Information Note

Physical Infrastructure Access (PIA): Key Performance Indicator (KPI) Metrics Draft Decision

Publication and notification to the European Commission (EC), the Body of European Regulators for Electronic Communications (BEREC), and Member State National Regulatory Authorities (NRAs) of draft measures under Article 32 of Directive 2018/1972

Information Notice

Reference:	ComReg 23/108
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1. This Information Notice relates to the Commission for Communications Regulation's ('**ComReg**') publication and parallel notification to the relevant European authorities of its draft decision ('**Draft Decision'**) on the Physical Infrastructure ('**PI**') KPI metrics. A non-confidential version of the Draft Decision is attached at Annex 1 of this Information Notice. Separately, the Consultants' report and the non-confidential respondents' submissions are published alongside this document.[1]

2. In accordance with Article 32(3) of the European Electronic Communications Code ('**EECC**')[2], ComReg carried out a national public consultation on Physical Infrastructure Access KPI metrics (the '**PIA KPI metrics Consultation**')[3] during the period from 8 May 2023 to 9 June 2023.

3. Prior to the adoption of a final decision, Article 32(3) of the EECC now requires ComReg to publish and, at the same time, make draft measures accessible to the European Commission ('**EC**'), the Body of European Regulators for Electronic Communications ('**BEREC**') and National Regulatory Authorities ('**NRAs**') in other Member States (the '**Article 32 Notification'**).

4. The Article 32 Notification has today been made by ComReg on the basis of the draft measures set out in the Draft Decision.

5. Please note that this Information Notice, including the Draft Decision in Annex 1, does not constitute a national public consultation and should therefore not be construed as an invitation to make submissions to ComReg.

6. Having completed the Article 32 Notification ComReg will take utmost account of any views expressed by the EC, BEREC and NRAs in other Member States before adopting its final decision.

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[1] PIA KPI metrics technical feasibility review , ComReg's Document 23/41a, April 2023 and KPMG clarification to the Eircom's response from June 9th, 2023 [to Key Performance Indicator (KPI) Metrics: Physical Infrastructure Access (PIA) from ComReg document 23/41

[2] Directive 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (the 'EECC').

[3] Key Performance Indicators (KPI) Metrics: Physical Infrastructure Access (PIA), ComReg Document 23/41, May 2023 ('**the Consultation'**)

Annex 1: Physical Infrastructure Access (PIA) Key Performance Indicator Metrics Draft Decision

Physical Infrastructure Access (PIA):
Key Performance Indicator (KPI) Metrics

Additional Information

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1 Executive Summary

PIA and PIA KPI Consultations and Decisions

1.1 On ==DD MM YYYY==, following the Consultation published on 9 January 2023, (Document No: 23/04)[1] on the PIA market, ComReg adopted its Decision which designates Eircom with Significant Market Power in the national market for Physical Infrastructure Access (the '**PIA Decision**')[2] and imposed a number of obligations on Eircom including a requirement to publish Key Performance Indicator ("**KPI**") metrics in respect of the following:

  (a) PI orders,

  (b) PI provisioning process point intervals metrics (e.g., descriptive statistics such as the mean, the standard deviation of the elapsed time between provisioning process points), and

  (c) PI fault repairs.

1.2 This Decision further specifies the requirements to be complied with by Eircom in relation to its obligation to publish KPIs in respect of PIA, following the consultation published on 8 May 2023 (ComReg Document 23/41)[3] (the '**PIA KPI Consultation**') conducted in accordance with Regulation 101 of the ECC Regulations. There were five submissions ('**Submissions**') to the Consultation from the following respondents ('**Respondents**'):

  (a) ALTO;

  (b) BT Ireland ('**BT**');

  (c) Eircom Limited ('**Eircom**');

  (d) National Broadband Ireland ('**NBI**'); and

  (e) Virgin Media Ireland ('**VMI**').

1.3 On ==XX November 2023==, ComReg notified its Draft Decision to the European Commission, BEREC and the National Regulatory Authorities ('**NRAs**') of other Member States ('**Notified Draft Measures**'). The European Commission responded on ==XX November 2023== ('**EC Response'**), a copy of which is set out in ==Annex XX of this Decision==. The EC's Response indicates that ==XXXXX.== As is

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[1] ComReg Consultation and Draft Decision, Physical Infrastructure Access (PIA) Market review, ComReg document 23/04, 09 January 2023.
[2] ==Insert PIA Decision Details==
[3] ComReg Consultation and Draft Decision; Key Performance Indicator (KPI) Metrics: Physical Infrastructure Access (PIA), ComReg Document 23/41, dated 8 May 2023.

required, ComReg has taken utmost account of the EC Response prior to adopting this Decision.

The 2022 KPI Decision

1.4   In further specifying the requirement to publish PIA KPI Metrics, ComReg relies on the framework set out in its Decision D04/22 of 29 June 2022 (the '**2022 KPI Decision**').[4] The 2022 KPI Decision further specifies the KPIs by which Eircom is to measure performance in respect of certain Access Products and Services, in particular wholesale broadband access products, and sets out in that context requirements as regards monitoring processes, report publication, audit and a mechanism by which KPIs can be kept current. In this PIA KPI Decision, ComReg further specifies the obligation imposed on Eircom in the PIA Decision to publish KPIs in respect of PIA and amends the 2022 KPI Decision by adding to the KPI Metrics which Eircom is to use, specific KPI Metrics related to PIA.

Scope

1.5   KPI metrics will be reported on and published in respect of the following Physical Infrastructure ('**PI**') products and services[5]:

   (a)   Pole access,

   (b)   Duct access,

   (c)   Sub-duct access, and

   (d)   Direct duct access.

1.6   For PIA KPI Metrics to provide transparency as regards the access provided to Access Seekers and Eircom's own supply, ComReg specifies metrics which will ensure that all critical points involved in ordering, provisioning, and service assurance (fault repair) are measured.

1.7   The metrics are further disaggregated into different product categories, and where relevant and appropriate, into different route length categories, in order to accurately reflect the performance of the regulated PIA product suite. Route lengths are measured in metres for ducts (with 4 categories proposed for duct and sub-duct; less than or equal to 500m; from greater than 500m to less than or equal to 2500m, from greater than 2500m to less than or equal to 5000m, and over 5000m), and with 3 categories for the number of poles (1-3 poles, 4-10 poles, and over 10 poles).

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[4] Access Products and Services: Key Performance Indicator (KPI) Metrics, ComReg Decision D04/22, dated 29 June 2022 (the '2022 KPI Decision').

[5] ComReg notes that the PI products and service are inputs to downstream products and services such as broadband (Bitstream plus and VUA), Data Products (NGN), backhaul, fronthaul, VoIP.

Order metrics

1.8   Order metrics measure the outcome of the submitted orders by reference to the percentage of orders that are accepted/rejected and final outcome (status) of orders such as completed, cancelled, or undeliverable. They also include metrics to measure the extent of deviations/exceptions from the standard provisioning process and record associated reasons for the deviations/exceptions in percentage terms.

1.9   Also included in the order metrics category are metrics relating to forecasting (monitoring the categorisation of orders and subsequent changes to the forecasted date for delivery), the utilisation of existing sub-duct (measuring the percentage split between new and existing sub-duct for Eircom controlled sub duct orders).

Process Point metrics (elapse times)

1.10   Process point metrics measure performance throughout the end-to-end provisioning and service assurance process by reference to milestones or process points. The time taken to move from each process point to the next process point is the elapsed time for those process points measured in working hours unless otherwise stated.

1.11   Metrics on the elapsed time between process points will provide transparency on Eircom's relative performance as between self-supplied PIA and PIA to Access Seekers.

Bulk order metrics

1.12   This PIA KPI Decision provides separately for the measurement of performance where large volumes of PIA are involved, and specifies a separate volume-based metric category. Such large orders may occur for instance where an Access Seeker requires Access to large volumes of PI, rather than submitting multiple orders for discrete PI routes or parts of PI routes; bulk orders can be part of a programme such as a Major Infrastructure Programme ('**MIP**').

Fault Repair metrics

1.13   There are two fault repair metric categories. The fault validation metric category simply measures the percentage of accepted and rejected PI faults. The second category measures the elapse time between key process points in the fault repair lifecycle.

Implementation

1.14   The first PIA KPI metrics report is to be published 12 months after this Decision thus allowing Eircom a period of 7 months to identify, document and implement any development and processes that may be required for the monitoring and

reporting of KPIs, a period of 3 months for the first data collection period, and a further 2 months to gather, process and publish the PIA KPI metric report.

2 Introduction and Background

2.1 ComReg is the national regulatory authority ('**NRA**') for the electronic communications sector in Ireland. 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, ComReg is required to impose obligations on operators found to have significant market power ('**SMP**'). Obligations which ComReg may impose include obligations to meet reasonable requests for access, obligations of transparency and non-discrimination, obligations of price control and cost accounting and obligations of accounting separation.

2.2 This Decision further specifies the requirements to be complied with by Eircom in relation to its obligation to publish Key Performance Indicators ('**KPIs**') in respect of Physical Infrastructure Access ('**PIA**'), following the consultation published on 8 May 2023 (ComReg Document 23/41)[6] (the '**PIA KPI Consultation**') conducted in accordance with Regulation 101 of the European Union (Electronic Communications Code) Regulations 2022, SI No. 444 of 2022 ('**the ECC Regulations**'). There were five submissions ('**Submissions**') to the Consultation from the following respondents ('**Respondents**'):

 (a) ALTO;

 (b) BT Ireland ('**BT**');

 (c) Eircom Limited ('**Eircom**');

 (d) National Broadband Ireland ('**NBI**'); and

 (e) Virgin Media Ireland ('**VMI**').

2.3 A non-confidential copy of the Respondents' Submissions is set out at Annex X of this Decision. Where a Respondent has submitted both a confidential and non-confidential response to the Consultation, this is taken as a single Submission. This Decision follows a review of all submissions received, and where appropriate, the position set out in the Consultation has been amended to take into account the submissions received.

2.4 This PIA KPI Decision further specifies the obligation on Eircom to monitor and publish KPIs as set out in the PIA Decision published by ComReg on DD MM 202Y (ComReg Document No: NN/YY)[7] designating Eircom with Significant Market Power ('**SMP**') on the national market for Physical Infrastructure Access.

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[6] ComReg Consultation and Draft Decision; Key Performance Indicator (KPI) Metrics: Physical Infrastructure Access (PIA), ComReg Document 23/41, dated 8 May 2023.

[7] Physical Infrastructure Access (PIA) Market review, Decision, xx January 2024.

The PIA Decision imposes a number of obligations on Eircom including a requirement to publish KPI metrics in respect of the following:

(a)   PI orders,

(b)   PI provisioning process point intervals metrics (e.g., descriptive statistics such as the mean, the standard deviation of the elapsed time between provisioning process points), and

(c)   PI fault repairs.

2.5   In its Submission to Consultation, Eircom submitted that the imposition of a KPI reporting regime for PIA is dependent on Eircom being designated with SMP in that market following the conclusion of the PIA Market Review and by publishing a Consultation seeking to impose a PIA KPI monitoring and reporting obligation on Eircom, ComReg appeared to have pre-judged the outcome of the PIA market review in terms of SMP designation and in terms of the suite of potential obligations to be imposed in that market. Insofar as ComReg is concerned, however, there is absolutely no basis for such a contention given that it was abundantly clear in the Consultation that the KPI regime proposed by ComReg was subject to Eircom being designated with SMP and an obligation imposed on Eircom to monitor and report on its performance by reference to KPIs, as ComReg has proposed in the separate PIA Consultation.

2.6   In further specifying the requirement to publish PIA KPI Metrics, ComReg relies on the framework set out in its Decision D04/22 of 29 June 2022 (the '**2022 KPI Decision**').[8] The 2022 KPI Decision further specifies the KPIs by which Eircom is to measure performance in respect of certain Access Products and Services, in particular wholesale broadband access products, and sets out in that context requirements as regards monitoring processes, report publication, audit and a mechanism by which KPIs can be kept current. In this PIA KPI Decision, ComReg further specifies the obligation imposed on Eircom in the PIA Decision to publish KPIs in respect of PIA and amends the 2022 KPI Decision by adding to the KPI Metrics which Eircom is to use, specific to KPI Metrics related to PIA.

2.7   The KPIs will allow comparison of Eircom's performance in respect of ordering, provisioning, and service assurance when providing PI to Access Seekers and to itself. The publication of PIA KPIs allows for transparency and can support in providing confidence in the provision of Access by Eircom on a non-discriminatory basis. The PIA KPI metrics will provide both ComReg and Access Seekers with a means of identifying any equivalence concerns and take action accordingly and as appropriate.

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[8] Access Products and Services: Key Performance Indicator (KPI) Metrics, ComReg Decision D04/22, dated 29 June 2022 (the '2022 KPI Decision').

2.8   The ECC Regulations made by the Minister for Communications for the purpose of transposing the 2018 European Electronic Communications Code ('**EECC**')[9] which set out and recast the European regulatory framework for electronic communications, were commenced on <mark>9 June 2023.</mark> In conjunction with the Communications Regulation and Digital Hub Development Agency (Amendment) Act 2023 and the Communications Regulation Act 2002, as amended, the ECC Regulations set the legal basis for both the PIA Decision and this PIA KPI Decision.

2.9   Under Article 32 of the EECC and Regulation 17 of the ECC Regulations ComReg is required to publish and make a draft of its Decision accessible to the European Commission ('**EC**'), the Body of European Regulators for Electronic Communications ('**BEREC**') and National Regulatory Authorities ('**NRAs**') in other Member States (collectively referred to as the '**European Notification Requirements**') and to take utmost account of any comments received. A draft of this Decision was notified on <mark>XX November 2023</mark> to the EC, BEREC and NRAs of other Member States ('**Notified Draft Measures**'). On <mark>XX December 2023</mark>, the EC provided its response ('**EC Response'**), a copy of which is set out in <mark>Annex XX of this Decision</mark>. The EC's Response indicates that <mark>XXXXX.</mark> As is required, ComReg has taken utmost account of the EC Response prior to adopting this Decision.

2.10   The remainder of this Decision is structured as follows:

- Section 3 sets out the KPI Metrics by which Eircom's performance is to be measured and reported;

- Section 4 sets out KPI processing, reporting, and auditing requirements;

- Section 5 sets out ComReg's Regulatory Impact Assessment; and

- Appendix 1 contains the Decision Instrument, which also amends the Decision Instrument at Appendix 1 of the 2022 KPI Decision.

2.11   This is a non-confidential version of the Decision. Certain information within the Decision has been redacted for reasons of confidentiality with such redactions indicated by the symbol ✂. Should an individual Respondent wish to review its own redacted information, it should make a request for such in writing to ComReg and indicate, where possible, the specific paragraph numbers within which the redacted information being requested is contained. ComReg will consider requests for redacted information and will, subject to the protection of confidential information, respond accordingly.

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

Chapter 3

3 PIA KPI metrics

3.1 Scope

3.1   KPI metrics are to be reported on and published in respect of the following Physical Infrastructure ('**PI**') products and services[10]:

    (a)   Pole access,

    (b)   Duct access,

    (c)   Sub-duct access; and

    (d)   Direct duct access.

3.2   ComReg had proposed to also include chambers in the PI products subject to KPI reporting. However, Eircom explained in its Submission that Access to chambers is only provided as part of the duct/sub-duct/pole Access order, and in those circumstances chamber Access does not have a separate order type[11]. Eircom questioned the benefit of a chamber KPI metric explaining that the data is not currently recorded and that providing chamber Access KPIs will require significant OSS resources to develop the capability. Having considered Eircom's submission, and the integrated nature of Duct and Sub-duct orders, ComReg accepts that in the absence of standalone chamber orders, such metrics are not required.

3.2 Order lifecycle and process points

3.3   One of the objectives of the PIA 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. To that purpose, reported KPI Metrics should provide comparisons between wholesale inputs at the appropriate points in the PIA product and service lifecycle for ordering, provisioning, and service assurance, and they should be accurate and fully transparent.

3.4   ComReg has identified 5 categories of KPI Metrics, namely Ordering, Provisioning, Faults, Repairs and Bulk Orders, having regard to the PIA product lifecycle, with each category subdivided further having regard to potential outcomes throughout the relevant stage of the lifecycle. This reflects the typical order process flow for PIA. In particular, in order to procure point-to-point or point-

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[10] ComReg notes that the PI products and service are inputs to downstream products and services such as broadband (Bitstream plus and VUA), Data Products (NGN), backhaul, fronthaul, VoIP.
[11] Eircom Submission, paragraph 23.

to-multi-point Access to physical infrastructure, an operator will capture its requirements in a PI order submitted through the PI ordering channel/interface. Once the PI order has been validated, its processing will involve establishing the work order types that need to be raised on the relevant work order system, for example the plant maintenance module of SAP.[12]

3.5   A work order is used to identify and collect costs and to indicate/track performance statuses associated with a specific work/project. These costs are identified using services codes and the related required materials codes, in effect a Bill-of-Material. Other documents such as work instructions, detailed drawings, traffic management plans etc. are attached to the work order. In addition, a work order is used to specify the details of the tasks to be completed and to manage those tasks using transactions. Work orders have defined lifecycles that are configured in a work order management system (e.g., WO-SAP) which can also be used as a workflow controller.

3.6   All the steps/stages in the work order lifecycle provide important information on the progress of work orders and the related tasks.

