
53	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 41 working days	N	New
54	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 66 working days	N	New
55	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 133 working days	N	New

NGA electronically enabled delivery			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
60	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 2 working days	Y	New
61	The number of orders completed in the reporting period which have been delivered within (i.e. <=) 5 working days	Y	New
62	The mean, median and standard deviation for the number of working days to deliver the orders which have been completed in the reporting period	Y	New
63	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 2 working days	Y	New
64	The percentage of orders completed in the reporting period which have been delivered within (i.e. <=) 5working days	Y	New

CGA broadband services supply			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
88	The percentage transferred Connections within 2 Working Days	N	Existing
89	The average transferred Connection Time	N	Existing
90	The quality of transfer Supply	N	Existing

CGA broadband services supply			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
91	The percentage Other Connections in 5 Working Days	N	Existing
92	The average of other connections supply time	N	Existing
93	The quality of other connections supply	N	Existing
94	The number transferred connections within 2 Working Days	Y	Existing
95	The total number transferred connections	Y	Existing
96	The total supply time for in-situ/EE connections	Y	Existing
97	The number of Other Connections in 5 Working Days	Y	Existing
98	The total number other connections	Y	Existing
99	The total supply time for other connections	Y	Existing
100	The total number of faults in 28 day of other connections delivery	Y	Existing

SB-WLR services supply			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
112	The percentage In-Situ connections within 2 working days	N	Existing
113	The average In-Situ connection time	N	Existing
114	The quality of In-Situ supply	N	Existing
115	The average In-Situ 'with number port' connection time	N	Existing
116	The quality of In Situ 'with number port' supply	N	Existing
117	The percentage All Other connections in 10 Working days	N	Existing
118	The average all other connections connection time	N	Existing
119	The quality of all other connections supply	N	Existing
120	The percentage other connections appointment based	N	Existing
121	The number In-Situ Connections within 2 Working Days	Y	Existing
122	Total number In-Situ/EE Connection	Y	Existing
123	Total supply time for In-Situ/EE Connections	Y	Existing

SB-WLR services supply			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
124	The average in-situ with number port connection time	N	Existing
125	The total number of faults in 28 days of EE/In-Situ delivery	Y	Existing
126	The total number of In-Situ/EE Connection W/Port	Y	Existing
127	The total supply time for In-Situ/EE Connection W/Port	Y	Existing
128	The total number faults in 28 days of EE/In-Situ Delivery W/Port	Y	Existing
129	The total number of other connections in 10 working days	Y	Existing
130	The total number other connections	Y	Existing
131	Total Supply Time for Other Connections	Y	Existing
132	Total Faults in 28 days of Other Connections Delivery	Y	Existing
133	Number of appointments met	Y	Existing
134	Total Number of appointments	Y	Existing

Repair of service, NFF, Repeat faults Rejected orders table

NGA fault repairs			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
69	The number of faults cleared within (i.e. <=) 2 working days	Y	New
70	The number of faults cleared within (i.e. <=) 4 working days	Y	New
71	The number of faults cleared within (i.e. <=) 10 working days	Y	New
72	The number of rejected faults	Y	New
73	The number of reported faults deemed as having NFF	Y	New
74	The number of reported faults RWT	Y	New
75	The number of reported faults F.OK	Y	New
76	The number of faults No Entry obtanied	Y	New
77	The number of repeated faults	Y	New
78	The mean, median and standard deviation for the number of working days clear faults	N	New
79	The percentage of faults which have been cleared within (i.e. <=) 2 working days	N	New
80	The percentage of faults which have been cleared within (i.e. <=) 4 working days	N	New
81	The percentage of faults which have been cleared within (i.e. <=) 10 working days	N	New
82	The percentage of rejected faults as a percentage of reported faults	N	New
83	The percentage of reported faults deemed as NFF as a percentage of reported faults	N	New
84	The percentage of reported faults deemed as RWT as a percentage of reported faults	N	New

