



An Coimisiún um  
**Rialáil Cumarsáide**  
Commission for  
**Communications Regulation**

# Physical Infrastructure Access (PIA) Market Review

## Consultation

Consultation and Draft Decision

**Reference:** ComReg 23/04

**Version:** Final

**Date:** 09/01/2023

### Additional Information



### Approval



### Legal Disclaimer

This Consultation is not a binding legal document and also does not contain legal, commercial, financial, technical or other advice. The Commission for Communications Regulation is not bound by it, nor does it necessarily set out the Commission’s final or definitive position on particular matters. To the extent that there might be any inconsistency between the contents of this document and the due exercise by it of its functions and powers, and the carrying out by it of its duties and the achievement of relevant objectives under law, such contents are without prejudice to the legal position of the Commission for Communications Regulation. Inappropriate reliance ought not therefore to be placed on the contents of this document.

# Content

<b>Section</b>	<b>Page</b>
<b>1 Introduction</b> .....	<b>10</b>
1.1 Overview .....	10
1.2 Background .....	10
1.3 Rationale for conducting this market review .....	16
1.4 Legal Basis and Regulatory Framework.....	17
1.5 Information Sources Relied Upon .....	20
1.6 Consultation Process .....	21
1.7 Structure of the Consultation.....	22
<b>2 Executive Summary</b> .....	<b>24</b>
2.1 Relevant Market, Three Criteria Test and SMP .....	24
2.2 Proposed Access Remedies .....	26
2.3 Proposed Non-Discrimination Remedies.....	27
2.4 Proposed Transparency Remedies.....	27
2.5 Proposed Price Control, Cost Accounting and Accounting Separation Remedies.....	28
2.6 Proposed regulatory governance obligation .....	30
2.7 Next steps .....	30
<b>3 Market Definition</b> .....	<b>31</b>
3.1 Overview .....	31
3.2 Regulatory Assessment Framework.....	32
3.3 Trends and developments in Fixed Telecom PI .....	35
3.4 Assessment of Relevant PIA Product Market.....	45
3.5 Geographic Market Assessment .....	62
3.6 Overall Preliminary Conclusion on the Relevant PIA Market Definition...	73
<b>4 PIA Competition Analysis – 3CT and SMP Assessment</b> .....	<b>74</b>
4.1 Three Criteria Test ('3CT') for Relevant PIA Markets .....	74
4.2 Framework for assessing SMP .....	77
4.3 SMP assessment in the Relevant PIA market.....	79
4.4 Designation of Eircom with SMP .....	86

<b>5</b>	<b>Competition Problems in the Relevant PIA Market and Impacts</b>	<b>88</b>
5.1	Overview	88
5.2	Types of competition problems	89
5.3	Exclusionary Practices	90
5.4	Leveraging	91
5.5	Exploitative Practices	96
5.6	ComReg’s preliminary conclusions	98
<b>6</b>	<b>Imposition of Non-Price Remedies in the Relevant PIA Market</b>	<b>99</b>
6.1	Introduction	99
6.2	Existing Non-Price Remedies	99
6.3	Remedies for the Relevant PIA Market	101
6.4	Access Remedies	103
6.5	Non-Discrimination	142
6.6	Transparency	146
<b>7</b>	<b>Price Control, Cost Accounting and Accounting Separation Remedies</b>	<b>161</b>
7.1	Overview	161
7.2	Price Control under the 2018 WLA Market Decision	161
7.3	PIA price control obligation	166
7.4	Implementing the price control for PIA	169
7.5	Implementing the price control for PIA	193
7.6	Cost sharing approach / pricing methodology	213
7.7	PIA prices and pricing options	219
7.8	Cost accounting obligation for PIA	241
7.9	Accounting separation obligation for PIA	244
<b>8</b>	<b>Regulatory Governance Obligations</b>	<b>253</b>
8.1	Requirement for effective regulatory governance	253
8.2	Statement of Compliance Remedies	256
<b>9</b>	<b>Regulatory Impact Assessment (‘RIA’)</b>	<b>263</b>
9.1	Overview	263
9.2	Principles in selecting remedies	265
9.3	Step 1: Describe the policy issue and identify the objectives	266
9.4	Step 2: Identify and describe the potential regulatory options	267

- 9.5 Step 3: Determine the impacts on stakeholders ..... 274
- 9.6 Step 4: Determine the impacts on competition ..... 282
- 9.7 Step 5: Assess the likely impacts and choose the best option ..... 282
- 10 Next Steps ..... 284

# Annexes

<b>Section</b>	<b>Page</b>
Annex 1: Decision Instrument.....	285
Annex 2: Assessment of various PI Networks.....	348
Annex 3: Summary of responses to Qualitative Questionnaire .....	394
Annex 4: Real World Systems Technical Feasibility Study .....	451
Annex 5: Questions .....	452

# Figures

Section	Page
Figure 1: Value Chain in Fixed Telecommunications Services.....	11
Figure 2: Physical Infrastructure of the largest ECNs in Ireland [REDACTED] .....	15
Figure 3: 2021 Telecom PI & Fixed Line Revenues .....	36
Figure 4: 2021 SPs costs of Duct & Pole Rentals [REDACTED].....	37
Figure 5: 2021 SPs rental of Duct (km) & Pole (No) [REDACTED].....	37
Figure 6: 2021 Telecom PI Sales in Euros [REDACTED] .....	38
Figure 7: 2021 Telecom PI Sale Volumes [REDACTED] .....	38
Figure 8: Forecast Pole Purchases 2022-27 [REDACTED] .....	45
Figure 9: Forecast Duct Purchases 2022-27 [REDACTED] .....	45
Figure 10: Stylised map of Virgin Media Network.....	67
Figure 11: Co-location Rack Interconnection.....	130
Figure 12: PI Tie Connection Service.....	132
Figure 13: Overview of structure of various modules in the ANM.....	196
Figure 14: Forecast pole replacement volumes.....	202
Figure 15: Pole access prices over long-run .....	221
Figure 16: Pricing options for Duct Access / Direct Duct Access.....	238
Figure 17: Aurora Telecom, Dublin Network (Stylised).....	358
Figure 18: Aurora Telecom, inter-urban network (Stylised).....	359
Figure 19: GNI’s national mains gas pipeline distribution network .....	359
Figure 20: ESBT’s Figure of 8 national fibre network .....	372
Figure 21: EU Networks Irish network showing undersea international connectivity .....	373
Figure 22: GTT Irish Network international connectivity.....	374
Figure 23: Irish Rail national network .....	376
Figure 24: Map of LUAS light railway .....	377
Figure 25: TII National Road Network .....	382
Figure 26: Virgin Media duct network Limerick City, duct (black) [REDACTED] .....	384
Figure 27: Virgin Media network Limerick City, duct black & fibre cable blue [REDACTED] .....	385
Figure 28: Virgin Media network Limerick City, duct (black), fibre (blue) and coax cable (red) [REDACTED] .....	385
Figure 29: Virgin Media network Dublin, Liberties area, duct (black) [REDACTED] .....	386
Figure 30: Virgin Media network Dublin, Liberties area, duct (black) and fibre (blue) [REDACTED] .....	386

Figure 31: Virgin Media network Dublin, Liberties area, duct (black), fibre (blue) and coax cable (red) [REDACTED]..... 387

Figure 32: Virgin Media duct network in part of Tallaght, Dublin duct (black), fibre (blue) and coax cable (red) [REDACTED]..... 387