3.7   A typical order process flow is depicted in Diagram 1.

Diagram 1
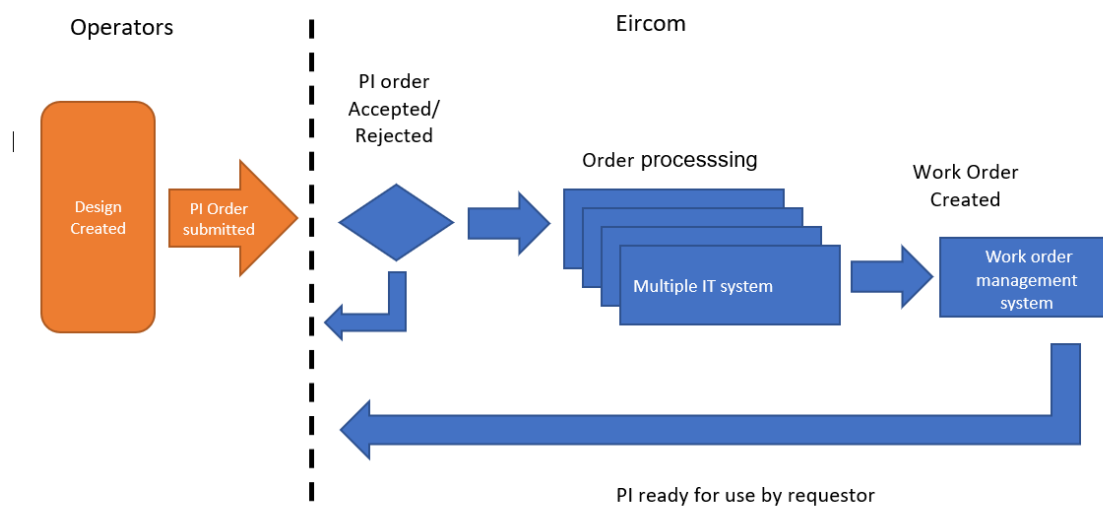
3.8   Bulk orders may be required where operators require access throughout a geographic area. Although the design and build processes are fundamentally similar to those used for a single order, implementation may differ. In that case, once the operator completes the network design process for a geographic

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[12] SAP Plant Maintenance (SAP PM) is a component of the SAP Enterprise Resource Planning (ERP) module that is maintain physical equipment and systems e.g., Physical Infrastructure network.

area(s) the PI inputs necessary to implement the design are identified, are ordered, and then work packs[13] related to the PI orders are created and necessary tasks are assigned to the field staff to provide the PI Access ordered. The civil engineering work is then completed in order to provide the PI Access. The field staff provide evidence that the civils tasks have been completed and complete other administrative tasks, which typically includes updating physical inventory system records, recording material usage, closing off road opening licences (e.g., T5 notifications). The combination of these tasks is referred to as the completion civils work pack for the geographic area.

3.9   A typical bulk order process flow is depicted in Diagram 2.

Diagram 2
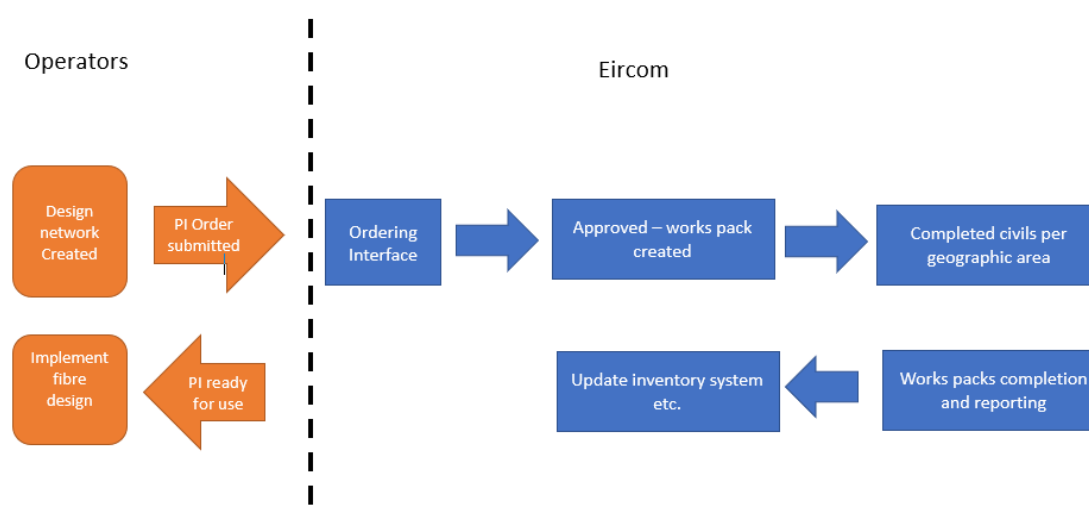
3.10 ComReg also notes that additional transparency will be obtained by measuring elapsed time between various process points, e.g., from when an order is submitted to when the order is validated, and from PI order validation to when the work orders are created, or from when the work order is created to when infrastructure is ready to be used. In this regard, a number of descriptive statistics are used to monitor elapsed time between certain process points related to the provisioning and assurance service, based on the mean, mode and median of the datasets. For ease of reference, mean, mode and median refer to the following:

i.   **Mean,** represents the average value of a set of data, calculated by adding up values in the data set and dividing them by the total number of values. The mean provides an appropriate representation of the "typical" value in

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[13] A work pack is the group the tasks required to facilitate access to required PI .

the set of data. However, it can be heavily influenced by extreme values in the dataset, which can skew the result, and for this reason, should be complemented by median or mode as other measures of central tendency.

ii. **Mode**, is the value that appears most often in the dataset. The mode is particularly useful when dealing with nominal or categorical data[14]. However, it may not be unique or may not exist if all values in the dataset occur with the same frequency, and it may not be representative of the entire dataset if it is skewed or has outliers.

iii. **Median**, is the middle value in a set of ordered data points. The median is not affected by extreme values (outliers) in the data set, unlike the mean.

3.11 Descriptive statistics, in respect of the above categories of metrics, include the standard deviation, skewness and kurtosis:

i. The **standard deviation** measures the amount of variation or dispersion from the mean in a set of data values. The standard deviation provides useful information about how much the data is spread out from the mean. A low standard deviation indicates that the data points tend to be very close to the mean, while a high standard deviation indicates that the data points are spread out over a large range of values. It is calculated using the formula $(\sigma) = \sqrt{(\sum(x - \mu)^2/N)}$, where x is the data value in the set; μ is the mean of the data set and N is the total number of data values in the set.

ii. **Skewness** measures the asymmetry of a distribution. It indicates whether the distribution is symmetric (where the mean, median, and mode are equal) or skewed (where the mean, median, and mode are different).

Distributions can exhibit right (positive) skewness or left (negative) skewness to varying degrees. A normal distribution (bell curve) exhibits zero skewness.

Skewness shows the direction of outliers. In a positive skew, the tail of a distribution curve is longer on the right side. This means the outliers of the distribution curve are further out towards the right and closer to the mean on the left. However, skewness does not inform on the number of outliers; it only communicates the direction of outliers.

$$Peason's\ median\ skewness = 3\ x\ \frac{(Mean - Median)}{Standard\ deviation}$$

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[14] Nominal data is data that can be labelled or classified into mutually exclusive categories within a variable. These categories cannot be ordered in a meaningful way. Categorical is data that can be grouped into categories instead of being measured numerically.

iii.   **Kurtosis** refers to the sharpness of the peak or flatness of a probability distribution curve. It measures how much of the data is concentrated around the mean of the distribution, and how much is spread out in the tails. It is calculated using the formula $\textbf{Kurtosis} = \frac{\mu 4}{\sigma^4}$, where µ4 is the unstandardized central fourth moment and σ ^{4} – the standard deviation.

3.12 Elapsed time for PI KPI metrics is to be measured in working hours unless otherwise stated.

3.13 In its Submission, Virgin Media repeated a point made in its Submission to the PIA Consultation, namely, that should ComReg introduce quality-of-service standards on Eircom PIA, then KPIs should also be imposed to track performance against those quality-of-service standards.[15] However, ComReg does not propose, at this time, to intervene by way of setting applicable service levels. In the absence of mandated service levels, ComReg does not propose to require Eircom to monitor performance against reference service levels.

3.3 Categories of metrics

3.14 In light of the above, reporting is required on the following KPI Metrics:

Order metrics
(a)   Accepted orders

(b)   Rejected orders

(c)   Cancelled orders

(d)   Completed orders

(e)   Residual orders

(f)   Undeliverable orders

(g)   Accepted orders that meet forecasted date

(h)   Accepted orders that were re-forecasted and the re-forecast reasons

(i)   Accepted orders that are classified as non-standard[16]

(j)   Accepted orders that are parked[17]

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[15] Virgin Media Submission, page 5

[16] For example, as set out in the Civil Engineering Infrastructure (CEI) (Duct Access & Sub-Duct Self Install (SDSI) & Pole Access SLA version 2.0 a duct order classified as standard will be delivered within 44 working days of order receipt. An order classified as non-standard receives a forecasted delivery date by the 29th working day from order receipt. The forecasted delivery date can become re-forecasted. Reasons for access requests being categorised as non-standard include planning/civil works issues e.g., duct unblocking.

[17] ComReg in light of a comment in Eircom's Submission has replaced the term Non-Fluid used in the Consultation, which is system specific, by the more generic terminology 'parked', to ensure the metrics remain relevant and future proof.

(k)   Parked works orders by category reason type

(l)   Utilisation of existing physical infrastructure (sub-duct)

Provisioning related process points metrics

(a)   The elapsed time descriptive statistics from Request Submitted -- to Validation status (Acceptance or Rejection)

(b)   The elapsed time descriptive statistics from Request Acceptance to new Works Order or amended Works Order

(c)   The elapsed time descriptive statistics from new Works Order or amended Works Order to PI ready for use e.g., SAP Works order User Status FFPU (Fit-For-Purpose)

(d)   The descriptive statistics for the elapsed time from the identification of the duct network remediation requirement to submission of the licence application to the licencing authority by licence type (e.g., T2[18] and T3[19])

(e)   The descriptive statistics for the elapsed time from the granting of the licence by the licencing authority to the completion of the duct network remediation

(f)   The descriptive statistics for the elapsed time from the identification of the duct network remediation requirement to completion of the duct network remediation

(g)   The percentage of licence applications rejected by the licensing authority

Submitted fault metrics

(a)   Accepted faults

(b)   Rejected faults

Fault repair process point metrics

(a)   The descriptive statistics for the elapsed time from log PI fault to PI fault validated

(b)   The descriptive statistics for the elapsed time from PI fault validated to Request for PI repair

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[18] T2 Licence is an application to carry out works on a public road of moderate impact due to the location, extent, amount or duration of the work.

[19] T3 Licence is an application to carry out works on a public of low impact due to the location, extent, amount or duration of the work.

(c)   The descriptive statistics for the elapsed time from Request for PI repair to completion of repair (i.e., declared fit-for-purpose by Eircom).

Bulk order

(a)   Elapsed time descriptive statistics for order validation

(b)   Elapsed time descriptive statistics from civils work pack creation/amendment to civils 'work pack completion'[20]

(c)   The total number of change requests

(d)   Percentage Volume of submitted PI orders that require change requests as a percentage of submitted orders

(e)   Percentage Volume of submitted PI orders completed as a percentage of submitted orders

(f)   Percentage Volume of submitted PI orders cancelled as a percentage of submitted orders

(g)   Percentage Volume submitted PI orders undeliverable as a percentage of submitted orders

(h)   Percentage Volume of submitted PI orders residual as a percentage of submitted orders

3.15   The categories of PIA KPI Metrics listed in paragraph 3.14 above represent the full suite of PIA KPI Metrics. However, not all metrics apply in respect of each PI Access product and service. For example, forecast and parked KPIs are not applicable in the case of Direct Duct Access. The definitive list of PIA KPI metrics for each of the PI Access products and services are provided in Schedule 1 to the Decision Instrument at Appendix 1 of this Decision.

3.16   In its Submission, Eircom was of the view that the KPI metrics were too granular and numerous and noted that the PIA KPI metrics set out in the Consultation included 662 data points. Eircom was of the view that this was evidence of too onerous a regime particularly as, save for NBI's use of Eircom's PI in the context of the NBP rollout, PI is consumed at low volumes. ComReg in this context would have failed to assess, or assess properly, the proportionality of the requirements being imposed.[21]

3.17   However, ComReg has carefully considered the purpose and insights that the PIA KPIs metrics will provide once reported on and the benefit such transparency will provide outweighs the effort required of it to comply. The information required

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[20] Work pack completion is a report confirming that the necessary tasks required to provide required PI access has been completed. The report includes the supporting documentation that demonstrates that the required tasks are complete.

[21] See e.g., Eircom Submission, paragraph 15.

to be provided in each category is the minimum necessary to achieve transparency over the lifecycle of a PI order. For example, in the Order Metric category, the twelve separate metrics provide basic order status and order progressing information such as the number of orders that are accepted, rejected, completed, cancelled or undeliverable, or information in respect of when an order has become parked and the reason for same. ComReg is satisfied that each of the ordering, provisioning and fault repair metrics provides information for a specific purpose that can be linked to potential competition problems arising in the PIA Market or issues that Access Seekers have experienced with accessing Eircom's Physical Infrastructure. As compared with the Consultation and having considered the requirement for a standalone SDSI repair KPI metric further, however, ComReg does not believe that it is necessary to require a standalone SDSI repair metric. Regardless of whether Eircom or an Access Seeker installed the sub-duct, the repair process steps will be the same and it is not necessary or justified to require Eircom to monitor and report on repair for Duct Access depending on whether Eircom or an Access Seeker installed the sub-duct.

3.18 ComReg also notes that it is simply not the case that demand for PI is low volume or low scale as Eircom contends. There is no basis for excluding, for KPI relevance purposes, NBI's demand[22] and excluding other PI demand requirements. As set out in the PIA Decision, there is demand for PIA but such demand has been curtailed because the current CEI product set does not meet the needs of the market. ComReg also notes that [✂ ▆ ✂] has expressed [✂ ███████████████████████████████████ ███████████████████████████████████ ████████████████████████ ███████████████████████████████████ ████ ████ ████ ████ ████ ████ ██ ████ ████ ███████████████████████████████████ ███████████████████████████████████ █████████████████████ ■]

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3.20 Access Seekers' concerns regarding access to PI is reflected for example in Virgin Media's position that the usability of Eircom PI is such that it will only use

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[22] Eircom's Submission, paragraph 19, 25, and 26.
[23] [✂ ███████████████████████████████ ✂]
[24] [✂ ████████████████████████████████ ✂]

PIA as last resort.[25] Virgin Media pointed thus to its submission made in response to the PIA Market Review) that,

> *"… the Eircom PIA product was difficult to use, suffered from poor Quality of Service ('QoS'), was not scalable and had not been sufficiently developed as a product by Eircom. In consequence Virgin Media argued that the Eircom PIA product was not fit for purpose".[26]*

3.21 In its Submission, Virgin Media also repeated concerns relating to the apparent ability of Eircom successfully utilising PIA at scale when this has been a struggle for other Access Seekers.[27]

3.22 With effective and efficient PIA, latent demand is likely to translate into increased usage of PIA products, services and associated facilities. The benefits obtained from having in place an effective and efficient PIA KPI monitoring regime will bring focus and help to highlight any operational and/or QoS issues that Access Seekers may be experiencing with the PI products and services.

3.23 ComReg also notes that Eircom's Submission as regards demand does not fully consider that demand requirements include demand for new network build (e.g., network upgrade or network expansion) and also enterprise/business connectivity (e.g., NGN leased lines, backhaul and fronthaul), and premises connections.

3.24 In light of this, ComReg is also of the view that Eircom's concerns that the KPI metrics will not provide any meaningful information arising from issues of statistical significance are misplaced. Demand for PI is more significant than Eircom considers and does include Eircom's and NBI's demand.

3.25 For example, ComReg notes that there will be a recurring demand for connection in the downstream retail and wholesale markets particularly in the case of FTTH connections. Each first new FTTH connection will use PIA from the fibre distribution point to the curtilage of a customers' premises. This demand for first time connections to FTTH will be likely significant. For instance, the number of new FTTH connections completed in the period Q2 2023 was [✄ ▬▬▬ ✄]. The significant demand for new FTTH connections is likely to continue for the foreseeable future because of customer preference for FTTH based-services, and because of Eircom's plan to switch-off its copper network, which will also drive FTTH demand.

3.26 ComReg disagrees with Eircom that "*there is no proportionality assessment*" in circumstances where ComReg has assessed and clearly explained the necessity and appropriateness that PIA KPI metrics will provide in terms of transparency.

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[25] Virgin Media, Submission PIA Market Review Consultation Page 12
[26] Virgin Media, Submission page 4.
[27] Virgin Media, Submission page 4.

Furthermore, the KPI metrics have been tailored to the specific types of PIA that is required to be offered and provided by Eircom.

3.4 Order metrics

3.27 PI order metrics are a group of related metrics that provide comparable information on the outcome of the PI delivery processes and information on the classification of PI orders. Each metric will provide information on the PI order outcomes and their classification as they progress through the order processing and service delivery processes.

3.28 Below is an overview of the KPI metrics. The definitions of the PIA KPI metrics, related terms and the formulas for calculating the relevant metrics for each PI product and service are outlined in Schedules 1 and 2 of the Decision Instrument at Appendix 1 of this Decision.