NGA fault repairs			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
85	The percentage of reported faults F.OK as a percentage of reported faults	N	New
86	The number of NGA faults having No Entry Obtained	N	New

CGA broadband services fault repair			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
101	The percentage fault repair 2 working Days	N	Existing
102	The percentage fault repair 5 working Days	N	Existing
103	The percentage fault repair 10 working Days	N	Existing
104	The average repair time	N	Existing
105	The Quality of repair	N	Existing
106	The Number fault repair 2 Working Days	Y	Existing

CGA broadband services fault repair			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
107	The Number fault repair 5 Working Days	Y	Existing
108	The number fault repair 10 Working Days	Y	Existing
109	The number fault repair	Y	Existing
110	The total fault repair time	Y	Existing
111	The total repeat faults in 28 days of fault repair	Y	Existing

SB-WLR services fault repair			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
135	The percentage fault repairs within 2 Working Days	N	Existing
136	The percentage fault repairs within 5 Working Days	N	Existing

SB-WLR services fault repair			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
137	The percentage fault repairs within 10 Working Days	N	Existing
138	The average Fault Repair Time	N	Existing
139	The fault incidence	N	Existing
140	Quality of repair	N	Existing
141	The number of fault repairs within 2 Working Days	Y	Existing
142	The number of fault repairs within 5 Working Days	Y	Existing
143	The number of fault repairs within 10 Working Days	Y	Existing
144	The total number fault repair	Y	Existing
145	The total fault repair time	Y	Existing
146	The number of working lines	Y	Existing
147	The number repeat faults within 28 days of fault repair	Y	Existing

Fault allocation metrics

Fault allocation			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
148	The overall number of faults reported NGA, CGA and SB-WLR	Y	New
149	The number of faults allocated NGA	Y	New
150	The number of faults allocated CGA	Y	New
151	The number of faults allocated SB-WLR	Y	New
152	The percentage of faults allocated NGA	N	New
153	The percentage of faults allocated CGA	N	New
154	The percentage of faults allocated SB-WLR	N	New

Quality of Supply

NGA quality of supply			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
39,56,65	Quality of supply-The number of DOA	Y	New

NGA quality of supply			
Metric(s) No.	**Metric Description**	**ComReg only (Y/N)**	**New, amended or existing metric**
40,57,66	Quality of supply-The number of ELF	Y	New
41,58,67	Quality of supply-The percentage of DOA	N	New
42,59,68	Quality of supply-The percentage of ELF	N	New

CEI Supply and Repair

Duct and sub-duct Supply			
Metrics no.	**Metric Description**	**Comreg only (Y//N)**	**New, amended or existing metric**
155	percentage orders validated within 4 working hours of receipt	N	New
156	percentage orders validated within 8 working hours of receipt	N	New
157	Percentage orders validated within 16 working hours of receipt	N	New
158	percentage designs complete within 7 days of order receipt	N	New
159	Percentage orders completed within 10 days of order receipt	N	New
160	Percentage orders completed within 20 days of order receipt	N	New

Duct and sub-duct Supply			
Metrics no.	**Metric Description**	**Comreg only (Y//N)**	**New, amended or existing metric**
161	percentage orders completed within 30 days of order receipt	N	New
162	Percentage orders completed within 40 days of order receipt	N	New
163	The number of Duct and Sub-duct orders recorded	Y	New
164	number orders validated within 4 working hours of receipt	Y	New
165	number orders validated within 8 working hours of receipt	Y	New
166	number orders validated within 16 working hours of receipt	Y	New
167	Number designs complete within 7 days of order receipt	Y	New
168	Number orders completed within 10 days of order receipt	Y	New
169	number orders completed within 20 days of order receipt	Y	New
170	Number orders completed within 30 days of order receipt	Y	New
171	Number orders completed within 40 days of order receipt	Y	New