Figure 33: Virgin Media FTTH network coverage Wexford Town [REDACTED] ..... 389

Figure 34: ZAYO Dublin network and international connectivity..... 393

Figure 35: Survey Ranking of PIA Characteristics..... 402

Figure 36: BT National Rail & Road Network [REDACTED] ..... 418



# Tables

<b>Section</b>	<b>Page</b>
Table 1: Summary of the Network Types in Fixed Telecom .....	15
Table 2: Summary of the main price control obligations.....	28
Table 3: Maximum annual national rental prices for Pole Access .....	29
Table 4: Maximum annual prices for Duct Access / Direct Duct Access by geographic area and surface types .....	29
Table 5: Incremental annual cost per metre for Sub-Duct Access* .....	30
Table 6 Summary of assessment of PI networks .....	48
Table 7: Summary of main price control obligations.....	166
Table 8: Cost standard descriptions .....	171
Table 9: Estimates of surface types in the draft DAM.....	223
Table 10: Estimates of draft Duct Access prices by surface type.....	227
Table 11: Maximum annual national rental prices for Pole Access .....	235
Table 12: Maximum annual prices for Duct Access / Direct Duct Access by geographic area and surface types .....	237
Table 13: Incremental annual cost per metre for Sub-Duct Access* .....	237
Table 14: Option 1 - Impose Access Obligations only .....	275
Table 15: Option 2 - Impose Access, Transparency and Non-Discrimination obligations .....	276
Table 16: Option 3 - Impose Access, Transparency, Non-Discrimination and Price Control and Cost Accounting obligations.....	278
Table 17: Option 4 - Impose Access, Transparency, Non-Discrimination, Price Control and Cost Accounting and Accounting Separation obligations.....	280
Table 18: ComReg summary of its review of various networks versus desired PIA product characteristics .....	350
Table 19: Summary of network types considered in review .....	352
Table 20: Summary of ESB external plant inventory .....	364
Table 21: Virgin Media duct length and percentage of road coverage per county [PARTIALLY REDACTED] .....	390
Table 22: Virgin Media duct length percentage coverage of road per EA and EEA geographic units [PARTIALLY REDACTED].....	391
Table 23: Key advantages and disadvantages for each approach to sourcing PIA .....	400

## Chapter 1

# 1 Introduction

## 1.1 Overview

- 1.1 The Commission for Communications Regulation (**'ComReg'**) is the National Regulatory Authority (**'NRA'**) responsible for the regulation of the electronic communications sector (telecommunications, radio communications and broadcasting transmission) and the postal sector in the State.
- 1.2 This Consultation sets out ComReg's analysis of the Physical Infrastructure Access (**'PIA'**) market and its proposal to regulate the PIA market on the basis that it is characterised by the presence of market failure in the form of Significant Market Power (**'SMP'**), and associated competition problems arising from Eircom's ability and incentive to behave anti-competitively.
- 1.3 From the outset, it should be noted that although a PIA market has not been defined by ComReg before, access to ducts and poles has been subject to regulation under obligations imposed on Eircom in 2018 following its designation with SMP in the downstream Wholesale Local Access (**'WLA'**) market<sup>1</sup> (**'2018 WLA Market Decision'**). Carrying out an analysis of a PIA market allows ComReg to instead address any market failures at the most upstream level possible, and to take this into account in assessing competition in related downstream wholesale and retail markets.

## 1.2 Background

- 1.4 In general, physical infrastructure (**'PI'**) consists of the poles, ducts and other equivalent conduits (and associated facilities) that are capable of supporting wired Electronic Communication Networks (**'ECN(s)'**), which in turn supply Electronic Communication Services (**'ECS's'**). The term PI is also synonymous with Civil Engineering Infrastructure (**'CEI'**). Access to Eircom's CEI is currently regulated under the 2018 WLA Market Decision.
- 1.5 The European Commission's 2020 Explanatory Note describes physical infrastructure for ECNs as follows:

---

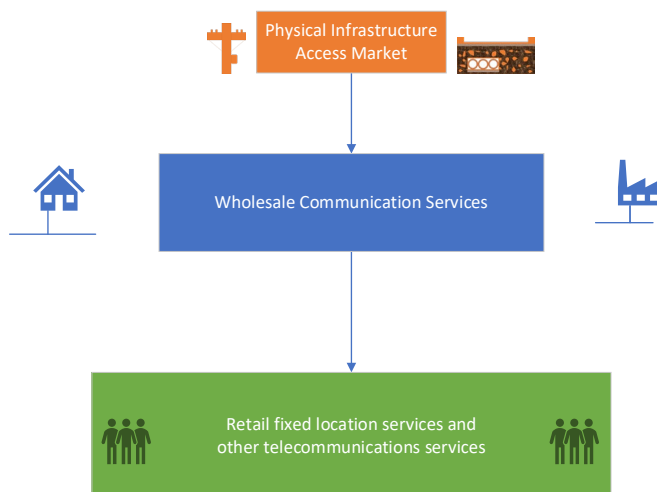
<sup>1</sup> Market Review Wholesale Local Access (WLA) provided at a Fixed Location, Wholesale Central Access (WCA) provided at a Fixed Location for Mass Market Products, ComReg Document 18/94, ComReg Decision D10/18, November 2018 (**'2018 WLA Market Decision'**).

*“Physical infrastructure are facilities or elements associated with an electronic communications network, which enable or support the provision of services, and include buildings or entries to buildings, building wiring, antennae, poles, towers and other supporting constructions, ducts, conduits, masts, inspection chambers, manholes, and cabinets.*

*Physical infrastructure that can host an electronic communications network is essential for the deployment of new networks. Physical, or civil engineering, infrastructure is the most upstream market of all electronic communications markets as, in the majority of cases, fixed and mobile networks rely on ducts and poles to install copper, fibre and cable lines. Physical infrastructure represents a significant proportion of investment in networks as civil works can represent up to 80% of the total cost of deployment. Where civil engineering assets exist and are reusable, effective access to such physical infrastructure may significantly facilitate the roll-out of competing networks”<sup>2</sup>.*

1.6 As well as representing the most significant cost component in network deployment, PIA can be viewed as the most upstream market within the value chain for fixed telecommunications services, as illustrated in a stylised fashion in Figure 1, below.

**Figure 1: Value Chain in Fixed Telecommunications Services<sup>3</sup>**



<sup>2</sup> Commission 2020 Recommendation - Staff Working Document /Explanatory Note (18.12.2020SWD(2020) 337 final), pages 61-62 (**‘2020 Explanatory Note’**). <https://digital-strategy.ec.europa.eu/en/news/commission-updated-recommendation-relevant-markets>  
<https://digital-strategy.ec.europa.eu/en/news/commission-updated-recommendation-relevant-markets>

<sup>3</sup> Adopted from on Figure 1 of BEREC Report on Access to physical infrastructure in the context of market analyses (BoR (19) 94), page 16.



basis of the agreements bringing about the transfer of assets between Eircom and FNI and governing the relationships between Eircom, InfraVia and FNI, that Eircom retains operational control of the PI transferred to FNI. We conclude that it is therefore appropriate to continue to treat all of these assets as one PI network which is effective under Eircom's control. ComReg's more detailed description of Eircom's network is contained in Annex 1, with the assessment of the impact of the Infravia Transaction contained in Section 3.

- 1.11 Other ECS Service Providers ('SPs') in the State that have ECNs tend to have networks that are not nationally ubiquitous, but instead are concentrated in certain geographic locations across the country. They can also purchase regulated wholesale products from Eircom or negotiate with ECNs, to obtain other wholesale products, in order to access locations that their own ECNs cannot reach.
- 1.12 Virgin Media, which offers quad play (high-speed broadband, cable TV, VoIP and mobile) services in all cities and in many major towns across the country, relies on the [redacted] of duct laid incrementally since the 1970s, to deliver cable TV<sup>7</sup> services to households which are however, generally provided via surface mounted coaxial cable.
- 1.13 It is also noteworthy that there has been significant deployment of fibre networks by ECS providers who have little PI. SIRO, established in 2014, a wholesale only SP, is a joint venture between Vodafone and the ESB. It has deployed an FTTH broadband network passing over 450K homes and businesses<sup>8</sup> and also offers business oriented Wholesale Dedicated Capacity ('WDC') services, also at the wholesale level. SIRO has deployed little independent PI and its network primarily uses the ESB's PI which supports the electrical distribution network. SIRO has access to [redacted]<sup>9</sup> poles and [redacted]<sup>10</sup> of ducts respectively. Similarly, NBI's FTTH rollout of the NBP, largely using Eircom's PI, has passed c.91K<sup>11</sup> premises to November 2022.
- 1.14 Of the remaining operators, which are LL Type SPs, BT Ireland is the largest, having Metropolitan Area Networks ('MANs') in Dublin and other cities and in many towns around the country. BT's MANs are primarily but not exclusively, connected using the CIE rail network, where it has fibre, though not necessarily PI. BT is connected to the majority of commercial areas and

<sup>7</sup> Some used wireless repeaters in rural areas which are no longer licensed.

<sup>8</sup> [www.siro.ie](http://www.siro.ie).

<sup>9</sup> 2021 data submitted by SIRO.