Accepted and Rejected order metrics

3.29 When PI orders are submitted, they are validated with one of two outcomes, namely the submitted order is either accepted or rejected.

3.30 An accepted order status means that an Access Seeker has provided an order containing all the required mandatory information. A rejected order means that the order has not been accepted due to validation failing e.g., there is missing or inaccurate data.

3.31 The accepted orders metric measures accepted orders as a percentage of submitted orders. Once the 'accept' order metric is calculated the 'rejected' orders metric can be easily determined by subtracting the percentage of accepted orders from one hundred percent.

3.32 In its Submission, Eircom suggested that PI order rejection KPI metrics should be removed on the basis that orders are often rejected because there was insufficient information provided with the PI order to allow it to be placed; it is not possible to identify rejected orders for own use as these are orders where an operator has requested an active service and in the course of provisioning a need for PI is identified; and the suggested approach to calculating the metric is simplistic. ComReg does not accept that those are valid reasons. The purpose of the rejected order metric is to provide information regarding the level of order rejections. The purpose of the rejected order metric is not to identify the root cause of the rejections but to measure overall percentage rejections regardless of the reason. Furthermore, the required approach is a statement of numerical fact and is not "simplistic".

3.33 ComReg also is of the view that it should be possible for Eircom to identify rejected orders for its own use including in the case of active service, and that this is a metric that provides important transparency information.

3.34 In particular, ComReg understands that, logically, when an active service provisioning team identifies that a PI component is required to complete the active service order, that active service order is put on hold and a related (passive) PI order is created for the necessary PI component(s). This newly created PI order can be then validated. Where the newly created PI order is rejected then the (earlier) active service order that triggered the creation of the need for PI is categorised as an undeliverable order. In short, the active service order becomes undeliverable when the related (passive) PI order is rejected. Where the newly created PI order is accepted and successfully provisioned, the provisioning process for the related (on-hold) active service order can restart. On completion of the active service provisioning, both active service order and related PI order will reach a completed status. Where the PI order is accepted, but the PI component is not successfully provisioned, the PI order is undeliverable, and the related active service order is also undeliverable.

Cancelled orders metric

3.35 A cancelled order is an order that an operator has requested to be cancelled prior to reaching a final status. The cancelled metric measures the total number of orders cancelled as a percentage of accepted orders. For example, if the volume of Access Seeker Cancelled PI orders relative to Eircom Cancelled PI orders is different, then the Cancelled Order metric may help to identify potential problems.

Completed orders metric

3.36 The completed order metric measures the percentage of accepted orders that were successfully completed.

Residual orders

3.37 The residual order metric measures the number of accepted orders that have not reached a final status (e.g., cancelled, completed, or undeliverable) within the current data collection period as a percentage of accepted orders within the current period. The outstanding orders at the end of each data collection period are the residual orders which will be measured with this metric.

3.38 PIA orders will typically require field activity, or civil engineering tasks to be completed. Therefore, orders received towards the end of the current data collection period may not have been completed within the current data collection period. In such circumstances, it is important to track the percentage of outstanding accepted orders at the end of each data collection period and to track the outcome of those orders.

3.39 In its Submission Eircom sought clarification regarding the reporting period for residual orders, noting, "*eir presumes that, in line with D04/22, residual order metrics are only reported for one quarter following the quarter the orders were accepted with the exception of bulk order metrics which is 2 quarters following the quarter the request was accepted. This requires clarification*".

3.40 ComReg confirms that residual order metrics are only reported for one quarter following the quarter the orders were accepted with the exception of bulk order metrics which is to be reported two quarters following the quarter the request was accepted.

Undeliverable orders metric

3.41 An undeliverable order is an order that cannot be delivered but was not rejected.

3.42 For example, a duct or a segment of duct may have been inadvertently filled with concrete during construction activity. Therefore, an order for that specific duct route would be classified as an undeliverable order because it is no longer possible to install a sub-duct into the duct to host cables in that segment of duct. The undeliverable order metric will measure the undeliverable orders as a percentage of accepted orders.

3.43 In its Submission to Consultation, Eircom submitted that this is not an appropriate metric as there can be multiple reasons why a PI order becomes undeliverable, with some of those reasons being beyond Eircom's control and Eircom will not be able to identify every potential reason why a PI order may become undeliverable.[28] ComReg accepts that there may be several legitimate reasons why PI orders may not be deliverable. However, this does not mean that this metric is not necessary or appropriate. The purpose of the metric is to measure the percentage of PI orders that are undeliverable as a percentage of accepted orders, regardless of the specific reasons for the orders being undeliverable. It is required to provide transparency and will assist in monitoring Eircom's non-discrimination obligation.

3.44 A Respondent in its Submission noted the particular benefit of having a specific undeliverable metric by stating that [✂ ▇▇ ✂] [29]

3.45 In addition, that same Respondent was of the view that having breakdown per undeliverable reason would provide additional valuable insight as [✂ ▇▇▇ ▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇]

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[28] Eircom Submission, paragraph 45.
[29] [✂ ▇▇▇▇▇▇▇▇▇▇▇▇▇ ✂]

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3.46 However ComReg considers that an undeliverable order metric which does not distinguish according to the reason why an order is undeliverable, provides sufficient transparency, at this time, and that it is not necessary or justifies to require Eircom to report by reason type.

Accepted orders that have met the forecasted date

3.47 The forecasted date metric measures the percentage of orders that have met the original forecasted due delivery date.

3.48 During the order validation process Eircom will assess the order to determine what civil engineering tasks are required to deliver the service requested. Based on this assessment, Eircom provides a forecasted due delivery date for the product i.e., the forecast date. If the PI order is not completed on or before that date, the order will not have met the forecasted date.

3.49 The purpose of this metric is to measure the percentage of orders that are not completed on the forecasted date rather than the reason(s) why the forecasted date has not been met.

3.50 It is accepted that the reasons why an order may not have been completed on the forecasted date may, in certain circumstances, be beyond Eircom's direct control. Nonetheless, the metric provides transparency regarding issues that have delayed the delivery process and any potential disparity between Eircom supply to itself and to Access Seekers.

Accepted orders that meet the re-forecasted date

3.51 As explained in paragraph 3.48 accepted orders have a forecasted due delivery date. However, when Eircom's field operations team or Eircom's contractors are in the process of delivering the PI product, they may encounter an unforeseen circumstance that necessitates a change to planned work or extra work required to deliver the product. As a result of the unforeseen circumstances the forecasted due delivery date may need to change. When this occurs, Eircom will need to advise the relevant operator that the order or that part of the order cannot be delivered on the original forecasted date. Consequently, the order will have a new delivery date (i.e., re-forecasted date) based on the available information.

3.52 However, the percentage of orders that were re-forecasted will provide basic information, but not the full picture. A more comprehensive understanding of why the order was re-forecasted requires additional information, namely the reasons why orders were re-forecasted. The combination of the simple percentage of

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[30] [✂ ████████████████████ ✂]

orders that were re-forecasted and the percentage of re-forecasted orders by reason type will provide the necessary information for transparency purposes.

3.53 In its Submission, Eircom submits it is disproportionate to have a metric relating to the percentage of accepted orders that have not met the forecast date, and metrics on the reasons why orders are 're-forecasted'. Eircom stated that:

> *"The purpose of a forecast date on the order is to give an indication of when the order may be delivered. It is not a guaranteed delivery date, and it is based on the experience of similar scenarios — due to the individual circumstances of the order (e.g. local characteristics) the actual delivery date may vary. While in paragraph 3.28 ComReg does acknowledge that the reasons may be beyond eir's control it incorrectly suggests they provide transparency regarding order issues … the provision of any commentary on these metrics will not provide any insight to the equivalence of the order journeys, i.e. it is not clear how it relates to eir's specific transparency obligation…."[31]*

3.54 ComReg fully understands that a forecasted order completion date is an estimate based on the completion of necessary tasks, including certain manual tasks (such as testing of ducts for blockages, replacement of damaged duct, straightening of poles**)** on Eircom's PI and that the circumstances that caused an order to be re-forecasted may or may not be in Eircom's control. This is in fact why it is necessary that the reasons why orders are re-forecasted are monitored so that this can be understood and assurances on equivalence provided.

3.55 In its Submission, NBI supports the use of forecasting and re-forecasting metrics, and the provision of the reasons that triggered a re-forecasting:

> *"NBI also agrees that data on accepted orders that have met the forecasted date and orders that have met a re-forecasted date should be included within the KPI framework. In this respect, NBI agrees that data on the percentage of orders re-forecasted, combined with the reasons for why this happened, should be collected".*[32]

3.56 NBI also suggests that in addition to the proposed KPIs,

> *"… data on the duration of time between original and re-forecasted delivery dates, broken down by Eircom self-supply and provision to third-party Access Seekers, would be a helpful addition to the proposed data set in this area".[33]*

3.57 However, although measuring duration of time between original and re-forecasted delivery dates may provide useful information, ComReg believes that it is not required at this time in order to achieve required transparency and that it

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[31] Eircom Submission, paragraph 46.
[32] NBI Submission, page 5.
[33] NBI Submission, page 5.

is sufficient and more proportionate at this time not to require Eircom to monitor and report on duration as suggested by NBI.

Accepted orders that are classified as non-standard

3.58   In some circumstances PI orders may be deemed standard and delivered within the target timeframe that is specified in the related Service Level Agreement. In other circumstances, the PI order may be deemed as non-standard, so the order will be delivered based on a forecasted due delivery date.

3.59   The purpose of the non-standard order metric is to measure the percentage of accepted orders that are classified as non-standard deliveries. This metric measures the relative number of PI orders that are deemed standard versus non-standard for Eircom and Access Seekers. This metric helps to provide transparency regarding the categorisation of PI orders as standard and non-standard orders.

3.60   In its Submission, Eircom states that ComReg's rationale for the classification of these metrics does not take into consideration that all duct Access orders greater than 500 metres are automatically considered non-standard and that:

> *"eir does not see how this metric would demonstrate equivalence in particular as duct access orders can be significantly longer than 500m."*[34]

3.61   For clarity, ComReg is imposing this metric in the full knowledge of the order categorisations based on the current CEI product descriptions.

3.62   ComReg also notes that the categorisation of orders as non-standard, where the order length is greater than 500m, is a decision that Eircom has taken. ComReg would expect that orders are only categorised as non-standard when it appropriate to do so.

3.63   ComReg notes the Speed Fibre Group ('SFG') submission to the PIA Consultation states, "*A major problem for Access Seekers in this regard is that the vast majority of orders are designated as "non-standard" and no backstop with respect to the SLA applies. Furthermore, there is no transparency on what efforts are being made by Eircom with respect to specific orders designated as being "non-standard" and there is no comfort that such orders are being delivered in the shortest timeframe possible.*"[35]

3.64   This extract from the SFG PIA Consultation Submission explains some of the potential concerns that this metric will help to address.

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[34] Eircom Submission, paragraph 48.
[35] SFG Submission to PIA Consultation, response to question 4, sub-section on Access – SLAs

3.65 In other words, there is a risk that standard orders may be categorised or re-categorised as non-standard and in such cases an SLA may not apply, which could reduce the incentive to proactively follow up on service delivery issues. Therefore, non-standard order metrics are required to provide transparency of Eircom's treatment of non-standard orders.

3.66 In its Submission, BT also supported the need for a non-standard metric stating that:

> *"These orders are difficult in the leased line/broadband space. We support ComReg's proposal to track these. A metric is needed on the proportion of standard orders in delivery relative to non-standard orders."[36]*

3.67 A metric to measure the accepted orders that are categorised as non-standard metric will provide necessary transparency and will help to demonstrate equivalence.

Parked Works Orders

3.68 The term 'parked', as utilised by Eircom, denotes that an issue(s) has arisen with regard to an order which is preventing planned tasks from completing, which in turn can delay an order. Some accepted PI orders can become parked during the delivery process.

3.69 The parked order metric measures the percentage of accepted orders that became parked during the delivery process.

Parked Works Orders by reason type

3.70 There are several reasons why orders are parked, such as the need for a wayleave or licence, or awaiting stores, etc. The parked work orders by reason type measures the percentage of parked orders by parked reason type by reference to the total number of parked orders. Using the total number of parked occurrences in the data collection period to calculate the metrics provides greater visibility and transparency for the benefit of ComReg and Access Seekers.

3.71 To illustrate using a hypothetical example: if there are in total 100 occurrences of parked works orders in a data collection period these could be broken down as follows: 50 instances of Awaiting Deviation from Estimate ('**DFE**')[37] Approval, 30 instances Wayleave/Licence, and 20 instances Private wayleaves.

3.72 The resulting metrics will be 50% Awaiting DFE Approval, 30% Wayleave/Licence, and 20% involved instances of Private wayleaves.

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[36] BT Submission, page 2

[37] DFE means Deviation From Estimate and occurs during the provisioning process where additional work is identified requiring additional expenditure that requires approval.

Existing sub-duct utilisation

3.73 This metric measures the utilisation of existing sub-duct for accepted sub-duct orders. In the case of sub-duct Access, an Access Seeker specifies the ingress and egress locations for the duct route(s) in the request for access. The route between the ingress and egress locations can be provided by using existing sub-duct capacity, installing new sub-duct, or a combination of both.

3.74 The available PI (sub-duct) and the PI chosen by the Eircom designer/planner to meet the access request could impact the delivery timeline for the PI order. For instance, installing a new sub-duct requires more effort (i.e., time to deliver the route) in comparison to reusing existing sub-duct capacity on the route(s) or on parts of the route(s).

3.75 ComReg notes that by aggregating the delivery of sub-duct orders containing different route lengths into a single existing sub-duct utilisation metric means that the sub-duct utilisation metric may not provide sufficient transparency on the utilisation of existing sub-ducts between Access Seekers and Eircom. To provide the necessary transparency, the sub-duct utilisation metric needs to be sub-divided into route length categories (e.g., route length bands 1, 2, 3). The concept of route length bands is explained in more detail in paragraphs 3.120 to 3.122

3.76 Eircom refers to [✂ ██████████████████████████
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3.78 Whether Eircom chooses to install a new sub-duct or use a spare bore in an existing sub-duct can significantly impact the provisioning timeline, so in ComReg's view the metric is relevant and necessary.

3.79 ComReg does not accept that Eircom would be unable to report on whether new or existing sub-duct has been used when providing PI Access. It is not credible that Eircom does not have or would be unable to collect sufficient information to

determine whether new sub-duct or an existing sub-duct has been used to meet an Access request or meet its self-supply requirements.

Bulk Orders

3.80 In certain circumstances orders may be grouped into bulk orders for convenience. For example, if an Access Seeker wants to access a high proportion of the available ducts and/or poles within a geographic area such as an exchange area(s) or sub-divisions of an exchange area(s), rather than submitting multiple orders for discrete PI routes or sections of PI routes, the Access Seeker may submit a type of bulk order. In these circumstances, it is more appropriate to measure performance by reference to a bulk order metric based on the aggregated PI volumes consumed for the data collection period, e.g., per quarter. A "Bulk Order" accordingly is a single order that may include one or more PI Access types including but not limited to Duct, Sub-Duct, Poles and Chambers. Large-scale PI Access facilitated by Eircom through the use of Major Infrastructure Programmes ('**MIP**') will include bulk orders.

3.81 Eircom stated in its Submission that:

> *"Assuming the PIA market review concludes by the end of 2023, and assuming ComReg can justify the imposition of remedies including KPIs, significant IT development will be required to meet the high standard of EOI proposed by ComReg in the PIA consultation. Adding the additional time required to develop KPI reporting systems means that a new PIA KPI reporting regime can only be implemented towards the end of 2025, around the same time the MIPs are winding down in terms of route preparation."[38]*

3.82 In ComReg's view this position does not hold. Large scale projects that require bulk orders can occur from time-to-time with the duration dependent on the scale of the project. The status of current projects does not negate the requirement for transparency to be available for future projects that would require bulk order metrics to be reported. KPI metrics have two functions; to provide transparency regarding performance for ordering, provisioning, and service assurance, and to provide a relative performance measure to help monitor an SMP operator's compliance with their non-discrimination obligation. Regardless of whether projects may soon be coming to an end or may overlap, bulk order metrics will provide transparency into the future.

3.83 Two sub-categories within the bulk order metrics, namely, elapsed time and order volume related metrics, should provide adequate transparency.

3.84 The elapsed time bulk order metrics measure the elapsed time from when a bulk order is submitted to when the orders is accepted using descriptive statistics which measures the relative performance between an Access Seeker's bulk

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[38] Eircom Submission, paragraph 33.

order and an Eircom's bulk order. A civil work pack creation to civil work pack completion elapsed time metric, measures the elapsed time from when the civils work pack is created to when the civil works element of the are completed (e.g., has reached an in-service status on Eircom's physical inventory system).

3.85 Performance in respect of bulk orders will be affected by those circumstances where the requested PI Access cannot be delivered for unforeseen reasons. This situation can occur typically for a small percentage of the PI Access requested. When this situation occurs, Eircom informs the operator that the access cannot be delivered. The operator can change the request and select an alternative PI through a change request, if necessary.

3.86 ComReg also considers that two change request metrics are required which will measure the difference in volume of Access Seeker change requests relative to Eircom change requests and help to identify potential problems. ComReg notes that counting only the total number of change requests is not sufficient, as the detail relating to the scale of the change would not be recorded. The first change request metric measures the total number of change requests and the second change request metric measures volume of PI affected by the change requests.