Pole supply			
Metrics no.	**Metric Description**	**Comreg only (Y//N)**	**New, amended or existing metric**
172	percentage orders validated within 4 working hours of receipt	N	New
173	Percentage orders validated within 8 working hours of receipt	N	New

Pole supply			
Metrics no.	**Metric Description**	**Comreg only (Y//N)**	**New, amended or existing metric**
174	Percentage orders validated within 16 working hours of receipt	N	New
175	Percentage designs complete within 7 days of order receipt	N	New
176	Percentage orders completed within 10 days of order receipt	N	New
177	Percentage orders completed within 20 days of order receipt	N	New
178	Percentage orders completed within 30 days of order receipt	N	New
179	Percentage orders completed within 40 days of order receipt	N	New
180	The number of pole orders recorded	Y	New
181	Number orders validated within 4 working hours of receipt	N	New
182	Number orders validated within 8 working hours of receipt	N	New
183	Number orders validated within 16 working hours of receipt	N	New
184	Number designs complete within 7 days of order receipt	Y	New
185	Number orders completed within 10 days of order receipt	Y	New
186	number orders completed within 20 days of order receipt	Y	New
187	Number orders completed within 30 days of order receipt	Y	New
188	Number orders completed within 40 days of order receipt	Y	New

Duct, subduct repair			
Metrics no.	**Metric Description**	**ComReg only (Y/N)**	New, amended or existing metric
189	The number of duct faults	Y	New
190	The number of duct repairs within 1 Working Day	Y	New
191	The number of duct repairs within 2 working Days	Y	New
192	The number of duct repairs within 5 working Days	Y	New
193	The number of duct repair within 10 working Days	Y	New
194	The mean duct repair time	N	New
195	The percentage of duct repairs within 1 working Days	N	New
196	The percentage duct repair within 2 working Days	N	New
197	The percentage duct repair within 5 working Days	N	New
198	The percentage duct repair within 10 working Days	N	New

Pole repair			
Metrics no.	**Metric Description**	**ComReg only (Y/N)**	New, amended or existing metric
199	The number of pole faults	Y	New
200	The number of pole repairs within 1 Working Day	Y	New
201	The number of pole repairs within 2 working Days	Y	New
202	The number of pole repairs within 5 working Days	Y	New
203	The number of pole repairs within 10 working Days	Y	New
204	The mean pole repair time	N	New
205	The percentage of pole repairs within 1 working Days	N	New
206	The percentage pole repair within 2 working Days	N	New
207	The percentage pole repair within 5 working Days	N	New
208	The percentage pole repair within 10 working Days	N	New

Questions

Q. 1. Do you agree with ComReg's proposals regarding the scope of relevant product and services ? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

Q. 2. Do you agree with ComReg's approach to keeping KPIs current? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

Q. 3. Do you agree with ComReg's proposed KPIs for appointments for the NGA products and services? Are there other KPIs you would like to see included in this category? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

Q. 4. Do you agree with ComReg's proposed order related KPI Metrics? Are there other KPIs you would like to see included in this category? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

Q. 5. Do you agree with ComReg's proposed KPIs for supply of service in the NGA, CGA and SB-WLR product and services? Are there other KPIs you would like to see included in this category? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

Q. 6. Do you agree with ComReg's proposed fault related KPIs metrics? Are there other KPIs you would like to see included in this category? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

Q. 7. Do you agree with ComReg's approach to the implementation of KPIs for CEI access, including the delaying of the Eircom's obligation to publish KPIs until demand for CEI has grown to a sufficient level? Please provide reasons for your answer.

Q. 8. Do you agree with ComReg's proposed KPIs for the CEI products and services ? Are there other KPIs you would like to see included in this category? Do you have any other observations in relation to the KPIs being proposed? Please provide reasons for your answers.

Q. 9. Do you agree with ComReg's proposals regarding processing, reporting, publication and auditing requirement to improve the effectiveness of KPI metrics? Do you have any other observations in relation to the requirements being proposed? Please provide reasons for your answers.