<sup>10</sup> *Ibid.*

<sup>11</sup> <https://nbi.ie/news/events/2022/11/11/nbi-quarterly-update-november-2022/>

business parks in the country and addresses the wholesale, corporate and business telecom markets.

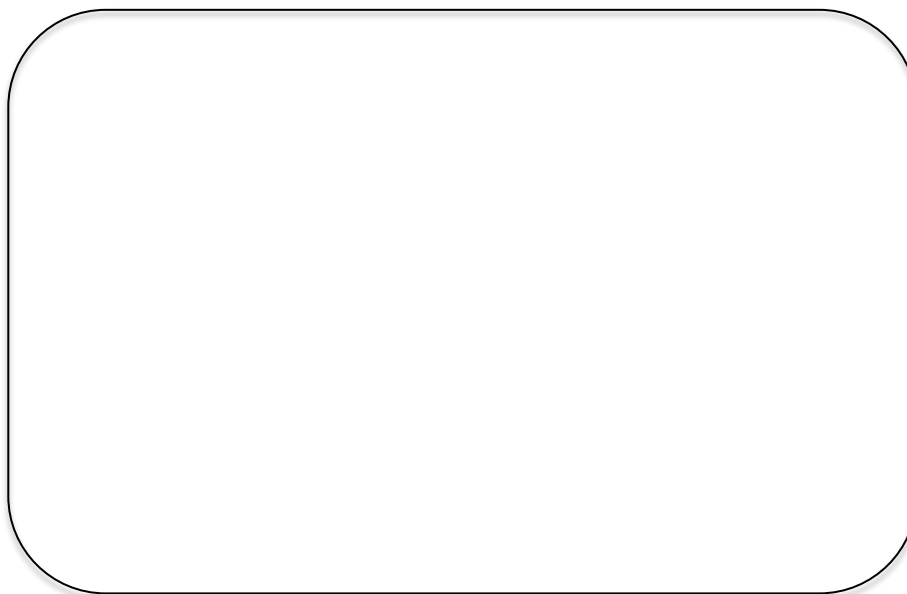
- 1.15 Around the start of the millennium, many of these LL type SPs commenced building their own networks and investing in PI, with many concentrating on the greater Dublin area. However, there are some SPs with national backhaul network connecting various urban centres across the country, including ESBT and Aurora, and other SPs have leveraged these networks to expand their ECS/ECN network reach.
- 1.16 eNet was appointed by the Government to manage the 88<sup>12</sup> Government owned MANs located across approximately 90 towns and cities across the country, with the MANs fibre laid in approximately 1,200 kms of duct<sup>13</sup>. Many of these MAN's have backhaul connections via the national rail network on fibre which is rented by eNet from CIE on a commercial basis.
- 1.17 Figure 2 provides a comparison of the length of duct and the number of poles for the four largest ECNs in Ireland which are used to deploy ECS. This shows that Eircom has over three times the length of duct of the next three largest owners of PI used for ECNs [X ██████████ X], and it has over forty times the number of poles used compared to the next largest owner of poles used for ECNs [X █████ X].

---

<sup>12</sup> eNet was awarded a 15-year services contract in June 2004. In July 2009, it awarded a 15-year services contract to operate and manage the additional Phase 2 MANs. Both contracts were extended by the Government to 2030 <https://www.gov.ie/en/policy-information/9bd180-broadband/>

<sup>13</sup> eNet data submission. Note that figure is based on the publicly owned MANs that eNet manages this excludes eNets private PI assets

**Figure 2: Physical Infrastructure of the largest ECNs in Ireland**  
~~[REDACTED]~~<sup>14</sup>



- 1.18 It should also be noted that the volume of traded PI in the wholesale merchant market is trivial in comparison to that of self-supplied PI, though the volume of traded PI is expected to increase in the forthcoming period, based on the NBI forecast of its deployment of FTTH under the NBP (‘National Broadband Plan’).
- 1.19 Table 1 below (reproduced from Annex 1), provides a summary description of the networks that are considered in this analysis. A more detailed description of these networks is provided in Annex 1.

**Table 1: Summary of the Network Types in Fixed Telecom**

Type of PI / telecoms network	Description	Main target customers	Telecoms SPs or utility
<b>LL Type SPs networks* used to provide downstream high capacity business grade leased line services and/or wholesale high capacity backhaul/access services - referred to in shorthand as "LL Type" SPs</b>	These networks display similar features: (a) are skeletal in nature, lacking capillarity <sup>15</sup> (local density); (b) mostly limit their PI deployment to within business/commercial areas; (c) target low volumes of high value customers and so can absorb relatively high connection costs (compared to residential customer connections);	Medium to Large Business and/or wholesale customers	Aurora, BT, Colt, eNet, ESBT, EU Networks, GTT, Magnet Networks, Vodafone, Verizon and ZAYO

<sup>14</sup> Sources: Eircom data provided in 2019; Virgin Media mapping data submitted in 2019; SIRO data provided for 2021; eNet data provided in 2022.

<sup>15</sup> Capillarity in the context of PI is the ability of a network to reach all or most of the buildings in a particular geographic location.

	(d) have limited capacity PI networks designed to cater for these low volumes and so are not suitable for residential deployments; and, (e) have challenges for breakout which apply particularly, but not exclusively to, the backhaul portions of their networks.		
<b>Cable TV</b>	Hybrid fibre-coaxial ( <b>HFC</b> ) network, customers mostly connected with surface mounted coax cable (there is a small element of fibre to the home ( <b>FTTH</b> ) in some new build)	Residential	Virgin Media
<b>SP networks which largely use non-telecom specific PI to rollout ECN/S to residential customers</b>	Fibre network deployed on ESB electrical PI.*	Residential	SIRO
<b>SPs which largely use telecoms specific PI to rollout ECN/S to residential customers</b>	SP which uses telecoms specific PI for roll-out of networks to residential and/or small business	Residential	NBI
<b>Other utilities</b>	Gas, electricity, Rail, Tramways, water, local authority non-telecoms specific PI (not originally designed to host telecoms networks).	Residential	ESB, Irish Rail, LUAS, Gas Networks Ireland ( <b>GNI</b> ), etc.
<b>Eircom's PI network</b>	Ubiquitous national telecoms specific PI, duct and pole network	Various	Eircom
<b>Wireless PI</b>	PI used to site mobile, microwave point to point and satellite equipment	Various	various

\* Some upstream inputs used by "LL Type" SPs may be 3<sup>rd</sup> party dark fibre or fibre optic cable rather than PI

+ **ESBT** uses mix of ESB and self-supplied PI. [REDACTED] [REDACTED].

## 1.3 Rationale for conducting this market review

- 1.20 Accessing PI allows SPs to install their own wired ECNs where it is technically and economically viable to do so. As such, PI that is capable of supporting ECNs is the most upstream of all inputs used to provide wired retail ECSs. Furthermore, it is the costliest portion of building an ECN, estimated to be up to 80% of the total cost of the provision of retail ECSs, and is a sunk non-recoverable cost.<sup>16</sup>
- 1.21 Accessing PI capable of providing ECNs/ECSs means that competition in retail and upstream wholesale ECS markets can occur at the network level (rather than through varied types of 'service based' competition), whereby SPs compete using their own networks to provide downstream wholesale and retail ECSs. Having access to PI can ultimately create more long term sustainable

<sup>16</sup> Page 62, 2020 Recommendation.



competition as it creates more independent network competition, with SPs that build such networks having greater control of product, pricing and other service-related parameters.

- 1.22 This Consultation is issued in conjunction with the related WLA/WCA market review (ComReg 23/03). In this context, it is important to note the interrelationship between active wholesale services such as WLA and WCA whereby PI, being the most upstream of inputs to the delivery of fixed ECNs, is utilised by SPs to provide WLA, WCA and related services. Furthermore, the assessment of WLA and WCA is undertaken in the context of any regulation of PIA being in place under the modified greenfield approach ('**MGA**') methodology.