3.87 In the context of bulk orders the concepts of cancelled, completed, residual and undeliverable metrics are measured cumulatively over multiple data collection periods.

3.88 The bulk order metrics is explained below by way of a hypothetical example.

3.89 In Q1 2023, an Access Seeker submits two bulk orders requesting access to 20,000m of sub-duct and 600 pole replacements, and 15,000m of sub-duct and 400 pole replacements.

3.90 Cumulatively this equates to 35,000M of sub-duct and 1,000 pole replacements. At the end of Q1 2023, 32,500M of sub-duct were completed and 800 poles were replaced. In percentage terms 93% (i.e., 32,500/35,000 X100%) of the sub-duct Access requested was completed and 80% (i.e,. 800/1,000 X100%) of the requested pole replacements were completed. Therefore, the residual (i.e,. the outstanding) sub-duct and pole replacements are 7% and 20% respectively of the requested PIA.

3.91 The Q1 2023 residual bulk orders metrics is calculated in Q2 2023 as follows: at the end of Q1 there was 2,500M and 200 pole replacements that did not have a final status, so the baseline for the metric calculations in Q2 2023 is 2,500M of sub-duct and 200 poles. In Q2 2023, hypothetically, an additional 2,000M of sub-duct were delivered and additional 180 poles were replaced.

3.92 In percentage terms at the end of Q2 2023 cumulatively 98.57% (i.e., 34,500/35,000 X100) of the sub-duct were delivered and cumulatively 98% (i.e.,

980/1,000 X100) of the requested pole replacements were completed. This means that at the end of Q2 2023, the residual sub-duct and pole replacements for Q1 2023 is 1.43% and 2% respectively.

3.93 Each PI bulk order metric is reported cumulatively for three quarters. In practice this means that PI components ordered with a bulk order, for instance in Q1, that reach their final status in Q1 will have their metrics reported for Q1. The PI components ordered in Q1 that reach their final status in Q2 will be added to the PI metrics of the orders that reached that final status in Q1. Similarly, the PI components that reach their final status in Q3 will be added to the final status metrics for Q1, as illustrates in (Table 1 below). This cycle will be repeated for the PI bulk orders submitted in Q2, Q3 and so on.

3.94 The same methodology and cycle will be used to calculate the percentage for completed, cancelled, undeliverable and residual metrics for bulk PI orders.

3.95 Below are examples of bulk PI order metrics using hypothetical data for illustrative purposes. Two sets of tables are required, that is, one set of tables for Access Seekers and one set of tables for Eircom.
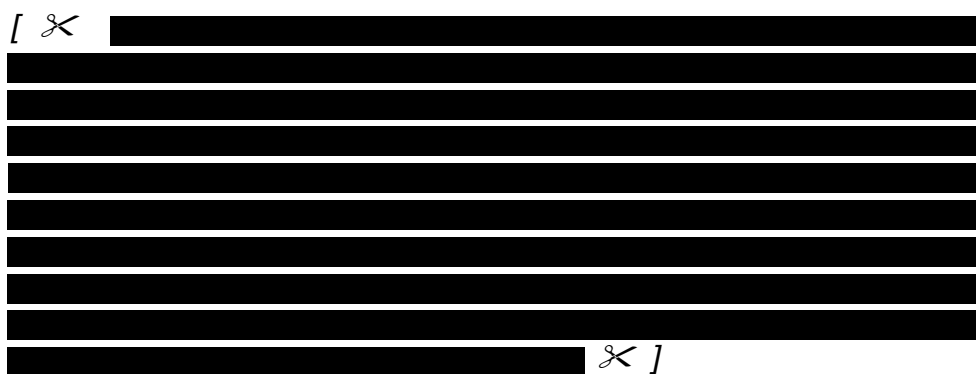
Table 1

PI Type	% Change requests as a percentage submitted orders by volume	% Completed orders as a percentage submitted orders by volume	% Cancelled orders as a percentage submitted orders by volume	% Undeliverable orders as a percentage submitted orders by volume	% In final status at the end of data collection period i.e. the sum of Completed, Cancelled, and Undeliverable	% Volume of requested access that has not reached a final status at the end of the data collection periods i.e. residual
Duct	0%(Q1)	97%	2%	1%	(97+2+1)=100%(Q1)	0% (Q1)
Sub-duct	3%(Q1)	65%	3%	2%	(65+3+2)=70%(Q1)	30% (Q1)
Pole	2%(Q1)	80%	1%	1%	(80+1+1)=82%(Q1)	18% (Q1)
Chambers	0.5%(Q1)	75%	1%	2%	(75+1+2)=78%(Q1)	22% (Q1)
Duct	0%(Q1)+0%(Q2)=0%	0%	0%	0%	100%(Q1)+ (0+0+0) 0%(Q2)=100%	0% (Q2)
Sub-duct	3%(Q1)+1%(Q2)= 4%	13%	3%	3%	70%(Q1)+ (13+3+3) 16%(Q2)=86%	14% (Q2)
Pole	2%(Q1)+2%(Q2)=4%	10%	0%	0%	82% (Q1)+ (10+0+0) 10%(Q2)=92%	8% (Q2)
Chambers	0.5(Q1)+2%(Q2)=2.5%	10%	1%	2%	78% (Q1)+ (10+1+1) 12%(Q2)=90%	10% (Q2)
Duct	0%(Q1)+0%(Q2) +0%(Q3)=0%	0%	0%	0%	100%(Q1)+ (0+0+0) 0%(Q2)=100%	0% (Q3)
Sub-duct	3%(Q1)+1%(Q2) +0%(Q3)= 4%	12%	0%	2%	70%(Q1)+16%(Q2)+(12+0+2) 14%Q3=100%	0% (Q3)
Pole	2%(Q1)+2%(Q2) +0%(Q3)=4%	7%	0%	1%	82% (Q1)+10%(Q2)+(7+0+1) 8%Q3=100%	0% (Q3)
Chambers	2%(Q1)+0.5%(Q2) +0%(Q3)=2.5%	10%	0%	0%	78% (Q1)+12%(Q2)+(10+0+0) 10%=100%	0% (Q3)

3.96 Eircom in its Submission challenged the development effort required to report bulk order KPI metrics stating that:

> *"…given the significant amount of development required to generate these metrics eir questions the proportionality and benefit of implementing Order and Provisioning metrics for bulk orders."[39]*

3.97 Eircom's statement appears to suggest that significant IT development would be required, starting from scratch and building a reporting solution from the ground up. ComReg does not believe this is the case. ComReg notes that Schedule 18 of the Schedules to the Eircom-KN ODN Agreement indicates that,

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3.98 There accordingly are existing capabilities available to Eircom which Eircom ought to be in the position to use to report on KPI Metrics.

3.5 Process points metrics: for orders, road opening licences, and delivery related metrics

3.99 The process points metric provides descriptive statistics (the mean, mode, median, standard deviation, skewness, and kurtosis) regarding the elapse time between the following process points:

(a)　from order submitted -- to order accepted (ET1)

(b)　from order accepted -- to new works order creation or works order amendment (ET2)

(c)　from new works order creation or works amendment -- to PI ready for use (ET3) e.g., FFPU.

3.100 They reflect the PIA orders' lifecycle that starts when the PIA order is submitted and ends when accepted orders reach a final status (e.g. the completed status).

3.101 The Diagram 3 below depicts at a high-level the PI order end-to-end life cycle with each of the main process points.

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[39] Eircom Submission, paragraph 55.

Diagram 3
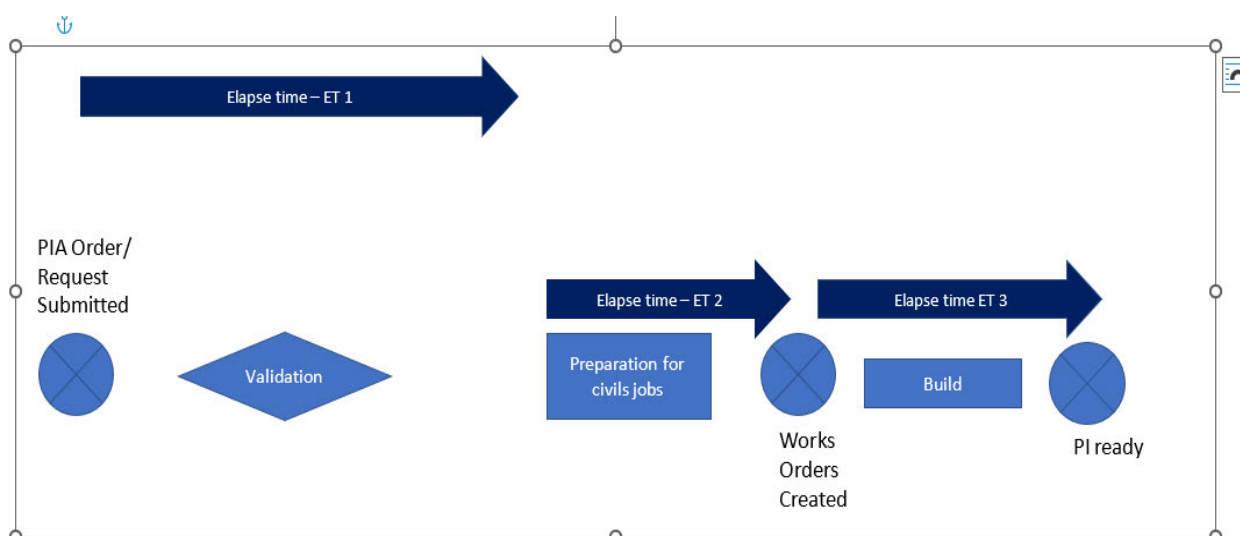
Duct remediation (clearances, excavation, and duct remediation) metrics

3.102 Underground duct routes over time can become damaged for various reasons such as ingress of tree roots into the duct, crushing of the duct, or subsidence. If a duct is damaged, access to that duct can be impeded and may need to be remediated. At some point the requirement to remediate the duct will be identified, normally during the rod, rope and test process.

3.103 To remediate an underground duct route, excavation will be required to expose the damaged section(s) of duct. To excavate a carriageway, a footway, or a verge requires permission from the relevant licensing authority, e.g., a local authority. The local authority may grant the licence with or without conditions, or not grant the licence. Timeliness of the licence application process and the related remediation after the licence has been granted may be measured as follows:

(a) from duct remediation identification to the road opening licence application,

(b) from road opening licence grant to completion of the duct remediation, including excavation [40], and

(c) from duct remediation identification to completion of the remediation.

3.104 In particular, where excavation is required and Access Seekers elect for Eircom to clear blockages, the time taken to make the licence application and the time taken to remediate the duct once the licence is granted affects the delivery of the PI products and services. Monitoring the length of time prior to the licence

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[40] ComReg notes that the "completion of the duct remediation" is not the completion of the T5 notification on the MapRoad Licensing system corresponds to the point when the field staff have completed the repair.

application and after the licence has been granted provides transparency as regards delays arising.

3.105 As Eircom is not responsible for the processing of the licence applications following its submission to the relevant local authority or other intermediaries (i.e., the Road Management Office), metrics that measure third party processing delays on the overall cycle time and the cycle times for the intermediatory process steps are required. In this regard, a first set of metrics will measure the full elapsed time without any time periods excluded; A second set of metrics will be adjusted for third party delay i.e., local authority processing time.

3.106 All Respondents, other than Eircom, agreed with a duct licensing elapsed time processing metric. Virgin Media was of the view that "*ComReg is also right to look in more detail at KPIs relating to licenses and duct remediation – these are important events that can (and do) affect circuit delivery, sometimes significantly, and so it is important that they are better understood*"[41]. NBI supported "*the inclusion within the KPI framework of metrics on Local Authority licensing. While this relates to a third-party activity that is outside Eircom's control, it is nonetheless important information to collect from an EoI perspective*"[42].

3.107 Eircom however stated in its Submission that "… *eir is not responsible for the processing of licence applications which are managed via the MapRoad Licensing (MRL) system maintained by the Road Management Office. For the purpose of reporting and generating KPI metrics eir does not have access to the MRL system and is not able to report on these metrics without having to develop its own systems to mirror the inputs and outputs of the MRL.*"[43]

3.108 ComReg notes that gaining access to the MRL system or access to data it contains is relatively easy as the MRL has a query interface which enables MRL system users to generate reports on licence applications. Those reports can be downloaded and stored in a format that can then be processed.

3.109 Furthermore, when the sequences of events related to a licence application are considered (1) the need for a licence is identified, (2) the licence application is submitted, (3) when the licence application is granted then the related work is scheduled, and (4) when the work that required the licence is completed, it is flagged as complete e.g. in order to trigger billing for the requested access or for other purposes, the sequence of events or similar sequences are likely to be already in place. Therefore, the data associated with these events could be used as inputs to the calculation of the required metrics.

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[41] VMI Submission, page 9, Question 3 response.
[42] NBI Submission, page 6, Question 3 response.
[43] Eircom Submission, paragraph 60.

3.110 Having regard to the reporting facilities of the MRL system and the likely sequence of events outlined, in ComReg's view the requirement for such metrics is proportionate, and the benefits of the transparency provided by reporting these metrics outweigh the burden. For the avoidance of doubt, ComReg is not proposing or recommending any specific reporting solution so that Eircom can select the most efficient way insofar as it is concerned to measure and report on performance.

The percentage of licence applications rejected by the licensing authority

3.111 When a licence application is submitted to the licensing authority there may be a delay in processing because of, for example, an error or because information is missing from the licence application.

3.112 The purpose of this metric is to measure relative differences in the percentage of licence application rejections for Access Seekers and for Eircom itself both for T2 and T3 licence applications.

Duct remediation metrics grouped by duct diameter

3.113 As explained in paragraph 3.102 ducts can be damaged for a variety of reasons, which can prevent the installation of sub-ducts or cables into the duct unless it is remediated. The elapsed time metrics relating to remediation are explained in paragraphs 3.103 to 3.104

3.114 ComReg notes that, for the purposes of accessing PI, there are three surface types: namely verge, footway and carriageway. Considering the differences in surface types it is likely that a remediation cycle time where excavation is required will be influenced by the surface type; for instance, the remediation of a duct on a main urban road compared with the remediation of duct in the grass verge on a country road, or the remediation of the duct on footway in a suburban housing estate. However, ComReg considers that duct remediation metrics based on the duct diameter provides sufficient transparency on duct remediation performance for Access Seekers and Eircom and that a requirement to report on each surface type by diameter would be disproportionate.

3.115 Eircom also made the point in its Submission that using the duct diameter to sub-divide the duct remediation metrics into two duct diameter categories would also be disproportionate as Eircom would need to capture duct diameter per remediation job in circumstances where there is no difference in remediation process regardless of the duct diameter, giving rise to questions as regards the

perceived benefit of capturing the reporting duct remediation by duct diameters[44].

3.116   On the basis that fundamentally the process to remediate a duct ought to be the same regardless of the duct diameter, ComReg agrees that it is not necessary to sub-divide the duct remediation metric by duct diameters (i.e. of equal or greater than 100mm and less than 100mm duct diameter) and that one set of duct remediation metrics is sufficient, irrespective of the duct sizes that are deployed in the network.

The average number of blockages per kilometre

3.117   When PI orders are validated, and the order is accepted, the PI delivery process can begin. One of the necessary service delivery tasks for duct and sub-duct Access is a Rod, Rope and Test ("RRT"). RRT requires a rod to be pushed between two access points (e.g., chambers) in order to demonstrate that the duct segments between the access points are clear i.e., not blocked.

3.118   Some duct blockages can be cleared without excavation whereas other duct blockages require excavation and repair of the duct. Generally speaking, the higher the number of blockages per kilometre of duct, the longer it will take to make the duct ready to host either new sub-ducts or to install cables into existing sub-ducts, which will impact on the order completion timescales.

3.119   A metric to measure the average number of blockages per kilometre would provide useful information. Clearing duct blockages that require excavation and repair will naturally take longer to complete than clearing duct blockages that do not require excavation and repair of the duct. However, in its Submissions Eircom pointed out that a metric to measure the average number of blockages per kilometre or a metric to measure the number of blockages per kilometre that are cleared without the need for excavation will not demonstrate equivalence and Eircom has no control over the number of blockages that occur. Having considered the matter, ComReg accepts that the duct remediation metrics are sufficient to provide the required transparency and that a metric measuring average number of blockages per kilometres from the PI KPI metric suite is not necessary.

Route Length Categories

3.120   In order to ensure that the PIA KPI metrics provide meaningful information, ComReg believes that it is necessary to disaggregate process point metrics into route length categories so that any issues relating to short routes are not masked/hidden by issues relating to longer routes and *vice versa*, thereby

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[44] Eircom Submission, paragraph 61.

minimising the risk that incorrect conclusions are drawn from published metrics regarding the performance of PI products and services.

3.121 This can be explained by two sample scenarios. In scenario 1, an Access Seeker requires access to 250 metres of new sub-duct, and in scenario 2, an Access Seeker requires access to 4,000 metres of new sub-duct. The effort required to provide access to 250 metres of new sub-duct is less than the effort associated with providing access to 4,000 metres of new sub-duct, resulting in longer timescale for a longer route. Combining the elapsed time for both scenarios in a single metric would say little, if anything, on the elapsed time on either route. In other words, potential issues relating to short routes may be masked/hidden by issues relating to longer routes or vice versa, which could lead to false conclusions regarding the performance of PI products and services from the published metrics.

3.122 To help minimise the impact of aggregating different route lengths[45] into a single set of metrics, ComReg categorises the metrics into four bands according to the route length of the sub-ducts, and for poles, according to the number of poles per order: band **1** for all orders less than or equal to 500 metres, band **2** for all orders greater than 500 metres to less than or equal to 2500 metres, band **3** for all orders greater than 2500 metres to less than or equal to 5000 metres, and band **4** for all orders greater than 5000 metres.

3.123 For poles, there are 3 pole route length categories as follows: band **1,** up to and including 3 poles, band **2,** from 4 to 10 poles, and band **3,** orders with more than 10 poles.

3.124 Eircom, in its Submission, was of the view that the proposed route lengths for the metrics were arbitrary, and that ComReg has failed to consider availability and usability of the existing information. Eircom also claimed that to differentiate the metrics by route length is not proportionate and "*ComReg must undertake a proper proportionality assessment which assess ComReg's perceived benefit of the differentiation compared to the costs of reengineering eir's systems and process and the anticipated low levels of demand for PIA outside of the NBP.*"[46]

3.125 ComReg notes however that the concept of route length differentiation is already established and is an intrinsic part of PI Access. For example, Eircom uses route lengths measured in metres and in the number of poles consumed for PI ordering and billing. Furthermore, the route lengths bands selected for the metrics are not arbitrary. Rather, they are based on a consideration of network topology, historical technology choices, existing CEI order sub-categories, potential variation in the location of customer premises, current

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[45] For the purposes of the KPI PIA metrics, route length is the distance between the requested ingress and egress locations consisting of one or more route segments.
[46] Eircom Submission, paragraph 63.

interconnection locations and the need for new interconnection locations, and the need for sufficient granularity to provide the necessary transparency.

3.126 Street cabinets and handover locations are important nodes in the network that are linked and served with PI. The distance from the customer premises to street cabinets, from the customer premises to serving exchange, from street cabinets to the serving exchange can vary significantly. A single route length band will not provide sufficient granularity because of the variations in the route lengths that will occur, so a range of route length bands is necessary and appropriate.

3.127 The 500m route length band is based on Type 1 order of current duct Access product, which has an upper limit of 500m. The 5000m route length band is based on the approximate upper distance limit of Digital Subscriber Line ('DSL') Technology.

3.128 A trade-off between the number of bands and granularity is required. Without sufficient granularity for example a 501m route and a 4999m route would be in the same band, which could skew the PI KPI metrics. To provide sufficient granularity an additional route length band is considered appropriate, demarcated at 2500m.

3.129 It is also appropriate and necessary to include a route length band that exceeds 5000m including to account for longer PI routes such as where there are primary/main aggregation points (e.g., NGA aggregation node) for multiple exchange areas or similar geographic areas, for PI routes that interconnect aggregation nodes or similar. ComReg also notes that FTTx paths, and therefore PI routes, can be significantly longer than copper access paths because of the superior performance of fibre cables.

3.130 Additional route length bands could provide even more transparency. However, four duct route bands are considered by ComReg to provide sufficient information to provide, at present, the necessary transparency without overburdening Eircom.

3.131 Pole route band 1 (i.e., up to and including three poles) is based on Eircom's FTTH design, [✂ ████████████████████████████
████████████████████████████ ██████ ████████████████ ✂] [48]
Similar to duct, a single pole route length would not provide sufficient granularity because of the potential variation in pole route lengths that will occur, excluding connections from the customers premises to FTTH Distribution Points. Therefore, two additional pole route bands are considered appropriate

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[47] Network Touch Point (NTP) -- where customer property boundary meets public road / property.
[48] Eircom's presentation "NGA FTTH Delivery" dated 12/10/2016.

demarcated at 10 poles and above. The pole route band 2 aligns with duct route band 1 i.e., up to and including 500m.

3.132 For all these reasons, it is appropriate and justified to require that Eircom measures performance by route length and the choice of four bands for ducts and 3 for poles strikes a proportionate balance in terms of the level of transparency achievable and the burden on Eircom.

Dark fibre metrics

3.133 In the PIA Decision, ComReg requires Eircom to offer access to its Dark Fibre (where reasonably available), where Access to PI is not available. Access to a particular duct or pole route may not be available because a particular portion of a duct or pole route may be full (no usable space), or the duct infrastructure may be extensively damaged.

3.134 In its Submissions, Eircom questioned the proportionality of requiring reporting systems to be developed in circumstances where a situation where dark fibre is offered in lieu of Duct Access has yet to arise and seems unlikely to arise to any material extent going forward.

3.135 Having considered the Submissions received, as dark fibre Access is a contingent obligation provided when PI Access is unavailable, ComReg accepts at this time that it is not necessary to require Eircom to publish KPIs in respect of Dark Fibre Access. ComReg reserves the right, were there a material change in circumstances such as a material increase in the provision of dark fibre Access where PI Access is unavailable, to reconsider the issue and require as the case may be and in any event, following public consultation, Eircom to publish KPIs for Dark Fibre Access.

3.6 Fault Metrics

Fault validation metric (Accepted and Rejected)

3.136 When PI faults are identified by an operator, they are logged using the appropriate processes and channels. The logged faults are validated by Eircom. Eircom can either accept or reject the logged fault. Once a fault is accepted, the fault localisation and repair processes can commence.

3.137 The fault validation metric measures the percentage of submitted PI faults that are accepted and rejected.

3.138 ComReg accepts that faults may be rejected for reasons outside of Eircom's control. However, irrespective of the root cause reason for the fault rejection, the fault rejection metric will provide transparency that may help to identify process improvements should they be required either by Eircom or by Access Seeker(s).

3.139 In its Submissions, Eircom noted that the purpose of such a KPI is "*for identifying process improvements*" which was not consistent with "*the purpose of equivalence KPI metrics* [which] *is to demonstrate equivalence through metrics that show equivalent performance … A PI fault is rejected based on insufficient information being provided to enable identification of the location of the fault to enable repair. The level of information provided by an Operator is outside the remit and control of eir as set out in paragraph 3.87.*"[49]

3.140 However, KPI metrics serve two purposes, namely providing transparency and helping to detect potential discrimination. From a transparency perspective, the rejected fault order metric provides process performance information, i.e., the percentage of fault orders rejected. This resulting information can be used to identify process issues that may or may not need to be resolved. Hypothetically, if a PIA KPI metric identifies a potential discrimination issue a process change may be required to remediate the issue.

3.141 ComReg notes that the purpose of the fault rejection metric is to provide information regarding the level of fault order rejections. The purpose of the rejected order metric is not to identify the root cause of the rejections but to measure overall percentage rejections regardless of reason.

Fault metric elapsed time metrics

3.142 In addition to the basic PI fault validation metrics, another important set of metrics are the fault repair process point elapse time metrics. Diagram 4 below provides a high-level overview of the PI fault related process flow. When a fault is identified with an active service, in cases where the fault diagnosis process identifies that the root cause of the active service fault is damage to a PI component(s), the operator (Eircom or the Access Seekers) logs a PI fault report. Eircom validates the fault. If the fault is accepted, then the PI fault repair process is triggered (i.e., request to fault issued to the relevant team). When the PI component is repaired/replaced, the operator that raised the passive access fault is informed. At that point, the operator can start the process of replacing its damaged fibre cable(s).

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[49] Eircom Submission, paragraph 66.

Diagram 4
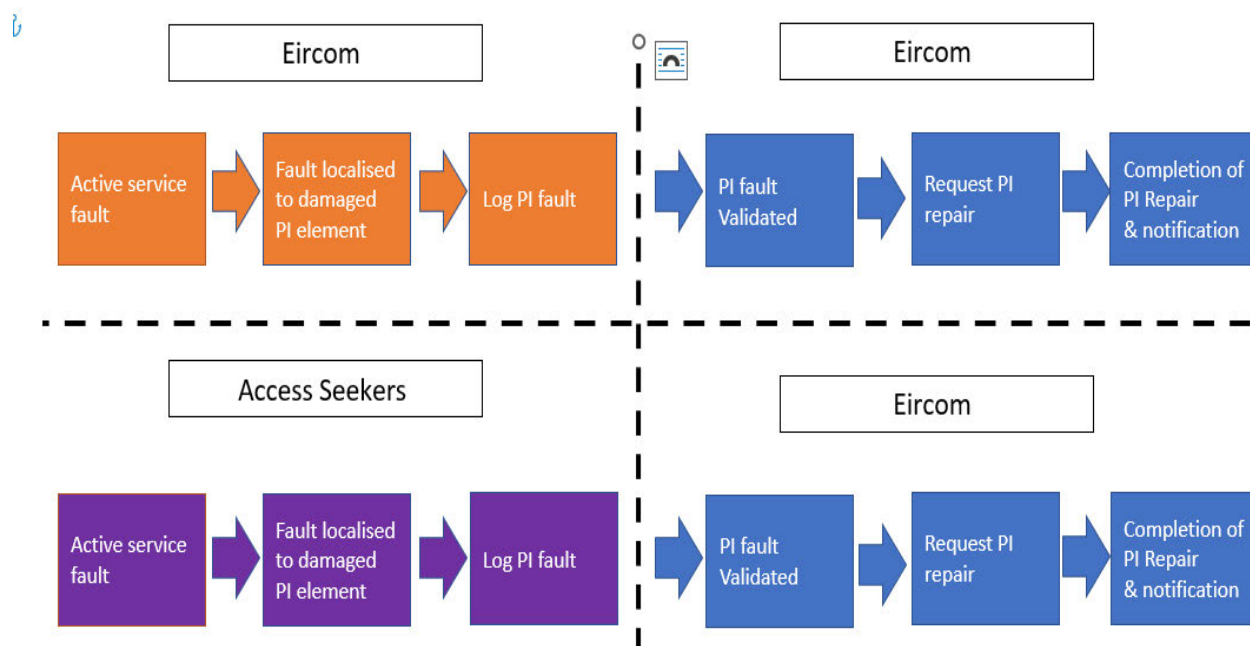
3.143 These metrics measure the elapsed time between key milestones in the fault repair lifecycle. The process point milestones are as follows:

(a) Elapse time from log PI fault to PI fault validated.

(b) Elapse time from PI fault validated to Request for PI repair.

(c) Elapse time from Request for PI repair to Completion of repair and notification that the PI has been repaired (i.e., declared fit-for-purpose by Eircom).

3.144 ComReg appreciates that there may be dependencies on third parties to complete PI repairs and that these may impact the overall cycle times. For example, whilst Eircom is responsible for requesting the relevant licence from the relevant local authority, Eircom is not responsible for the actual processing of the license applications, which is the responsibility of the relevant local authority. Accordingly, there are two sets of metrics. The first set of metrics measure performance using the full elapse time without any time periods excluded, and the second set of metrics is adjusted for third party delays e.g., local authority processing time, allowing quantification of third-party processing delays on the overall cycle time.

3.145 In addition, a separate metric is required for those circumstances where a PI repair may be implemented without the need for a new licence application to the local authority, for example, where a third-party damages a duct, notifies

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Eircom and leaves the excavation open. In these circumstances, the damage duct/sub-duct could be repaired without the need for a new licence. A 'no-new-licence required' metric will provide transparency regarding the PI repair cycle-time when a new license is not required to repair PI.

3.146 ComReg also considers that it is necessary that stakeholders can fully understand the reasons for the excluded time periods. Therefore, all excluded periods should be explained and justified in the PIA KPI business rules documentation.

3.147 In its Submissions, Eircom queried the value of the metric on the basis that ComReg would not have taken into consideration "*…that a fault on an active service may be temporarily restored and that subsequently at a later date the repair to the PI completed allowing a permanent restoration. In such cases the elapsed time to permanent restoration could be significantly longer but the fact is that a temporary solution has been put in place such that the Operator's active service has been restored.*"[50] Eircom was also concerned that "*following a report from a wholesale of downstream customer of an outage of service such as broadband or a leased line… A subset of these active service faults may require PIA intervention, but this is not currently recorded as a separate PI fault,*"[51] and that "*…PI repairs associated with active service faults cannot be easily identified or reported on today*"[52], because to do so would require significant changes Eircom's IT systems and work practice.

3.148 However, it is unclear to ComReg how a PI fault can be repaired without a separate PI fault being logged. ComReg also notes that there is a direct relationship between active service outage when the root cause of the active service outage is damage to PI component(s). ComReg understands that it is possible to temporarily restore an active service before damaged PI components are permanently repaired. When there is an interruption of the active service, for example in the case of an NGN service fault, the customer may submit a fault report or the fault may be raised by the Network Management Centre staff if an alarm has alerted them of a service interruption. Once alerted to a service interruption, one of the first steps is to identify the cause. If the service interruption is caused because of damage to PI components, then the PI repair processes can be triggered. The temporary restoration of active services and repair to PI component(s) are linked but are different tasks.

3.149 Measuring elapsed time for the temporary repair of PI components or the temporary restoration of active services are different and require different

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[50] Eircom Submission, paragraph 67
[51] Eircom Submission, Paragraph 65.
[52] Eircom Submission, paragraph 67.

metrics. In ComReg's view measuring elapsed time for permanently repaired PI is the appropriate metric to measure. The possibility that certain PI faults may take longer to repair when there is temporary restoration of active services is precisely one the reasons for the elapsed time repair fault metric. The de-prioritisation of PI fault repair in certain circumstances has the potential to be discriminatory and is one of reasons why the PI KPI fault repair elapsed time metrics are required.

3.150 Whether or not a subset of active service faults that require PI interventions are recorded at present does not prevent this information from being gathered and used for the purposes of reporting PI KPI metrics.

3.151 At a high level, ComReg understands that when a fault is identified with an active service one of the key steps is to identify the root cause of the service outage through a fault diagnosis process. Once the root cause of the fault is localised to the PI component, the infrastructure fault repair process can be initiated. A maintenance team can be dispatched to locate the specific damage. The team assesses the severity and type of damage to the infrastructure so that the infrastructure fault repair process can commence. As appropriate and as a separate task, a maintenance team may then complete a temporary repair of the Eircom cables.

3.152 Fundamentally for active service outages no material change to the logical process flow should be required. An active service outage is identified, a fault report is created, the active service fault diagnosis process begins, when the fault is localised to a PI component, the infrastructure fault repair process is initiated. It is not clear therefore, why significant changes to Eircom's IT systems and work practice would be necessary to associate and identify PI repair with an active service outage and Eircom has provided no explanations in this regard.

3.153 The parent / child fault relationship (i.e., the parent fault being the active service fault and the child being the PI fault) exists from the "log PI faults" process step as explained in paragraph 3.150. ComReg is not imposing a particular solution as this is a matter for Eircom to implement having regard to its obligations.

3.154 ComReg remains of the view that the PI fault repair metrics are required because of the transparency benefits they will provide.

4 KPI processing, reporting and auditing requirements

4.1 Application of the requirements set out in Decision D04/22

4.1 The 2022 KPI Decision sets out a range of requirements in respect of KPI processing, reporting and auditing. In particular, and in summary, Eircom is required to:

    i.   Publish a KPI Metrics Report on a quarterly basis, two months after the end of each reporting quarter, including (i) a confidential version for submission to ComReg, containing the numerical data values, i.e., the actual values (for example the number of provisioning orders accepted and calculations such as percentage values), and (ii) a non-confidential version, excluding numerical data and calculations, as appropriate, for publication on Eircom's publicly available website with no restrictions in accessing either current or historical non-confidential versions of the reports, such as password-controlled access or similar;

    ii.   In order to facilitate reporting and enhance consistency, comparison and readability of metrics, use a standardised format for the reporting tables;

    iii.   Not to delay publication where Eircom has identified an issue(s) or potential issue(s) with its validation checks that may require a process change or similar to remediate/resolve, and instead include in the report an advisory note explaining which metrics are subject to further analysis and accordingly, subject to change following the completion of the internal investigation, together with the expected timeline for the conclusion of its analysis, to be followed by progress updates to ComReg on Eircom's internal investigation/analysis at least every 10 working days;

    iv.   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 and to provide the data to ComReg upon request, in the format requested, within 15 working days;

    v.   Publish and maintain on its publicly available website the business processes used by Eircom for the preparation and reporting of the KPI metrics for the products in scope; and

vi.   To keep KPIs current, in terms both of the metrics and the products and services concerned, apply and include in the KPI report KPI Metrics (order, provisioning and service assurance) from launch in respect of new regulated PI products or services.

4.2   ComReg believes that those same requirements as set out in Decision D04/22, and more generally, all procedural provisions made in Decision D04/22, should apply in respect of the new metrics set out for PIA. ComReg in particular sees no reason why current requirements would not be appropriate for PIA.

4.3   In its Submission Eircom was concerned that it would not be able to comply with Section 5.3 of the Decision Instrument at Appendix 1 of ComReg Decision D04/22, which states that "… *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 such business rules, in such detail as to allow replication of the KPI Metrics calculation by a party other than Eircom…*" because some of the data necessary to enable Access Seekers to calculate their individual PI KPI metrics can only be sourced from Eircom's internal workflow systems, so the information is not available to Access Seekers.