## 1.4 Legal Basis and Regulatory Framework

- 1.23 The European regulatory framework for electronic communications, recast and set out in the 2018 European Electronic Communication Code ('**EECC**')<sup>17</sup>, provides for the regulation of markets identified to be susceptible to ex ante regulation and which are not effectively competitive.
- 1.24 The Regulations made by the Minister for Communications for the purpose of transposing the EECC, namely the European Union (Electronic Communications Code) Regulations 2022, SI No. 444 of 2022 ('**the ECC Regulations**') have yet, at the time of publication of this Consultation, to be commenced and the legal basis for this market review and consultation is accordingly the suite of regulations made in 2011 including in particular the Framework Regulations<sup>18</sup> and the Access Regulations<sup>19</sup>. Were transposition of the EECC to be completed prior to the adoption of ComReg's final decision, ComReg will adopt its final decision referring on the basis of the transposing legislation. References to the ECC Regulations have been included accordingly.
- 1.25 Regulation 26 of the Framework Regulations/Regulation 46 of the ECC Regulations requires that ComReg, taking the utmost account of the European Commission's Recommendation on products markets that are susceptible to

---

<sup>17</sup> Directive (EU) 2018/1972 of the European Parliament and the of the Council of 11 December 2018 establishing the European Electronic Communications Code.

<sup>18</sup> European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011) (the '**Framework Regulations**').

<sup>19</sup> European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 334 of 2011) (the '**Access Regulations**').

*ex ante* regulation<sup>20</sup> and the SMP Guidelines,<sup>21</sup> define relevant markets appropriate to national circumstances, in accordance with the principles of competition law.

- 1.26 The European Commission ('**EC**') does not include PIA in the list of markets that it considers to be susceptible to *ex-ante* regulation. Therefore, in order to consider whether this market is susceptible to *ex ante* regulation in light of national circumstances, ComReg must carry out the 3CT set out in Article 67(1) EEC and the 2020 Recommendation.
- 1.27 The 3CT sets out the criteria that must be cumulatively satisfied in order to determine whether a relevant market should be, or should continue to be, subject to *ex ante* regulation. The three criteria are:
1. The presence of high and non-transitory barriers to entry;
  2. A market structure which does not tend towards effective competition within the relevant time horizon; and
  3. The insufficiency of competition law alone to adequately address the market failure(s) concerned.
- 1.28 If at least one of the 3CT criteria fails, this suggests that competition is working well on the market in question, and that *ex ante* regulation is no longer required. In such instances, the market in question should not be subject to SMP specific regulation.
- 1.29 If, on the other hand, the 3CT passes, that is to say, if all three criteria are satisfied, then competition is unlikely to be working well on the market in question, and *ex ante* regulation continues, in principle, to be warranted. It is then necessary to carry out a competition assessment, to determine whether the market is characterised by the presence of SMP.
- 1.30 In particular, Regulation 25 of the Framework Regulations/Regulation 45 of the ECC Regulations requires that, where ComReg determines, as a result of a market analysis and in accordance with Regulation 27 of the Framework Regulations/Regulation 49 of the ECC Regulations, that a given market

---

<sup>20</sup> European Commission Recommendation of 18 December 2020 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation (the '**2020 Recommendation**'). <https://ec.europa.eu/digital-single-market/en/news/commission-updated-recommendation-relevant-markets>

<sup>21</sup> European Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic networks and services, OJ 2002 C 165/3 (the '**SMP Guidelines**').

(defined in accordance with Regulation 26 of the Framework Regulations/Regulation 46 of the ECC Regulations) is not effectively competitive, ComReg is obliged under Regulation 27(4) of the Framework Regulations/Regulation 49(8) of the ECC Regulations to designate an Undertaking<sup>22</sup> (or Undertakings) with SMP in that market. In addition, ComReg must, as it considers appropriate, impose specific obligations on such Undertaking(s), or maintain or amend such obligations where they already exist.

1.31 ComReg applies the MGA whereby markets are assessed in the absence of any regulation in the relevant market or at downstream levels, thus the WLA and WDC markets can in future be assessed taking account of the impact of any upstream PIA regulation in place. Where an SP is ultimately designated as having SMP in a market, ComReg is obliged, under Regulation 8(1) of the Access Regulations/Regulation 50 of the ECC Regulations, to impose on that SP (or maintain where they already exist) the obligations set out in Regulations 9 to 13 of the Access Regulations/Regulations 51 to 56, 58 and 62 of the ECC Regulations as it considers appropriate. Obligations imposed must be:

- (a) Based on the nature of the problem identified;
- (b) Proportionate and justified in the light of the objectives laid down in section 12 of the Communications Regulation Act 2002,<sup>23</sup> and Regulation 16 of the Framework Regulations/Regulation 4 of the of the ECC Regulations; and
- (c) Only imposed following consultation in accordance with Regulations 12 and 13 of the Framework Regulations/ Regulations 17 and 101 of the ECC Regulations 2022.

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

- (a) Promote competition;
- (b) Contribute to the development of the internal market; and
- (c) Promote the interests of users within the European Union.

---

<sup>22</sup> Regulation 2 of the Framework Regulations defines an Undertaking as "a person engaged or intending to engage in the provision of electronic communications networks or services or associated facilities".

<sup>23</sup> Communications Regulation Act 2002 (No. 20 of 2002), as amended (the '**Communications Regulation Act 2002**').

- 1.33 In addition to conducting a public consultation in accordance with Regulation 12 of the Framework Regulations/Regulation 101 of the ECC Regulations, ComReg is required by Regulation 27(1) of the Framework Regulations, to carry out an analysis of the Relevant WCA Markets, where appropriate, consulting with the Competition and Consumer Protection Commission ('**CCPC**') under section 34 or 47G of the **Competition Act 2002** (as amended)<sup>24</sup> (referred to at the '**CCPC Consultation**').
- 1.34 ComReg is also required to make its draft measures accessible to the EC, BEREC and NRAs in other Member States (collectively referred to as the '**European Notification Requirements**') pursuant to Regulation 13(3) of the Framework Regulations and to take utmost account of any comments received.

## 1.5 Information Sources Relied Upon

- 1.35 In drafting this Consultation, ComReg has obtained and draws upon the following information sources:
- (a) Meetings with SPs, which include providers and users of PIA for wired ECNs. This includes SPs, national regulatory authorities, as well as the owners of other network utilities (such as Electricity Gas and Water networks);
  - (b) Information provided by SPs in response to statutory and non-statutory information requests regarding the sale or purchase of PIA;
  - (c) The experience of NRAs in regulating relevant PIA markets in other jurisdictions;
  - (d) Relevant guidance from the EC, BEREC and other relevant bodies;
  - (e) Information provided to ComReg by Service Providers for the purpose of ComReg's Quarterly Key Data Reports (hereafter, '**QKDR(s)**'); and
  - (f) Other information in the public domain.

---

<sup>24</sup> Competition Act 2002 (No. 14 of 2002), as amended, ('**Competition Act 2002**').

## 1.6 Consultation Process

- 1.36 ComReg invites all interested parties to respond to the questions set out in this Consultation. The consultation period will run to 1700 hrs on 03 March 2023, providing an 8 week consultation period and respondents must ensure that any submissions are provided within this period.
- 1.37 The task of analysing responses received will be made easier if all comments are referenced to the specific question numbers as set out previously in this document.
- 1.38 In so doing, respondents are requested to:
- (a) Clearly explain the reasoning for their response, indicating the specific relevant paragraph numbers within the Consultation to which their response refers, along with all relevant factual or other evidence supporting views presented;
  - (b) Ensure that a non-confidential version of their response is provided by the closing date set out above at paragraph 1.36 and also be aware that all non-confidential responses to this Consultation will be published;
  - (c) Ensure that confidential elements of responses are clearly marked using the following format: [~~relevant text deemed to be confidential~~] and identify why they consider that the relevant text is confidential. Respondents should provide both a confidential and non-confidential version of any submissions by the closing date set out above; and
  - (d) Provide a copy of their submissions in an unprotected electronic format in order to facilitate publication by ComReg.
- 1.39 Having analysed and considered the comments received, ComReg will review the proposals set out in this Consultation and having conducted the CCPC Consultation and the European Notification Requirements will consider whether to maintain or amend its proposals, as appropriate.<sup>25</sup>
- 1.40 ComReg will then seek to adopt and publish the final decision in its subsequent Response to Consultation and Decision.

---

<sup>25</sup> Subject to the provisions of ComReg's published guidelines on the treatment of confidential information as set out in [ComReg Document 05/24](#).