4.4   The purpose of publishing the KPI business rules in ComReg Decision D04/22 is to enable Access Seekers to calculate their individual KPI metric against Eircom's and industry average. In ComReg's view, the necessary source data can be made available in a variety of ways to Access Seekers and the fact that certain data may only be sourced from Eircom's internal workflow systems does not mean that it cannot be made available to Access Seekers. For example, Eircom could extract the relevant information and provide it to Access Seekers with standard open format data files. Eircom could also circulate the metrics for each Access Seeker separately and provide the PI KPI metrics to each relevant Access Seeker (proposed by Virgin Media in its Submission to the Consultation[53]). However there is no obligation on Eircom to do so and ComReg notes that while both approaches could be equally effective in providing transparency, providing the business rules and the data sets to Access Seekers will be less onerous because Eircom will not be required to complete the metrics calculations and analysis for each Access Seeker within the two-month timeframe after the data collection period. Providing the raw data together with the PI KPI Business Rules, in sufficient detail to enable Access Seekers to calculate their own PI metrics to compare against Eircom's performance and the aggregate performance of Access Seekers is a requirement that also applies in respect of PI KPI.

4.5   This PIA KPI Decision adds to Schedule 3 of the 2022 KPI Decision Instrument, the metrics to be used to measure PIA performance as set out in Schedule 1 of

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[53] Virgin Media Submission, page 10

the Decision Instrument at Appendix 1 of this Decision, and to add to Schedule 4 of the 2022 KPI Decision Instrument, the tables that Eircom will be required to use to report on PIA KPIs, as set out in Schedule 2 of the Decision Instrument of this Decision. Insofar as Eircom's obligation to retain data for two years is concerned, this should be understood to run from the completion of a PI Order insofar as PIA KPIs are concerned.

4.6   Eircom stated that it "*does not agree with the data retention principle proposed in paragraph 4.3 of the consultation which suggests the data should be retained for 2 years from completion of an order. This is contrary to the retention policy established in D04/22 whereby quarterly KPI metric data must be retained for a period of two years, which is independent of the order completion date. The proposal in paragraph 4.3 is unnecessarily cumbersome and would require retention of a data set which is different to that used to generate the KPI report given that the baseline for all PI metrics is orders accepted in a quarter not orders completed*".[54]

4.7   ComReg notes that the Access obligations for the WLA and the WCA markets (to which ComReg Decision D04/22 applied in respect of such KPIs) resulted in a suite of Access products, services and associated facilities. These wholesale inputs in comparison to the PI wholesale inputs are different. An electronic enabled Virtual Unbundle Access (VUA) product is provisioned using an automated process that in practice can be completed in a matters of hours in comparison to duct Access that may require the installation of new sub-duct. The installation of new sub-duct is predominantly a manual process and is likely to require longer lead-in times in comparison to electronic enablement, or service provisions that require the installation of a fibre cable from a distribution point to the customer premises.

4.8   In the case of active service products and unbundled wholesale services, a period of 2 years from the end of the quarter the order was accepted is considered appropriate given the nature of the products. Considering the differences in the nature of PI Access products, the provisioning of PI may require longer lead times compared to active service products, and it is considered more appropriate that the retention period should commence at the end of the quarter in which the PI order is completed. ComReg also notes that the retention of data records for 2 years from a certain point in time, whether that reference point is at end of the quarter from when the PI order is accepted or whether that reference point is at the end of the quarter from when the PI order is completed, is, conceptually, the same. A reference point in time is picked and data is retained for a fixed period from that time.

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[54] Eircom's submission, paragraph 71.

4.2   Implementation Timelines

4.9   ComReg allowed Eircom a period of 7 months following the KPI Decision D04/22 for its implementation. In this Decision, ComReg provides the same period to Eircom to prepare for extending the application of those requirements to PIA KPI. More particularly, in order that Eircom has sufficient time to put in place monitoring and reporting processes, the first PIA KPI metrics report will be published 12 months after the effective date of this Decision thus allowing Eircom a period of 7 months to identify, document and implement any development and processes that may be required for the monitoring and reporting of KPIs, a period of 3 months for the first data collection period, and a further 2 months to gather, process and publish the PI KPI metric report.

4.10   ComReg considers that 2 months after each quarter is a sufficient period of time to run validation checks, identify any potential anomalies and conduct an initial investigation of root cause(s), if required.

4.11   ComReg understands that most of the data necessary to compile and report the PIA KPI metrics is readily available to Eircom from a variety of Eircom's Operation Support Systems and/or third-party system(s). However, where additional data is necessary to complete the metric set then the additional data can be gathered/collected by Eircom.

4.12   To assess the feasibility and the effort required to develop a reference solution for reporting the PIA KPI metrics, and to document the PIA KPI business rules, ComReg engaged technical advisors, KPMG Ireland Consulting (**'KPMG'**), to carry out an independent assessment. Using information already available to ComReg, plus information in the public domain, and additional information gathered using Statutory Information Requests, KPMG analysed the feasibility effort that would be required to implement the PIA KPI requirements.

4.13   Based on KPMG's analysis, in their view a period of six months is sufficient to allow Eircom to implement a KPI metrics solution to gather the data, calculate, and report on the PIA KPI metrics. Although KPMG's analysis concludes that it is technically feasible to implement a PIA KPI metric reporting solution within 6 months, ComReg remains of the view that a 7 month implementation period is appropriate. The additional time to implement the PIA KPI reporting solution provides an implementation buffer for Eircom with the first PIA KPI metrics report due 12 months from the Effective date of this Decision.

4.14   The detail of KPMG's assessment is included in Annex 1 to this Decision, (document reference 23/41a).

4.15   Eircom expressed the view in its Submission that KPMG's analysis was superficial and extremely flawed because of limitations in the scope of the KPMG

report, and that the analysis is predicated on a false assumption, namely that most of the data necessary to calculate the KPIs is readily available, which "*shortcoming is acknowledged by KPMG itself in section 1.6 of the KPMG report (ComReg 23/41a). In section 1.6 KPMG sets out the scope limitation of the report. Notably KPMG's considerations do not include (inter alia):*

- *access to the IT systems mentioned in the current document. All the data have been provided to KPMG solely by ComReg. KPMG has not received any documents directly from Eircom or any third parties.*

- *Any requirements or decisions to Eircom or ComReg on how the associated data could be extracted, transformed, and downloaded/stored in the Eircom IT systems to generate KPIs*".[55]

4.16 ComReg does not accept that the analysis is superficial. KPMG's analysis is based on a detailed, end-to-end review of Eircom's ordering and provisioning systems and processes and the information that KPMG required to complete its analysis was provided by ComReg to KPMG from information that Eircom had previously provided to ComReg or that was in the public domain. When additional information was required, it was requested from Eircom by ComReg using Statutory Information requests. The fact that KPMG did not receive information directly from Eircom or from other third parties does not render KPMG's report flawed.

4.17 KPMG prepared a feasibility study which by definition, does not include details of the solution design. How information is extracted, transformed, downloaded/stored in the Eircom IT systems to generate KPIs was not within the scope of the KPMG report. ComReg notes that details of the technical solution to report the required PI KPI metrics within the required timeframe is for Eircom to decide upon.

4.18 ComReg does not accept that KPMG's analysis is predicated on a false assumption regarding data availability as claimed by Eircom. ComReg has not assumed that all the data necessary to report the KPIs is currently captured and recorded. The conclusion is reached, that that most of the data is already available to generate the PIA KPI metrics. This is clearly stated in the Consultation. This conclusion is based on an analysis of Eircom's systems and processes using information that Eircom provided to ComReg in response to information requests or from information that is in the public domain. Eircom has not explained in its submission why the analysis is inaccurate other than by means of vague statements.

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[55] Eircom submission, paragraph 72.

4.19 ComReg notes that Eircom on several occasions in its Submission referred to specific data being available in free text format and as such being unreliable and unsuitable for KPI metrics. [56] Because information may need to be extracted from systems and processed, or information that is gathered primarily for other purposes may need to be repurposed for PIA KPI metric, does not mean that the information is not available. When an appropriate data entry validation (e.g., control processes) is used then the data recorded in free text can be used for the purposes of reporting PI KPI metrics. The PI KPI metrics are retrospective, so an appropriate data entry validation process can be implemented from the outset to ensure that the data is entered accurately and in the correct format that will facilitate the processing of the data and the reporting of the PI KPI metrics.

4.20 ComReg also notes that information could be extracted from work order systems in .csv format and imported into an excel workbook or into a database for processing. Eircom has previously provided an example of extraction data from WOSAP in .csv format in response to an information request[57] and the ability to extract information from the MRL system is in the public domain and available to Eircom to obtain. For avoidance of doubt, the examples listed are for illustration purposes and are not intended to be a proposed solution or recommendations.

4.21 In its submission Eircom states that significant IT development (re-design the IT workflows for ordering and repair) work will be necessary requiring in the region of twelve to fifteen months, which according to Eircom needs to be completed prior to the implementation of the PIA KPI reporting capability. Eircom has not explained in any detail why such significant IT developments are necessary other than high-level statements.

4.22 Considering that PI Access is an on-going requirement that involves ordering, provisioning, and service assurance tasks, i.e., business-as-usual tasks, it is not clear why significant re-design IT workflows for ordering and repair requiring twelve to fifteen months would be required and Eircom has not provided explanations. In ComReg's view, the necessary changes required to enable KPI reporting could be implemented within seven months from the effective date of the Decision. If Eircom elects to implement IT developments for other purposes, those are separate projects and need to be treated as such.

4.23 ComReg remains of the view that monitoring and reporting on PIA KPI metrics is feasible and proportionate, and that it is possible to implement the requirements to meet this obligation within a period of seven months. This timeframe aligns with the estimate in Eircom's submission to develop a KPI reporting capability[58]

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[56] Eircom's Submission, paragraphs 51,63,77 and 78.
[57] Information request sent by ComReg to Eircom on 3 January 2023.
[58] Eircom Submission. paragraph 73.

when the redesign of the IT workflows for provisioning and repair ,which required for other purposes, are excluded.

4.24   However as a safeguard, where Eircom can demonstrate to ComReg that the data required to report PIA KPIs is not available and it is not possible to record or to gather the data within seven months from the effective date of the Decision, in those circumstances, Eircom may request ComReg to extend the implementation timeline for those specific metrics, where the criteria listed are not achievable. (i.e., the data is not available, and it not possible to record or gather the data within seven months).

4.25   In circumstances where Eircom requests an extension of time, it will be Eircom's responsibility to provide sufficient information to ComReg that clearly demonstrates that data is not available, and that it is not possible to record or to gather the data within seven months of the effective date of Decision. Any such request must be submitted to ComReg within 3 months of the effective date of Decision.

Chapter 5

5 Regulatory Impact Assessment

5.1   The Regulatory Impact Assessment ('RIA') is an analysis of the likely effect of proposed new regulation or regulatory change. The purpose of a RIA is to establish whether regulation is actually necessary, to identify any possible negative effects which might result from imposing a regulatory obligation and to consider any alternatives. The RIA should help identify regulatory options and should establish whether proposed regulation is likely to have the desired impact. It is a structured approach to the development of policy and analyses the impact of regulatory options on different stakeholders. Appropriate use of the RIA should ensure that the most effective approach to regulation is adopted.

5.2   ComReg's approach to RIAs follow five steps:

Step 1: Describe the policy issue and identify the objectives.

Step 2: Identify and describe the regulatory options.

Step 3: Determine the impacts on stakeholders.

Step 4: Determine the impacts on competition.

Step 5: Assess the impacts and choose the best option.

Step 1: Describe the policy issue and identify the objectives

5.3   A key ComReg objective is to ensure that transparency exists in the provision by Eircom of wholesale PI 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 SMP. Transparency obligations are also, in part, designed to allow ComReg to determine whether an SMP operator is meeting its non-discrimination obligations. Non-discrimination obligations require the SMP operator, *inter alia*, to supply wholesale products and services to all Access Seekers to an equivalent quality, including to its own downstream arm. Effective non-discrimination obligations are thus critical in promoting undistorted competition in the best interests of End Users.

5.4   The PIA KPI regime set out in the Consultation and in this Final Decision is designed to ensure that a complete set of relevant, accurate performance data is made available to Access Seekers and ComReg on a regular basis.

5.5   The PIA KPI metrics will provide an objective data source for ComReg (and, where appropriate Access Seekers) 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.

Step 2: Identify and describe the regulatory options

5.6   ComReg has identified two options:

(a)   **Option 1**: To leave the obligation to monitor performance and publish KPIs at a high level without specifying further what metrics should be used and how publication should be carried out; or

(b)   **Option 2**: To further specify the proposed high-level PIA KPI metrics obligation in the PIA Decision in more granular detail in this Decision and amend the 2022 KPI Decision to reflect this further specification, as follows:

i.   Order, Provisioning and Service Assurance KPI metrics;

ii.   Setting up a mechanism in order to keep KPI metrics current;

iii.   Providing for Verification and Audit;

iv.   Providing for Statistical Verification of KPIs; and

v.   Requiring the publication of Eircom's KPI business rules.

Step 3: Determine the impact on stakeholders

Option 1: Do not specify further the detail of the PIA KPI metrics

5.7   This option involves no further specification of the PIA KPI metrics obligation.

Option 2: Further specify Eircom's transparency obligations

5.8   This option involves further specifying Eircom's transparency obligations with respect to the scope and content of PIA KPI metrics to be published.

5.9   Without further specification, the high-level obligation that is imposed in the PIA Decision is unlikely to deliver the level of transparency needed to effectively monitor Eircom's compliance with its non-discrimination obligation, and to provide a useful basis for ComReg (and other stakeholders) to monitor Eircom's performance or compliance with its obligations.

Impact on Eircom

5.10 ComReg acknowledges that effort will be necessary for Eircom to produce the set of PIA KPI metrics associated with the PIA products and services. However, ComReg considers that the additional effort will not to be overly burdensome for Eircom for the reasons outlined in this Decision and below.

5.11 As set out in KPMG's report in Annex 1 to the PIA KPI Consultation (document reference 23/41a), KPMG assessed the feasibility and effort required to implement the PIA KPI metric solution which includes the gathering of data and the processing of the data required to produce the suite of PIA KPI metrics for publication.

5.12 To complete their assessment, KPMG analysed the systems, data flows, and data sets related to ordering, provisioning, and service assurance (fault repair).

5.13 For example, diagram 5 depicts systems and data flows relating to PI for ordering, provisioning (non-bulk). A similar system and data flow analysis was completed for the bulk orders and for service assurance.

5.14 The PIA KPI metric feasibility assessment was based on a detailed understanding of Eircom's systems, data sets, and processes. This understanding was built up through the analysis of information provided to ComReg by Eircom, and analysis of information that is in the public domain.

Diagram 5 -- System and data flow

[✂

✂]
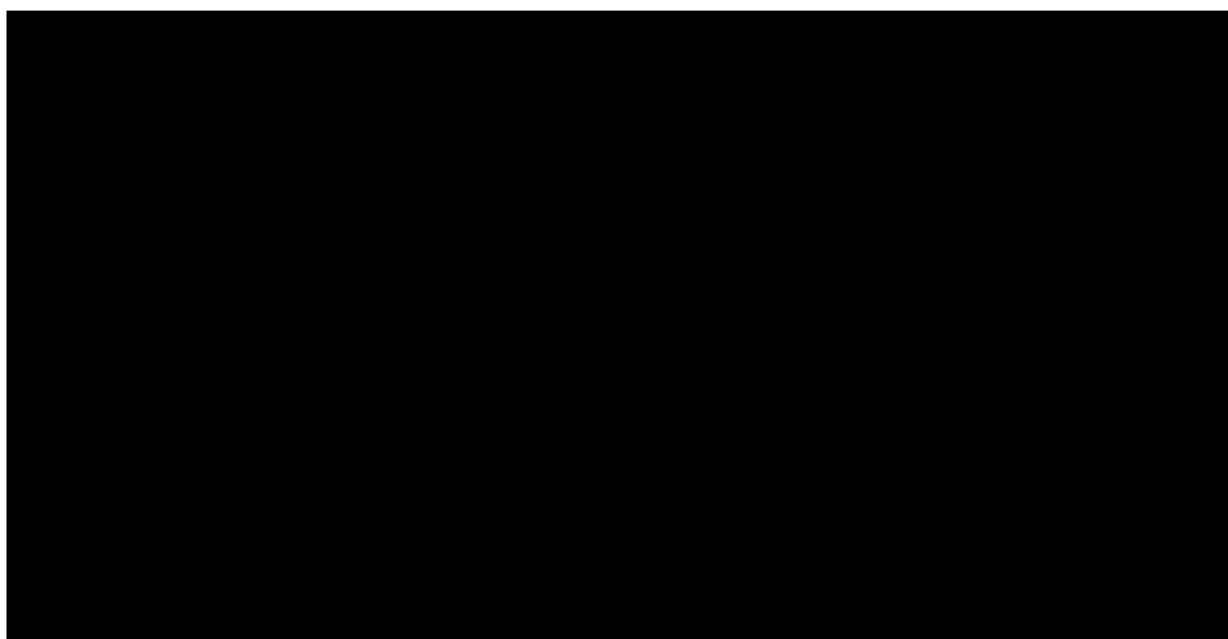
5.15 KPMG also considered how the data could be gathered from various IT systems and processes, the relationships/links that exist between data sets from the IT systems and processes, how new relationships/links could be created between the data sets, how new data sets could be created, and how new relationships/ links could be established. For example, how the circuit IDs and appropriation codes (e.g., CBFXXXX) could be used as keys to link data sets to facilitate the reporting of the PIA KPI metrics was considered during the analysis.

5.16 To estimate the effort and resources required to implement the PIA KPI Metrics, KPMG used a reference solution implementation, which is how KPMG could implement a PIA KPI metric solution themselves.

5.17 ComReg notes that there are potentially several implementation options for a PIA KPI Metric solution. The objective of the PIA KPI assessment is to demonstrate that a solution could be implemented to provide the required PIA KPI metrics within a reasonable timescale with the appropriate resources.

5.18 The conclusion of KPMG's analysis is that a PIA KPI metric solution can be implemented within a six-month timeframe and in ComReg's view would not be overly burdensome on Eircom.

Impact on Access Seekers

5.19 Implementing Option 2 will improve the ability of wholesale customers to compare the performance of Eircom's regulated wholesale inputs with that of Eircom's self-supplied wholesale inputs. This transparency will instil greater confidence in Eircom's regulated wholesale products, by offering greater knowledge on the performance of Eircom's wholesale product suite. Increased visibility of Eircom's ongoing wholesale performance supports Access Seekers in making investment decisions which in turn promotes competition in the associated downstream markets.

Impact on End Users

5.20 The PIA KPI metrics will provide a mechanism that allows ComReg to effectively and efficiently monitor Eircom's compliance with its non-discrimination obligations in the PIA market, facilitating ComReg's ultimate strategic objective of promoting competition in the market for the benefit of End Users.

Step 4: Determine impact on competition

5.21 ComReg's objective in regulating a market is to prevent the restriction or distortion of competition and to promote effective competition in downstream and related markets.

5.22 The imposition of appropriate and specific *ex-ante* remedies to address such competition problems in the PIA market was discussed and justified in both the

PIA Consultation and draft Decision, and further, with the benefit of Respondent's Submissions, in the final PIA Decision (ComReg Document YY/NN).

5.23 The further specification of the transparency obligations to publish PIA KPI metrics is specifically aimed at addressing vertical leveraging (i.e. quality discrimination) competition problems in a more targeted manner.

5.24 Without the PIA KPI metrics, important process points in the order, provisioning and fault repair processes would not be monitored or could not be effectively monitored.

Step 5: Assess the impacts and choose the best option

5.25 Having assessed the potential burden to Eircom versus the benefits arising from having a robust, and granular set of PIA KPIs that monitors the ordering, process points elapse times for provisioning and faults repairs of interest to stakeholders, ComReg considers that the requirements are justified, reasonable and proportionate for the following reasons:

(a) The effort incurred in implementing the proposed measures is not overly burdensome, taking into account the analysis in the KPMG report[59].

(b) The publication of product performance metrics help 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 PIA KPIs will 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 accrue across the board to Eircom, Access Seekers, End Users and to ComReg.

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

5.26 On the basis of the foregoing, the anticipated benefits associated with implementing PIA 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 further specify PIA KPI metrics in relation to the PIA Market.

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[59] PIA KPI metrics technical feasibility review

Appendix: 1 – Decision Instrument

1   STATUTORY POWERS GIVING RISE TO THIS DECISION

1.1   This Decision Instrument ("Decision Instrument") is made by the Commission for Communications Regulation ("ComReg"):

(i)   Pursuant to and having regard to sections 10 and 12 of the Communications Regulation Act 2002 (as amended) and Regulation 4 and Regulation 42 of the ECC Regulations;

(ii)   Having regard, and pursuant, to ComReg Decision DYY/NN [*the PIA Final Decision*];

(iii)   Pursuant to Regulation 104 of the ECC Regulations;

(iv)   Pursuant to Regulation 99 of the ECC Regulations;

(v)   Having regard to Regulations 50, 51 and 52 of the ECC Regulations;

(vi)   Having regard to Regulation 98 of the ECC Regulations;

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

(viii)   Having had regard to the provisions contained in the European Electronic Communications Code;

(ix)   Having had regard to the analysis and reasoning set out in ComReg Decision D04/22;

(x)   Having consulted with, and taken into account the submissions received from interested parties in response to ComReg Document 23/41 following a public consultation held pursuant to Regulation 12 of the Framework Regulations/Regulation 101 of the ECC Regulations and having notified the draft decision and the reasoning on which it is based to the European Commission, BEREC and the national regulatory authorities of other EU Member States pursuant to Regulations 17 and 49 of the ECC Regulations and at the same time published the proposed final decision in accordance with Article 32 of the EECC;

(xi)   Having regard to the analysis and reasons set out in ComReg YY/NN *[the document number of this PIA KPI draft Decision];*

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

1.2   This Decision Instrument shall, where appropriate, be construed consistently with and as part of ComReg YY/NN [*the document number of this PIA KPI draft Decision*].

PART I – GENERAL PROVISIONS

2   DEFINITIONS

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

"Access" has the same meaning as under Regulation 2 of the ECC Regulations;

"BEREC" means the Body of European Regulators for Electronic Communications, as established pursuant to Regulation (EU) 2018/1971 of the European Parliament and of the Council of 11 December 2018 amending Regulation (EU) 2015/2120 and repealing Regulation (EC) No. 1211/2009;

"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 D04/22" means ComReg Document No. 22/49, entitled "Access Products and Services; Key Performance Indicator (KPI) Metrics", dated 29 June 2022;

"ComReg Document 23/41" means the Consultation and Draft Decision entitled 'Key Performance Indicator (KPI) Metrics: Physical Infrastructure Access (PIA)', dated 8 May 2023;

"ComReg Decision DYY/NN" means ComReg Document YY/NN entitled 'Physical Infrastructure Access (PIA) Market Review, dated DD/MM/YYYY [*the PIA Final Decision*];

"Decision Instrument" means this decision instrument;

"Effective Date" means the date set out in Section 11 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;

"European Electronic Communications Code" or **"the Code"** means Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code;

"European Union (Electronic Communications Code) Regulations" or **"ECC Regulations"** means Statutory Instrument No. 444 of 2022;

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

"Key Performance Indicator(s)" or **"KPI(s)"** means a measure of the standard of product, service or facility provided by Eircom to an Undertaking and by Eircom itself;

"KPI DI" means the decision instrument set out in Appendix 1 of ComReg Decision D04/22;

"Ministerial Policy Directions" means the policy directions made by Dermot Ahern TD, then Minister for Communications, Marine and Natural Resources, dated 21 February 2003 and 26 March 2004;

"PIA" stands for Physical Infrastructure Access;

3   SCOPE AND APPLICATION

3.1   This Decision Instrument amends the decision instrument set out in Appendix 1 of ComReg Decision D04/22 (ComReg 22/49) for the purpose of specifying further requirements relating to Eircom's obligation to publish KPIs under Section 12 of the Decision Instrument annexed to ComReg Decision DYY/NN [*the PIA Final Decision*], adding more particularly to Schedule 3 of the KPI DI, metrics designed to measure performance in respect of the provision of PIA.

3.2   Eircom (and its subsidiaries and any related companies within the meaning ascribed to these terms in the Companies Act 2014, and any entity which it owns or controls, and any entity which owns or controls Eircom, and its successors and assigns) shall comply with the requirements set out in the KPI DI insofar as they concern PIA from the Effective Date of this Decision Instrument and to that purpose, references to Effective Date in the KPI DI shall be understood as a reference to the Effective Date of this Decision Instrument, and first KPI Report and Implementation Date understood accordingly. Any variation to the Implementation Date as envisaged in section 4.2 of ComReg Decision D04/22 shall be requested in writing by Eircom within three months of the Implementation Date stating the specific PIA KPI metrics in respect of which an extension of time is sought, and ComReg shall grant the variation sought only where ComReg is reasonably satisfied based on the information provided by Eircom that data required to report on specific PIA KPI metrics is not available or it is not possible to record or gather data for such metrics within a period of seven months of the Effective Date.

4   DATA RETENTION UNDER SECTION 8.1 OF THE KPI DI

4.1   Notwithstanding the provisions of Section 8.1 of the KPI DI, Eircom shall ensure that all Quarterly Data in respect of a PIA Order is retained for so long as the PIA Order is not completed and for a period of two years following its completion.

PART II – AMENDMENTS TO THE KPI DI

5   AMENDMENTS TO SCHEDULE 1 OF THE KPI DI

5.1   Paragraph 2 of Schedule 1 to the KPI DI is hereby amended as follows:

    5.1.1   By adding the following definitions inserted in alphabetical orders:

"Accepted PI order" means an order which is deemed to contain all the necessary valid data required to process the PI order;

"Bulk Order" means a single order that may include one or more PI Access types including but not limited to Duct, Sub-Duct, Poles and Chambers.

"Completed PI order" refers to the order status used by Eircom to indicate that all tasks relating to the PI order are completed;

"Completion of repair" means that all necessary permanent repairs have been completed to enable restoration of service(s).

"Delivered" means when the delivery notification is sent to the operator informing them that the PI Access requested is ready for use;

"Direct Duct Access" is the installation by an Access Seeker of a cable in an Eircom duct without using a sub-duct;

"Duct" means a pipe or conduit that forms part of Eircom's PI and that is capable of carrying sub-ducts and/or cables;

"Elapsed Time" is, unless otherwise stated, measured in working hours;

"Fault Cleared" means the issue has been conclusively resolved and the trouble ticket has been closed;

"Kurtosis" means the sharpness of the peak or flatness of a probability distribution curve calculated using the formula $\mathbf{Kurtosis} = \frac{\mu 4}{\sigma^4}$, where μ4 is the unstandardized central fourth moment and σ, the standard deviation

"Licence application" means a request to the relevant licensing authority for a road opening licence;

"New" means the status of that name in the Work Order lifecycle;

"Parked status" means the status of that name in the Work Order lifecycle and refers to the situation where completion of an order is halted owing to operational issues preventing field work from proceeding;

"PI" stands for Physical Infrastructure;

"Re-forecast" refers to an order which has not been, or will not be, provisioned by the date forecasted and communicated to the Access Seeker and for which a new date for completion has been set and communicated to the Access Seeker.

"Rejected PI order" means a PI order which has failed validation;

"Remediation" means completing the tasks necessary to ensure that the physical infrastructure can host cables and equipment.

"Residual" means an order placed during a data collection period which has yet to reach final status.

"Residual orders" are metrics which are reported one quarter following the quarter the orders were accepted but have not reached a final status of cancelled, completed, undeliverable, with the exception of bulk order metrics which are to be reported for two quarters following the quarter the request was accepted but have not reached a final status of cancelled, completed, undeliverable;

"Route length" means, in respect of duct and sub-duct, the total length in metres of the duct and sub-duct that are accessed and, in respect of poles, means the total number of poles being accessed on a route.

"**Route length band 1**" means in respect of duct and sub-duct, a route length of less than or equal to 500m and for pole, a route length of up to and including 3 poles;

"Route length band 2" means in respect of duct and sub-duct, a route length greater than 500m to less than or equal to 2,500m and for pole, a route length comprising between 4 and 10 poles;

"Route length band 3" means in respect of duct and sub-duct, a route length greater than 2,500m to less than or equal to 5,000m and for pole, a route length comprising in excess of 10 poles;

"Route length band 4" means in respect of duct and sub-duct, a route length greater than 5,000m;

"Skewness" means the symmetry or otherwise of a distribution in a Quarterly Data set and is measured using the formula:

$$\textbf{Peason's median skewness} = 3 \text{ x } \frac{(\text{Mean} - \text{Median})}{\text{Standard deviation}}$$

"Sub-duct" means the single tube or a bundle of tubes (known as multi-core Sub-Duct) inserted in a Duct that forms part of Eircom's PI;

"Standard deviation" means the amount of variation or dispersion from the mean in a Quarterly Data set measured using the formula **(σ) $= \sqrt{(\sum(\mathbf{x} - \mu)^2/\mathbf{N})}$,** where x is the data value in the set; μ is the mean of the data set and N is the total number of data values in the set.

"Submission" refers to the first registration by reference to the date and time of an order on the order handling system or equivalent.

"T2" means the category of road opening licences permitting works of moderate impact having regard to their location, extent, amount or duration;

"T3" means the category of road opening licences permitting works of low impact having regard to their location, extent, amount or duration;

"Undeliverable" is where an order obtains the undeliverable status when the order cannot be Delivered, however it was not rejected.

"Work Order" refers to the functionality in an Operational Support System used for the planning and execution monitoring of tasks in detail with regard to type, scope, dates, resources, and costs.

6   AMENDMENTS TO SCHEDULE 3 AND SCHEDULE 4 OF THE KPI DI

6.1   Schedule 3 of the KPI DI is hereby amended by adding the paragraphs set out in Schedule 1 of this Decision Instrument.

6.2   Schedule 4 of the KPI DI is hereby amended by adding the tables set out in Schedule 2 of this Decision Instrument.

PART III – OPERATION AND EFFECTIVE DATE

7   STATUTORY POWERS NOT AFFECTED

7.1   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.

8   MAINTENANCE OF OBLIGATIONS AND WITHDRAWAL

8.1   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, including all obligations specified in ComReg Decision DYY/NN [*the PIA Final Decision*], and ComReg Decision D04/22 continue in force and Eircom shall comply with same.

9   CONFLICT

9.1   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.

10   SEVERANCE

10.1   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.

11   PUBLICATION, NOTIFICATION AND EFFECTIVE DATE

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

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

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

ROBERT MOURIK
CHAIRPERSON
THE COMMISSION FOR COMMUNICATIONS REGULATION
THE […]TH DAY OF […] 2023

SCHEDULE 1

DEFINITION AND CALCULATION OF KPI METRICS

12. **Sub-duct orders**

12.1. In each Data Collection Period, Eircom shall collect data and calculate the following metrics on a quarterly basis, in respect of sub-duct:

METRIC 114. **The number of submitted sub-duct orders**

METRIC 115. **The number of accepted sub-duct orders**

METRIC 116. **The number of rejected sub-duct orders**

METRIC 117. **The number of cancelled sub-duct orders**

METRIC 118. **The number of sub-duct orders completed**

METRIC 119. **The number of sub-duct undeliverable orders**

METRIC 120. **The number of sub-duct residual orders**

METRIC 121. **The number of sub-duct orders re-forecasted**

METRIC 122. **The number of parked sub-duct orders**

METRIC 123. **The number of sub-duct orders parked by reason**

METRIC 124. **The accepted sub-duct orders as a percentage of submitted sub-duct orders**, calculated as follows:

(Number of orders accepted x100) /(Number of orders submitted)

METRIC 125. **The number of rejected sub-duct orders as a percentage of submitted sub-duct orders**, calculated as follows:

(Number of rejected orders x100)/ (Number of submitted orders)

METRIC 126. **The cancelled sub-duct orders as a percentage of accepted sub-duct orders** calculated as follows:

(Number of cancelled sub-duct orders x 100)/ (Number of sub-duct orders accepted)

METRIC 127.   **The completed sub-duct orders as a percentage of accepted sub-duct orders**, calculated as follows:

(Number of sub-duct orders completed x 100)/ (Number of sub-duct orders accepted)

METRIC 128.   **The undeliverable sub-duct orders as a percentage of accepted sub-duct orders**, calculated as follows:

(Number of undeliverable sub-duct orders x 100) / (Number of sub-duct orders accepted)

METRIC 129.   **The residual sub-duct orders as a percentage of accepted sub-duct orders**, calculated as follows:

(Number of residual sub-duct orders x 100) / (Number of accepted sub-duct orders)

METRIC 130.   **The re-forecasted sub-duct orders as a percentage of accepted sub-duct orders**, calculated as follows:

(Number of re-forecasted sub-duct orders x 100) / (Number of accepted sub-duct orders)

METRIC 131.   **The parked sub-duct orders as a percentage of accepted sub-duct orders**, calculated as follows:

(Number of parked sub-duct orders x 100) / (Number of accepted sub-duct orders)

METRIC 132.   **The parked sub-duct orders by reason type as a percentage of accepted sub-duct orders**, calculated as follows:

(Number of parked sub-duct orders by reason type x 100) / (Number of accepted of parked sub-duct orders)

METRIC 133.   **The utilisation of existing sub-duct as a percentage of total sub-duct requested,** calculated as follows for each route length band (bands 1, 2, 3 and 4):

(The length of existing sub-duct used orders x 100) / (Number of total length of sub-duct ordered

12.2.   Metrics 114 to 123 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

13.   **Sub-Duct Provisioning**

13.1.   In each Data Collection Period, Eircom shall collect data and calculate the following metrics on a quarterly basis, in respect of sub-duct:

> **METRIC 134.**   **The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time between order submitted to order Accepted for each of the route length bands (bands 1, 2, 3 and 4).**

> **METRIC 135.**   **The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time between order submitted to order Rejected for each of the route length bands (bands 1, 2, 3 and 4)**

> **METRIC 136.**   **The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time between Order accepted to New Works Order created or Works Order amended for each route length band (bands 1, 2, 3 and 4).**

> **METRIC 137.**   **The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time between New Works Order created or Works Order amended to PI ready for use for each route length band (bands 1, 2, 3 and 4).**

> **METRIC 138.**   **The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of duct network remediation requirement to submission of the licence application (for both T2 and T3) to the licensing authority.**

> **METRIC 139.**   **The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the granting of the licence by the licencing authority to the completion of the duct network remediation.**

> **METRIC 140.**   **The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of duct network remediation requirement to submission to the licence application (for both T2 and T3) to the licensing authority excluding third party delays.**

METRIC 141.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the granting of the licence (for both T2 and T3) by the licensing authority to the completion of the network duct remediation.