- 1.41 All responses should be sent by post or email to the address below to arrive on or before **1700 hrs on 03 March 2023**. Responses received after this date will not be considered. Responses should be marked for the attention of:

Malachy Fox  
Commission for Communications Regulation  
1 Dockland Central  
Guild Street  
Dublin 1  
D01 E4X0  
Ph: +353 86 894 2524  
Email: [malachy.fox@comreg.ie](mailto:malachy.fox@comreg.ie)

## 1.7 Structure of the Consultation

- 1.42 The remainder of this Consultation is structured as follows:
- (a) Section 3 defines the proposed scope of the PIA markets from a product and geographic perspectives;
  - (b) Section 4 carries out the 3 Criteria Test and assesses competition within the PIA markets, alongside the assessment as to whether any undertaking operating in these markets holds a position of SMP;
  - (c) Section 5 sets out the main competition problems that could, absent regulation, occur within the PIA Market and adjacent markets, along with the likely consequential impacts for competition and consumers;
  - (d) Section 6 discusses and sets out non-pricing regulatory obligations that ComReg proposes to impose on Eircom as the proposed SMP operator in the PIA Markets, with such obligations being imposed in order to address identified competition problems;
  - (e) Section 7 discusses and sets out pricing regulatory obligations that ComReg proposes to impose on Eircom as the proposed SMP operator in the PIA Markets, with such obligations being imposed in order to address identified competition problems;
  - (f) Section 9 briefly sets out the Regulatory Impact Assessment (hereafter, '**RIA**') of the proposed approaches to regulation in the Relevant PIA Markets;
  - (g) Section 10 sets out the next steps;
  - (h) Annex 1: sets out the draft Decision Instrument;
  - (i) Annex 2: presents an assessment of various PI networks in Ireland;

- (j) Annex 3: summaries the responses to a qualitative questionnaire on PI issued to stakeholders in 2021;
- (k) Annex 4: Real Worlds Systems Technical Feasibility Report; and
- (l) Annex 5: lists the questions set out in this Consultation.

## Chapter 2

# 2 Executive Summary

## 2.1 Relevant Market, Three Criteria Test and SMP

- 2.1 This Consultation presents ComReg's analysis of the market for Physical Infrastructure Access ('**PIA**') and whether any service provider ('**SP**') has market power over PIA, which could inhibit the development of infrastructure competition. Promoting access to PIA can lower the cost of and time involved in deploying fibre networks, with the deployment of very high-speed capacity networks and efficient infrastructure-based competition being in line with the aims of the regulatory framework established by the European Electronic Communications Code ('**EECC**').
- 2.2 In summary, ComReg proposes to define a national market consisting of telecoms-specific Physical Infrastructure ('**PI**') – namely the ducts, poles and associated facilities such as chambers – that are capable of housing wired Electronic Communications Networks ('**ECN(s)**'). Such PI is used to support the provision of both wholesale and retail Electronic Communications Services ('**ECS(s)**') to residential and business users.
- 2.3 Eircom is currently required to provide access to Civil Engineering Infrastructure ('**CEI**'), which is synonymous with PIA, by virtue of its regulatory obligations in the Wholesale Local Access ('**WLA**') market, a market which is downstream of the proposed PIA market.
- 2.4 PIA is the most upstream input to the provision of ECS services. ComReg, in keeping with best regulatory practice, is moving its analysis of these PIA services upstream of the active wholesale markets such as WLA, so that such downstream markets can be analysed with any required PIA regulation in place. This approach is in keeping with best regulatory practice under the Modified Greenfield Approach to assessing the need for ex ante regulation.
- 2.5 PIA is not a market included by the European Commission in its 2020 Recommendation on markets susceptible to ex ante regulation. Therefore, ComReg is required to demonstrate in accordance with Article 57 of the Code that the following three criteria are met, prior to intervening in the market: (i) there are high and non-transitory barriers to entry; (ii) the market structure does not tend towards effective competition within the relevant time horizon; and competition law alone is insufficient to adequately address the market failure(s) concerned. The high levels of investment required, coupled with the fact that the costs would be largely sunk, create high and non-transitory



barriers to entry, while there is no identifiable indication that the market structure will tend towards effective competition within the 5 year market review period. With one exception, only a marginal volume of PI is traded between SPs and there is little indication that there will be any significant investment in the construction of new PI to support fixed telecoms in the medium term. ComReg finds accordingly that the market is susceptible to *ex ante* regulation.

- 2.6 ComReg further finds, that Eircom, due to its ubiquitous telecom-specific PI network which is capable of being used to access the vast majority of premises in the country, and the lack of an effective existing or potential rival PI, has SMP in the PIA market.
- 2.7 In proposing to designate Eircom with SMP, ComReg has also considered the transaction entered into between Eircom and InfraVia whereby a dedicated fibre company, Fibre Networks Ireland Limited ('FNI'), was created with plans to pass over 1.9m homes with FTTP by 2026 (the '**Transaction**'). InfraVia owns a 49.99% interest in FNI, and Eircom the remaining 50.01%. As part of the transaction Eircom transferred to FNI, certain assets (including ducts, poles and fibre but excluding exchanges and cabinets) that are principally located outside the Government's NBP IA, where NBI is currently rolling out its FTTH network.
- 2.8 ComReg has considered whether following the Transaction there ought to be considered, for the purpose of the market analysis, two networks; one largely contained in the NBP IA in the ownership of Eircom, and another, in the 'Commercial Area', in the ownership of FNI (and indirectly, of Eircom and InfraVia). However, ComReg is satisfied that following the Transaction, Eircom remains in the operational control of the PI owned by FNI and that it is appropriate to treat the PI owned by FNI and Eircom as one PI network. This means that Eircom has, in practical terms, a ubiquitous national PI (duct and pole) network allowing the provision of wired network connectivity to almost every residential and business premises in the State.
- 2.9 There are two broad - albeit interlinked - types of demand for PIA, namely SPs who want to roll out mass market broadband services to residential and small businesses, and SPs who want to provide leased line connectivity to medium to large sized businesses, connectivity to mobile base stations and fixed network extension.

- 2.10 The first require ubiquity of PI within specific locations or local density/capillarity<sup>26</sup> for rollout of broadband to a town or a suburb. The second require PI to reach a specific premise or a set of premises that may be dispersed nationally, therefore requiring PI that is nationally ubiquitous.
- 2.11 Other telecom specific PI networks such as Virgin Media's and those who use their own PI to connect businesses such as BT, Colt, enet, etc. lack the necessary national coverage and capillarity at a local level to be effectively utilised to roll-out competing ECNs to service either mass-market or dedicated lease line type services.
- 2.12 Other infrastructure networks that are or could be used to support ECNs deployment are not effective substitutes for telecom-specific PI. In particular the ESB network<sup>27</sup> is not specifically designed for the deployment of ECNs and there are restrictions on its capacity and use that renders it unlikely to be a effective substitute for telecoms-specific PI. The limitations include the fact that in general, only one fibre cable is allowed on ESB poles<sup>28</sup>, including for health and safety reasons associated with proximity to the electrical network. This means that where SIRO has deployed its fibre cables, no other Access Seeker can practically deploy on that route. The installation and maintenance of fibre cables is also carried out by ESB staff or their contractors, as third parties are generally not allowed to work on electricity transmission/distribution infrastructure. The primacy of the electricity supply means that installation and repair of fibre cables will always be secondary to that of the repair of the electricity transmission/distribution system.
- 2.13 Given Eircom's position of SMP, ComReg proposes that a suite of obligations is imposed on Eircom to ensure effective competition in downstream wholesale and retail fixed electronic communications markets.

## 2.2 Proposed Access Remedies

- 2.14 ComReg proposes that Eircom is required to provide access to its pole<sup>29</sup> network (Pole Access) and to its duct<sup>30</sup> network by way of Duct Access, Sub-Duct Access and Direct Duct Access. Also included for the purpose of access to the pole and duct networks, is access to ingress and egress points, to a CEI Connection Service (whereby a fibre connection is provided by Eircom

---

<sup>26</sup> Capillarity in the context of PI is the ability of a network to reach all or most of the buildings in a particular geographic location.

<sup>27</sup> See paragraphs 3.60 to 3.87 for an assessment of electricity PI as a substitute to telecom PI.

<sup>28</sup> Specifically Low Voltage ('LV') poles

<sup>29</sup> Pole means an Eircom pole which can be used to support cables and equipment.

<sup>30</sup> Duct means a pipe or conduit that carries Sub-Duct and/or cables. Cables may be contained in Sub-Duct or directly inserted into the pipe or conduit without Sub-Duct.

between an Access Seeker co-located equipment to an Eircom chamber or pole), to chambers, to co-location for PIA and to its Passive Access Records ('PAR'). ComReg also proposes to require Eircom to provide, where access to CEI is not available, access to Dark Fibre where Dark Fibre is reasonably available. Furthermore, an Access Seeker can choose to avail of Dark Fibre (where reasonably available) in the case where it chooses not to incur the Eircom specified Duct remediation charges.

**2.15** Eircom is also required to meet certain conditions in respect of the provision of access, including requirements governing fairness, reasonableness and timeliness of access, including Service Level Agreements ('SLAs') and requirements regarding timeliness of product development. ComReg proposes in this regard to impose a maximum period of 10 months (or 14 months in certain circumstances) to launch a new or amended product.

**2.16** The proposed access remedies are outlined in detail in subsection 6.4.

## **2.3 Proposed Non-Discrimination Remedies**

**2.17** ComReg proposes to impose an obligation of non-discrimination in the provision of PIA both as between Access Seekers, and as between Access Seekers and Eircom and its partners, subsidiaries and affiliates. In respect of the latter, ComReg proposes further to require that Eircom provide to Access Seekers, the same systems and processes as Eircom provides to itself including for the purpose of pre-ordering, ordering, provisioning, fault reporting and repair, within seven months of the Effective Date.

**2.18** The proposed non-discrimination remedies are outlined in detail in subsection 6.5.

## **2.4 Proposed Transparency Remedies**

**2.19** ComReg proposes that Eircom will be required to publish a Reference Offer setting out the terms and conditions, including prices, on which PIA is available to Access Seekers by way of a separate Reference Offer ('PIARO'). The proposed transparency remedies will include a requirement to publish a PI rollout plan, a requirement to publish Information as regards performance, including by reference to certain Key Performance Indicators (ComReg may also consult further in respect of a further specification of KPIs), as well as a requirement with respect to the making available to Access Seekers availing of PIA, or with a demonstrable intention to avail of PIA from Eircom, Eircom's Engineering, Planning and Design Rules and also to publish information on product development, alongside a description of the processes and systems used by Eircom to provide PIA for both its own use and for all Access Seekers.

2.20 The proposed transparency remedies are outlined in detail in subsection 6.6.

## 2.5 Proposed Price Control, Cost Accounting and Accounting Separation Remedies

2.21 The proposed price control obligation for PIA is largely consistent with the existing price control for ducts and poles set under the 2018 WLA Market Decision. The table below provides a summary of the main elements of the price control obligation, including the proposed changes from the existing price control obligation which are highlighted in red.

**Table 2: Summary of the main price control obligations**

	2018 approach	Proposed approach
<b>Price control</b>	Cost Orientation	Cost Orientation
<b>Cost methodology</b>	BU-LRAIC+ <sup>31</sup> and TD HCA <sup>32</sup>	BU-LRAIC+ and TD HCA
<b>Cost sharing approach</b>	Poles: Per operator Duct: Per metre of cable	Poles: Per operator <b>Duct: Per metre of duct access equivalents</b>
<b>Pricing approach</b>	Poles: Deaveraged prices Ducts: Deaveraged prices	<b>Poles: Single national averaged price</b> Ducts: Deaveraged prices

2.22 As noted in Table 2, the main changes include ComReg's proposal to set a maximum national price for Pole Access, as opposed to the existing deaveraged prices, smoothing out timing differences of pole investment and providing a simpler pricing structure. In addition, ComReg proposes to change the way Duct costs are shared among Access Seekers by moving away from the existing per metre of cable approach to a 'per metre of duct access equivalents'. The new proposed approach means that Eircom would apply a minimum price for duct related access based on assigning a cross sectional area in a duct, equivalent to a sub-duct with a diameter of 25mm. Larger or additional sub-ducts / cables with a combined cross-sectional area above the minimum cross-sectional area (of 25mm) will be subject to higher prices. Please refer to Section 7 for the details of the proposed price control obligation for PIA.

<sup>31</sup> Bottom Up Long-run average incremental cost plus a contribution towards common corporate costs (BU-LRAIC+) applied to non-reusable PIA assets.

<sup>32</sup> Top Down Historic Cost Accounting (TD HCA) applied to reusable PIA assets.

2.23 The maximum prices for Pole Access, calculated based on the Pole Access Model ('PAM'), are set out at Table 3. The maximum prices for Duct Access and Direct Duct Access are set out in Table 4 and the incremental costs per metre for Sub-Duct Access are included in Table 5, calculated in the Duct Access Model ('DAM'). It is ComReg's intention to update the costing/ financial data in the PAM and DAM before a final decision is made, as a result the draft prices set in this Consultation are subject to change.

**Table 3: Maximum annual national rental prices for Pole Access**

Pole Access	1 July 2022 – 30 June 2023	1 July 2023 – 30 June 2024	1 July 2024 – 30 June 2025	1 July 2025 – 30 June 2026	1 July 2026 – 30 June 2027
	€	€	€	€	
<b>National pole price*</b>	21.23	21.89	22.36	22.91	22.60

*\*This is the total price of a pole and so the annual rental price may vary depending on the number of users seeking access to the pole*

**Table 4: Maximum annual prices for Duct Access / Direct Duct Access by geographic area and surface types**

Duct Access / Direct Duct Access prices*	1 July 2022 – 30 June 2023		1 July 2023 – 30 June 2024		1 July 2024 – 30 June 2025		1 July 2025 – 30 June 2026		1 July 2026 – 30 June 2027	
	€		€		€		€		€	
<i>Per metre</i>	<u>Urban</u>	<u>Non-Urban</u>	<u>Urban</u>	<u>Non-Urban</u>	<u>Urban</u>	<u>Non-Urban</u>	<u>Urban</u>	<u>Non-Urban</u>	<u>Urban</u>	<u>Non-Urban</u>
<b>Carriageway</b>	0.92	0.79	0.92	0.79	0.90	0.78	0.88	0.76	0.86	0.74
<b>Footway</b>	0.71	0.61	0.71	0.61	0.70	0.61	0.69	0.59	0.67	0.58
<b>Verge</b>	0.44	0.38	0.44	0.38	0.43	0.38	0.42	0.37	0.41	0.36

*\*These prices assume the assignment of a minimum cross-sectional area in a duct equivalent to a sub-duct of 25mm. Larger or additional sub-ducts / cables with a combined cross-sectional area above the minimum cross-sectional area will be subject to higher prices. Access Seekers will also be liable to pay for duct remediation costs above a financial threshold of [€11k].*

**Table 5: Incremental annual cost per metre for Sub-Duct Access\***

<b>Per metre</b>	<b>1 July 2022 – 30 June 2023</b>	<b>1 July 2023 – 30 June 2024</b>	<b>1 July 2024 – 30 June 2025</b>	<b>1 July 2025 – 30 June 2026</b>	<b>1 July 2026 – 30 June 2027</b>
	€	€	€	€	€
<b>Sub-Duct Access costs*</b>	0.08	0.08	0.08	0.08	0.08

*\*The incremental cost per metre for Sub-Duct Access is added to the price for Duct Access to determine the Sub-Duct Access price*

2.24 ComReg also proposes that Eircom should continue to be subject to the obligation of cost accounting in the context of PIA. This is discussed in Section 7.8. The accounting separation obligation should also be maintained for PIA, and ComReg proposes more extensive reporting requirements for PIA as part of Eircom's Historical Cost Accounts ('HCAs'), as discussed later in Section 7.9.

## 2.6 Proposed regulatory governance obligation

2.25 A critical aspect in the effectiveness of PIA products in facilitating effective competition is the regulatory governance arrangements that are or need to be in place for the purpose of ensuring that Eircom provides access to its network in accordance with its regulatory obligations. Having regard to the establishment of FNI, and the low and slow take-up to date of PIA products, and further to Eircom's obligations of non-discrimination and transparency, ComReg proposes to require that Eircom ensure that it has in place effective regulatory governance arrangements ensuring compliance with its SMP obligations including as regards its arrangements, and the implementation of those arrangements, with FNI. ComReg further proposes that this obligation be further specified for the time being by reference to a requirement to prepare and provide to ComReg, a Statement of Compliance.