METRIC 142.   The percentage of licence applications rejected by the licensing authority as a percentage of licence applications submitted (T2 and T3).

(Number of licence application rejected x 100) / (Number license applications submitted to the licencing authority)

14.   Duct network fault metrics, which includes Duct, Sub-Duct

14.1.   In each Data Collection Period, Eircom shall collect data and calculate the following metrics on a quarterly basis in respect of duct network.:

METRIC 143.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from logging duct network fault to duct network fault accepted.

METRIC 144.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from logging duct network fault to duct network fault rejected.

METRIC 145.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from duct network fault validation to request for repair of the duct network.

METRIC 146.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from initiation of the repair process for duct network repair to Completion of repair (i.e. declared fit-for-purpose) of the duct network.

METRIC 147.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from initiation of the repair process for duct network repair to Completion of repair of the duct network (i.e. declared fit-for-purpose) excluding third party delays.

> **METRIC 148.** **The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from request for the duct network repair to Completion of repair of the duct network (i.e. declared fit-for-purpose) without the need to request a new licence from the local authority.**

15. Duct Orders

15.1.   In each Data Collection Period, Eircom shall collect data, and calculate the following metrics on a quarterly basis, in respect of Duct :

> **METRIC 149.** **The number of submitted duct orders**

> **METRIC 150.** **The number of accepted duct orders**

> **METRIC 151.** **The number of rejected duct orders**

> **METRIC 152.** **The number of cancelled duct orders**

> **METRIC 153.** **The accepted duct orders as a percentage of submitted duct orders**, calculated as follows:

> (Number of orders accepted x100) /(Number of orders submitted)

> **METRIC 154.** **The rejected duct orders as a percentage of accepted duct orders**, calculated for as follows:

> (Number of rejected orders x100)/ (Number of submitted orders)

> **METRIC 155.** **The cancelled duct orders as percentage of accepted duct orders** calculated as follows:

> (Number of cancelled duct orders x 100)/ (Number of duct orders accepted)

15.2.   Metrics 149 to 152 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

16. Duct provisioning process point metrics

16.1.   In each Data Collection Period, Eircom shall collect data and calculate the following metrics on a quarterly basis in respect of Duct :

> **METRIC 156. The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of the duct network remediation requirement to submission of both T2 and T3 licence applications to the licensing authority.**

METRIC 157.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the granting of the licence by the licensing authority to the completion of the duct network remediation.

METRIC 158.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of the duct network remediation requirement to completion of the remediation.

METRIC 159.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of the duct network remediation requirement to submission of a T2 or T3 licence application to the licensing authority, excluding third party delays.

METRIC 160.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the granting of the licence by the licensing authority to the completion of the duct network remediation excluding third party delays.

METRIC 161.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of the duct network remediation requirement to completion of the duct network remediation excluding third party delays.

17.   **Direct Duct Access Orders**

17.1.   In each Data Collection Period, Eircom shall collect data and calculate the following metrics on a quarterly basis in respect of Direct Duct Access:

METRIC 162.   The number of submitted direct duct access orders.

METRIC 163.   The number of cancelled direct duct access orders.

METRIC 164.   The cancelled direct duct access orders as percentage of accepted direct duct access orders calculated as follows:

> (Number of cancelled direct duct access orders x 100)/ (Number of direct duct access orders accepted)

17.2.   Metrics 162 and 163 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

18. **Pole Orders**

18.1.   In each Data Collection Period, Eircom shall collect data and calculate the following metrics on a quarterly basis in respect of Pole Orders:

METRIC 165.   The number of submitted pole orders.

METRIC 166.   The number of accepted pole orders.

METRIC 167.   The number of rejected pole orders.

METRIC 168.   The number of cancelled pole orders.

METRIC 169.   The number of pole orders completed.

METRIC 170.   The number of pole undeliverable orders.

METRIC 171.   The number of pole residual orders.

METRIC 172.   The number of pole orders re-forecasted.

METRIC 173.   The number of parked pole orders.

METRIC 174.   The number of pole orders parked by reason.

METRIC 175.   The accepted pole orders as a percentage of submitted pole orders, calculated as follows:

(Number of orders accepted x100) /(Number of orders submitted)

METRIC 176.   The rejected pole orders as a percentage of submitted pole orders, calculated as follows:

(Number of rejected orders x100)/ (Number of submitted orders)

METRIC 177.   The cancelled pole orders as a percentage of accepted pole orders, calculated as follows:

(Number of cancelled pole orders x 100)/ (Number of pole orders accepted)

METRIC 178.   The completed pole orders as a percentage of accepted pole orders, calculated as follows:

(Number of pole orders completed x 100)/ (Number of pole orders accepted)

METRIC 179.   The undeliverable pole orders as a percentage of accepted pole orders, calculated as follows:

(Number of undeliverable pole orders x 100) / (Number of pole orders accepted)

METRIC 180.   The residual pole orders as a percentage of accepted pole orders, calculated as follows:

(Number of residual pole orders x 100) / (Number of accepted pole orders)

METRIC 181.   The re-forecasted pole orders as a percentage of accepted pole orders, calculated as follows:

(Number of re-forecasted pole orders x 100) / (Number of accepted pole orders)

METRIC 182.   The parked pole orders as a percentage of accepted pole orders, calculated as follows:

(Number of parked pole orders x 100) / (Number of accepted pole orders)

METRIC 183.   The parked pole orders by reason type as a percentage of accepted pole orders, calculated as follows:

(Number of parked pole orders by reason type x 100) / (Number of total number of parked pole orders)

18.2.   Metrics 165 to 174 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

19.   **Pole Provisioning process point metrics**

19.1.   In each Data Collection Period, Eircom shall collect data and calculate the following metrics on a quarterly basis in respect of Poles:

METRIC 184.   The mean, mode, median, standard deviation, skewness and kurtosis of elapsed time from order Submitted to order Accepted for each of the pole route length bands (bands 1, 2 and 3).

METRIC 185.   The mean, mode, median, standard deviation, skewness and kurtosis of elapsed time from order Submitted to order Rejected for each of the pole route length bands (bands 1, 2 and 3).

METRIC 186. The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from order Accepted to New Works Order created or Works Order amended for each of the pole route length bands (bands 1, 2 and 3).

METRIC 187. The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from New Works Order created or Works Order amended to PI ready for use for each of the pole route length bands (bands 1, 2 and 3).

METRIC 188. The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of pole remediation requirement to submission of licence application to the licensing authority.

METRIC 189. The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the granting of the licence by the licensing authority to the completion of the pole remediation.

METRIC 190. The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of the remediation requirement to completion of the pole remediation.

METRIC 191. The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of pole remediation requirement to submission of the licence application to the licensing authority excluding third party delays.

METRIC 192. The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the granting of the licence by the licencing authority to the completion of the pole remediation.

20. Pole fault metrics

20.1. In each Data Collection Period, Eircom shall collect data and calculate the following metrics on a quarterly basis in respect of Pole Faults:

METRIC 193.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed from logging a Pole fault to Pole fault accepted.

METRIC 194.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from Pole fault Accepted to the request for Pole repair.

METRIC 195.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from request for Pole repair to the Completion of t repair (i.e. declared fit-for-purpose).

METRIC 196.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from request for Pole repair to the Completion of repair with third party delays excluded.

METRIC 197.   The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from request for Pole repair to the Completion of repair without the need to request a new licence from the local licencing authority.

21. Bulk PI Orders

21.1.   In each Data Collection Period, Eircom shall collect data and calculate the following metrics on a quarterly basis in respect of Bulk PI orders, having regard to their respective unit of measurement, and the definition of bulk order:

METRIC 198.   The total length or amount, as appropriate, of each PI access type ordered.

METRIC 199.   The mean, mode, median, standard deviation, skewness and kurtosis of elapsed time from order submission to when the order is accepted.

METRIC 200.   The mean, mode, median, standard deviation, skewness and kurtosis of elapsed time from civil work pack creation to civils work pack completion.

METRIC 201.   The total number of PI change requests submitted.

METRIC 202.   The total length or amount, as appropriate, of PI change requests as a percentage of submitted orders.

METRIC 203. **The percentage of each PI type ordered that reach final status (completed, cancelled, undeliverable) as a percentage of each PI access type ordered,** calculated as follows:

(PI type ordered per final status reached x 100) / (the total length or amount for each PI type ordered.

METRIC 204. **The percentage of each PI type ordered that is Residual as a percentage of the PI access types ordered,** calculated as follows:

(PI type ordered that are Residual x 100) / (total length or amount, as appropriate for each PI type ordered.

21.2. Metrics 198 and 201 shall be reported to ComReg only; they shall be kept confidential and shall not be published.

SCHEDULE 2

KPI REPORTS [TABLES]

Table 9

PI Sub-duct Order Metrics				
Metric No.	**Metric Description**	**Access Seeker**	**Eircom**	**ComReg only Y/N**
114	The number of submitted sub-duct orders			Y
115	The number of accepted sub-duct orders			Y
116	The number of rejected sub-duct orders			Y
117	The number of cancelled sub-duct orders			Y
118	The number of sub-duct orders completed			Y
119	The number of sub-duct undeliverable orders			Y
120	The number of sub-duct residual orders			Y
121	The number of sub-duct orders re-forecasted			Y
122	The number of parked sub-duct orders			Y

123	The number of sub-duct orders parked by reason			Y
124	The accepted sub-duct orders as a percentage of submitted sub-duct orders			N
125	The number of rejected sub-duct orders as a percentage of submitted sub-duct orders			N
126	The cancelled sub-duct orders as percentage of accepted sub-duct orders			N
127	The completed sub-duct orders as a percentage of accepted sub-duct orders			N
128	The undeliverable sub-duct orders as a percentage of accepted sub-duct orders			N
129	The residual sub-duct orders as a percentage of accepted sub-duct orders			N
130	The re-forecasted sub-duct orders as a percentage of accepted sub-duct orders			N
131	The Parked sub-duct orders as a percentage			N

	of accepted sub-duct orders			
132	The Parked sub-duct orders by reason type as a percentage of accepted sub-duct orders			N
133	The percentage utilisation of existing sub-duct as a percentage of total sub-duct requested			N

Table 10

Sub-duct Provisioning Metrics				
Metric No.	Metric Description	Access Seeker	Eircom	ComReg only Y/N
134	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time between order submitted to order Accepted for each of the route length bands (bands 1, 2, 3 and 4).			N
135	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time between order submitted to order Rejected for			

	each of the route length bands (bands 1, 2, 3 and 4).			
136	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time between order Accepted to New Works Order created or Works Order amended for each route length band (bands 1, 2, 3 and 4).			N
137	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time between New Works Order created or Works Order amended PI ready for use for each route length band (bands 1, 2, 3 and 4).			N
138	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of duct network remediation requirement to submission of the licence application (for both T2 and T3) to the licensing authority.			N
139	The mean, mode, median, standard deviation, skewness			N

	and kurtosis of the elapsed time from the granting of the licence by the licencing authority to the completion of the duct network remediation.			
140	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of duct network remediation requirement to submission to the licence application (for both T2 and T3) to the licensing authority excluding third party delays.			N
141	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the granting of the licence (for both T2 and T3) by the licensing authority to the completion of the network duct remediation.			N
142	The percentage of licence applications rejected by the licensing authority as a percentage of licence applications submitted (T2 and T3).			N

Table 11

PI Duct Network Fault Metrics				
Metric No.	**Metric Description**	**Access Seeker**	**Eircom**	**ComReg only Y/N**
143	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from logging sub-duct fault to sub-duct fault accepted.			N
144	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from logging sub-duct fault to sub-duct fault rejected.			N
145	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from sub-duct fault validation to request for repair of the sub-duct.			N
146	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from initiation of the repair process for sub-duct repair to Completion of repair (i.e. declared fit-for-purpose) of the sub-duct.			N

147	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from initiation of the repair process for sub-duct repair to Completion of repair of the sub-duct (i.e. declared fit-for-purpose) excluding third party delays.			N
148	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from request for the sub-duct repair to Completion of repair of the sub-duct (i.e. declared fit-for-purpose) without the need to request a new licence from the local authority.			N

Table 12

PI Duct Orders				
Metric No.	**Metric Description**	**Access Seeker**	**Eircom**	**ComReg only Y/N**
149	The number of submitted duct orders			Y
150	The number of accepted duct orders			Y
151	The number of rejected duct orders			Y

152	The number of cancelled duct orders			Y
153	The accepted duct orders as a percentage of submitted duct orders			N
154	The rejected duct orders as a percentage of accepted duct orders			N
155	The cancelled duct orders as a percentage of recorded duct orders			N

Table 13

PI Duct provisioning process point metrics				
Metric No.	Metric Description	Access Seeker	Eircom	ComReg only Y/N
156	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of the duct network remediation requirement to submission of both T2 and T3 licence applications to the licensing authority.			N
157	The mean, mode, median, standard deviation, skewness			N

	and kurtosis of the elapsed time from the granting of the licence by the licensing authority to the completion of the duct network remediation.	82		
158	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of the duct network remediation requirement to completion of the remediation.			N
159	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of the duct network remediation requirement to submission of a T2 or T3 licence application to the licensing authority, excluding third party delays.			N
160	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the granting of the licence by the licensing authority to the completion of the duct network remediation			N

	excluding third party delays.			
161	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of the duct network remediation requirement to completion of the duct network remediation excluding third party delays			N

Table 14

PI Direct Duct Access				
Metric No.	**Metric Description**	**Access Seeker**	**Eircom**	**ComReg only Y/N**
162	The number of submitted direct duct access orders			Y
163	The number of cancelled direct duct access orders			Y
164	The cancelled direct duct access orders as percentage of accepted			N

	direct duct access orders			

Table 15

Pole Ordering Metrics				
Metric No.	Metric Description	Access Seeker	Eircom	ComReg only Y/N
165	The number of submitted pole orders			Y
166	The number of accepted pole orders			Y
167	The number of rejected pole orders			Y
168	The number of cancelled pole orders			Y
169	The number of pole orders completed			Y
170	The number of pole undeliverable orders			Y
171	The number of pole residual orders			Y
172	The number of pole orders re-forecasted			Y
173	The number of parked pole orders			Y
174	The number of pole orders parked by reason			Y
175	The accepted pole orders as a percentage of submitted pole orders			N

176	The rejected pole orders as a percentage of submitted pole orders			N
177	The cancelled pole orders as percentage of accepted pole orders			N
178	The completed pole orders as a percentage of accepted pole orders			N
179	The undeliverable pole orders as a percentage of accepted pole orders			N
180	The residual pole orders as a percentage of accepted pole orders			N
181	The re-forecasted pole orders as a percentage of accepted pole orders			N
182	The parked pole orders as a percentage of accepted pole orders			N
183	The parked pole orders by reason type as a percentage of accepted pole orders			N

Table 16

PI Pole Provisioning Process Point Metrics				
Metric No.	**Metric Description**	**Access Seeker**	**Eircom**	**ComReg only Y/N**
184	The mean, mode, median, standard			N

	deviation, skewness and kurtosis of elapsed time from order submitted to order Accepted for each of the pole route length bands (bands 1, 2 and 3).			
185	The mean, mode, median, standard deviation, skewness and kurtosis of elapsed time from order submitted to order Rejected for each of the pole route length bands (bands 1, 2 and 3).			N
186	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from order Accepted to New Works Order created or Works Order amended for each of the pole route length bands (bands 1, 2 and 3).			N
187	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the New Works Order or Works Order amended to PI ready for use each of the pole route length bands (bands 1, 2 and 3).			N

188	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of pole remediation requirement to submission of licence application to the licensing authority.			N
189	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the granting of the licence by the licensing authority to the completion of the pole remediation.			N
190	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of the remediation requirement to completion of the pole remediation.			N
191	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the identification of pole remediation requirement to submission of the licence application to			N

	the licensing authority excluding third party delays.			
192	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from the granting of the licence by the licencing authority to the completion of the pole remediation.			N

Table 17

PIA Pole Fault Metrics				
Metric No.	Metric Description	Access Seeker	Eircom	ComReg only Y/N
193	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed from logging a Pole fault to Pole fault accepted.			N
194	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from Pole fault Accepted to the request for Pole repair.			N

195	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from request for Pole repair to the Completion of repair (i.e. declared fit-for-purpose).			N
196	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from request for Pole repair to the Completion of repair (i.e. declared fit-for-purpose) with third party delays excluded.			N
197	The mean, mode, median, standard deviation, skewness and kurtosis of the elapsed time from request for Pole repair to the Completion of repair (i.e. declared fit-for-purpose) without the need to request a new licence from the local licencing authority.			N

Table 18

Bulk PI				
Metric No.	**Metric Description**	**Access Seeker**	**Eircom**	**ComReg only Y/N**
198	The total length or amount, as appropriate, of each PI access type ordered.			Y
199	The mean, mode, median, standard deviation, skewness, and kurtosis of elapsed time from order submission to when the order is accepted.			N
200	The mean, mode, median, standard deviation, skewness and kurtosis of elapsed time from civil work pack creation to civils work pack completion.			N

201	The total number of PI change requests submitted.			Y
202	The total length or amount, as appropriate, of PI change requests as a percentage of submitted orders.			N
203	The percentage of each PI type ordered that reach final status (completed, cancelled, undeliverable) as a percentage of each PI access type ordered.			N
204	The percentage of each PI type ordered that is Residual as a percentage of the PI access types ordered			Y