## 2.7 Next steps

2.26 ComReg invites all interested parties to respond to the questions set out in this Consultation. The consultation period will run to 1700 hrs on 03 March 2023, providing an 8 week consultation period.

## Chapter 3

# 3 Market Definition

## 3.1 Overview

- 3.1 As noted in Section 1, PIA is not listed in the 2020 Recommendation. Accordingly, ComReg must carry out a 3-Criteria Test to determine whether ex ante regulation of the PIA market<sup>33</sup> is warranted. However, before doing so, it is first necessary to define the parameters of the PIA markets on which the 3CT will be carried out.
- 3.2 Market definition is a tool that enables the identification and assessment of the boundaries of competition between SPs, ultimately – in the current instance – to assess whether ex ante regulation in the PIA market is warranted and, if so, whether any SP has SMP on a duly-defined market.
- 3.3 In defining the PIA market (**‘Relevant PIA Market’**), ComReg begins by identifying the appropriate ‘focal product’ at the wholesale level. ComReg then examines whether this focal product constitutes a separate market on its own, or whether, taking into account any effective direct demand-side and supply-side substitutes, a broader market should be defined. ComReg also assesses the degree to which any indirect constraints arising from downstream retail markets might effectively constrain wholesale market behaviour, before then assessing the geographic scope of the PIA market. This ultimately provides the product and geographic boundaries of a given market, beyond which conditions of competition appreciably differ.
- 3.4 The Notice on Market Definition states that a relevant market consists of both a product and a geographic component:
- (a) A relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer by reason of the products’ characteristics, prices and intended use; and
  - (b) A relevant geographic market comprises the area in which the firms concerned are involved in the supply of products or services, and in which the conditions of competition are sufficiently homogeneous.
- 3.5 In line with the MGA, ComReg’s market definition assessment starts from the assumption that regulation is not present in the market under consideration. However, regulation present in other related markets, or through the general

---

<sup>33</sup> While we define PIA market in the singular in this Section, this should not be interpreted as ruling out the possibility of more than one such market existing.

regulatory framework, is taken into consideration. This is to avoid drawing conclusions regarding the competitive structure of a particular market which may be influenced by, or indeed premised on, existing regulation on that market. Considering how the PIA Market may function absent regulation helps to ensure that regulation is only applied (or withdrawn) in circumstances where it is justified and proportionate to do so. In this context, the assessment of the PIA market therefore assumes that regulation in the downstream WLA and WCA markets is not present.

3.6 Market definition is not an end in itself but is undertaken to provide the context for the subsequent 3CT in Section 4, which examines whether the Relevant PIA Market could, in principle, to be susceptible to ex ante regulation. Market definition allows ComReg to consider the competitive constraints imposed by demand and supply-side substitutes (and, consequently, the buyers and suppliers of those substitute products) on a forward-looking basis; that is, taking into account expected or foreseeable technological or economic developments over a reasonable time horizon linked to this market review.

3.7 Accordingly, this section is set out as follows:

- (a) Description of the Regulatory Assessment Framework (discussed in section 3.2 below);
- (b) Description of trends in fixed telecom PI (discussed in section 3.3 below);
- (c) An Assessment of the PIA Product Market (discussed in section 3.4 below);
- (d) An Assessment of the PIA Geographic Market (discussed in section 3.5 below); and
- (e) Overall preliminary conclusions on the definition of the Relevant PIA Market (discussed in section 3.6 below).

## 3.2 Regulatory Assessment Framework

3.8 In general terms, as noted previously, PI refers to the inactive physical portions of a network (and associated facilities) which house or carry the constituent wired components of an ECN. Both Article 72 of the EECC and the Explanatory Note to the 2020 Recommendation<sup>34</sup> define PI as follows:

---

<sup>34</sup> Section 4.1.6 of the Explanatory Note to the 2020 Recommendation.



*“Physical infrastructure are facilities or elements associated with an electronic communications network, which enable or support the provision of services, and include buildings or entries to buildings, building wiring, antennae, poles, towers and other supporting constructions, ducts, conduits, masts, inspection chambers, manholes, and cabinets.”*

- 3.9 Under the European regulatory framework for electronic communications, ex ante regulation may only be imposed in respect of certain specific markets which meet certain criteria that identify them as being susceptible to ex ante regulation which is ascertained by the 3CT described above. Regulatory obligations can only be imposed where one or more operators on a market have SMP. Assessing whether a market is susceptible to ex ante regulation and/or is effectively competitive requires that the boundaries of the market are clearly delineated, both in terms of the products which fall within the market, and in geographic terms. According to Article 64(3) of the EECC, NRAs:

*“...shall, taking the utmost account of the Recommendation and the SMP Guidelines, define relevant markets appropriate to national circumstances... in accordance with the principles of competition law”.*

- 3.10 As noted in the SMP Guidelines, the starting point of any analysis should be an assessment of relevant retail market(s), taking into account demand-side and supply-side substitutability from the end-user's perspective over the next review period based on existing market conditions and their likely development. Subsequently the analysis then identifies and analyses the wholesale market that is most upstream of the retail market. The extent to which the supply of a product or the provision of a service in a given geographical area constitutes a relevant market depends on the constraints on the price-setting behaviour of the service provider(s) concerned. There are two main competitive constraints to consider: (i) demand-side; and (ii) supply-side substitution. However, the accompanying WLA/WCA market review consultation (ComReg 23/03), sets out that in the absence of wholesale regulation retail market competition would likely be negatively affected. As PIA is upstream of WLA, it is considered likely that the retail competition problems would persist in the absence of PIA regulation.

- 3.11 In short, demand-side substitutability considers the extent to which sufficient customers are prepared to substitute other services or products for the service or product in question such that it renders price increases unprofitable. As such, supply-side substitutability indicates whether suppliers other than those offering the product or service in question would switch production to the products or services in the immediate-to-short term (or offer the relevant products or services) without incurring significant additional costs and

consumer substitution to these such that it renders price increases unprofitable.

- 3.12 The hypothetical monopolist test ('**HMT**') is the conceptual framework for the economic definition of relevant product and corresponding geographic market(s). The HMT consists of observing whether a small but significant non-transitory increase in price ('**SSNIP**') above the competitive level (taken to be in the range of 5 to 10%) of a focal/candidate product supplied by a Hypothetical Monopolist ('**HM**') would provoke a sufficient number of customers to switch to an alternative product such that it would make the price increase unprofitable. If a sufficient number of subscribers switching to the alternative product results in the price increase being unprofitable, then the alternative product is also included in the relevant product market. The HMT is carried out for any given number of alternative products which, by their characteristics, prices and intended use, may constitute an effective substitute to the product under review (focal product), namely, in the context of PIA, telecoms-specific PI.
- 3.13 According to the SMP Guidelines, the relevant geographic market comprises an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which the conditions of competition are sufficiently homogeneous, and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are significantly different. This means that areas in which the conditions of competition are heterogeneous do not constitute a uniform market.
- 3.14 The SMP Guidelines note that the choice of the areas, or geographic units, to be compared should be (a) of an appropriate size, i.e., small enough to avoid significant variations of competitive conditions within each unit but big enough to avoid a resource-intensive and burdensome micro-analysis that could lead to market fragmentation, (b) able to reflect the network structure of all relevant operators, and (c) have clear and stable boundaries over time. Of particular relevance in respect of electronic communications are: (a) the area covered by a network; and (b) the existence of legal and other regulatory instruments.
- 3.15 If regional differences are found but are insufficient to warrant the definition of different geographic markets or SMP findings, NRAs may pursue geographically differentiated remedies. The stability of the differentiation — specifically the degree to which the boundary of the competitive area can be clearly identified and remains consistent over time — is the key to distinguishing between a geographical segmentation at market-definition level and remedy segmentation.

### 3.3 Trends and developments in Fixed Telecom PI

- 3.16 As noted above, to date PIA has not been subject to a market review in its own right by ComReg but has been considered as a remedy imposed in the downstream WLA market<sup>35</sup> in which Eircom has to date been designated with SMP. This is also the case in most other EU member states<sup>36</sup>. There are some exceptions to this with two European NRAs, Ofcom<sup>37</sup> and ARCEP<sup>38</sup>, having both recently completed market reviews of PIA in their respective jurisdictions. In arriving at the 2020 Recommendation, the European Commission also sought views<sup>39</sup> on the inclusion of PIA as a recommended market but decided against mandating it due to the large variation in circumstances across EU<sup>40</sup> member states.
- 3.17 Despite PI typically being the largest component (up to 80% of ECN deployment costs), Figure 3 below shows it is one of the least traded parts of the value chain as the majority of asset owners use it for self-supply for the provision of other downstream wholesale or retail ECS. In 2021, revenues from PI represented just 2.5% of wholesale fixed line revenues and 1% of the retail fixed line revenues.
- 3.18 It should be noted that Figure 3 presents fixed telecoms specific revenues and excludes revenue generated by non-telecom specific infrastructure providers such as CIE and ESB.

---

<sup>35</sup> 2018 WLA Market Decision.

<sup>36</sup> Page 16, BEREC Report on Access to physical infrastructure in the context of market analyses (BoR (19) 94).

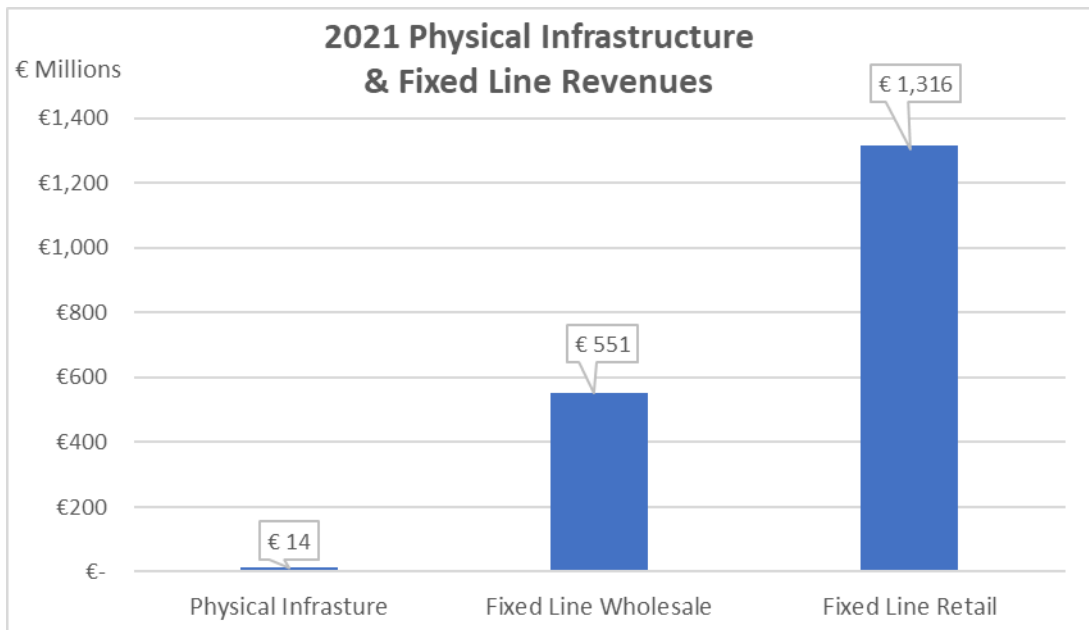
<sup>37</sup> Ofcom's Wholesale Fixed Telecoms Market Review 2021-26, <https://www.ofcom.org.uk/consultations-and-statements/category-1/2021-26-wholesale-fixed-telecoms-market-review>

<sup>38</sup> ARCEP Decision No 2020-1445, [https://www.arcep.fr/uploads/tx\\_gsavis/20-1445.pdf](https://www.arcep.fr/uploads/tx_gsavis/20-1445.pdf)

<sup>39</sup> <https://digital-strategy.ec.europa.eu/en/synopsis-report-targeted-public-consultation-review-recommendation-relevant-markets-policy>

<sup>40</sup> Explanatory Note to the 2020 Recommendation, pages 61-62. <https://digital-strategy.ec.europa.eu/en/news/commission-updated-recommendation-relevant-markets>

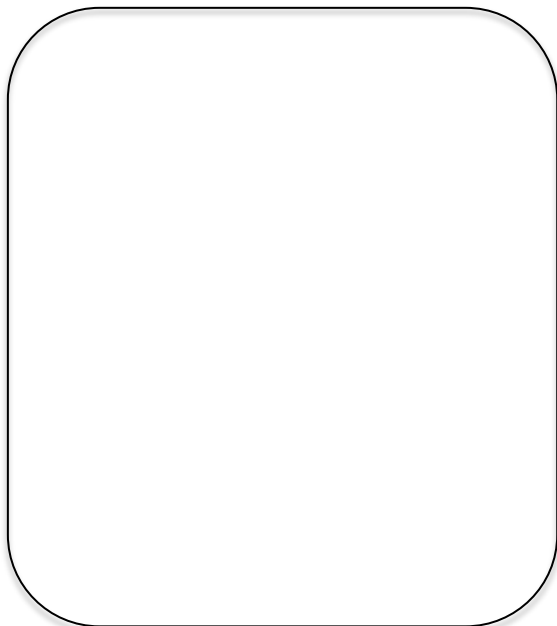
**Figure 3: 2021 Telecom PI & Fixed Line Revenues<sup>41</sup>**



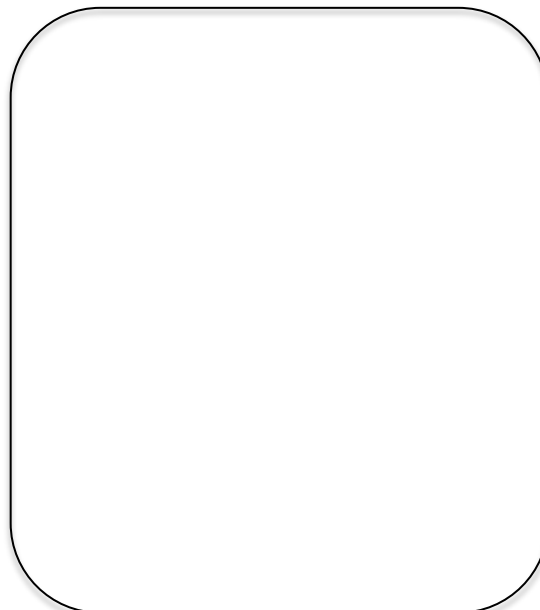
3.19 The following data on PI is primarily based on duct and pole rentals rented/leased in 2021 by SPs. Figure 4 shows the breakdown in 2021 revenue across these two primary categories of infrastructure, ducts and poles, from both telecom and non-telecom PI. Overall ducts accounted for nearly 70% of all revenue, and poles account for the remaining 31%. Figure 5 shows the breakdown by km of duct and the number of poles rented/leased in 2021, from both telecom and non-telecom PI.

<sup>41</sup> Source, SIR data, Non-SIR data and QKDR Data.

**Figure 4: 2021 SPs costs of Duct & Pole Rentals [REDACTED]<sup>42</sup>**



**Figure 5: 2021 SPs rental of Duct (km) & Pole (No) [REDACTED]<sup>43</sup>**



- 3.20 In the context of the merchant market and trading of assets SPs purchased over 60% (4,000km) their duct from other telecom operators 43.<sup>44</sup> NBI [REDACTED] [REDACTED] was the most significant of these purchasers of telecom duct followed by Virgin Media [REDACTED] [REDACTED] and Aurora [REDACTED] [REDACTED]. NBI was the only renter of telecom poles [REDACTED] [REDACTED].
- 3.21 Figure 6 and Figure 7 show the wholesale (merchant market) telecom PI sales to SPs (excluding sales of non-telecom PI) in euros and kms of duct and number of poles, respectively. These sales represent the overwhelming majority of all PI sales by telecom operators, 99% of duct and 100% of poles.
- 3.22 Eircom is the largest seller of telecom PI accounting for [REDACTED] [REDACTED] of all sales in Euros, accounting for 49% in the total length rented/leased duct and all poles rented. eNet, Virgin Media and Colt account for [REDACTED] [REDACTED] of all PI sales by telecom operators measured by euros. In terms of the total length of duct rented/leased Eircom and eNet represent [REDACTED] [REDACTED], respectively, while the other telecom operators account for the remaining [REDACTED] [REDACTED].

<sup>42</sup> Source, SIR data and non-SIR data.

<sup>43</sup> Ibid.

<sup>44</sup> 40% being purchased from non-telecom operators.

Figure 6: 2021 Telecom PI Sales in Euros [REDACTED]<sup>45</sup>

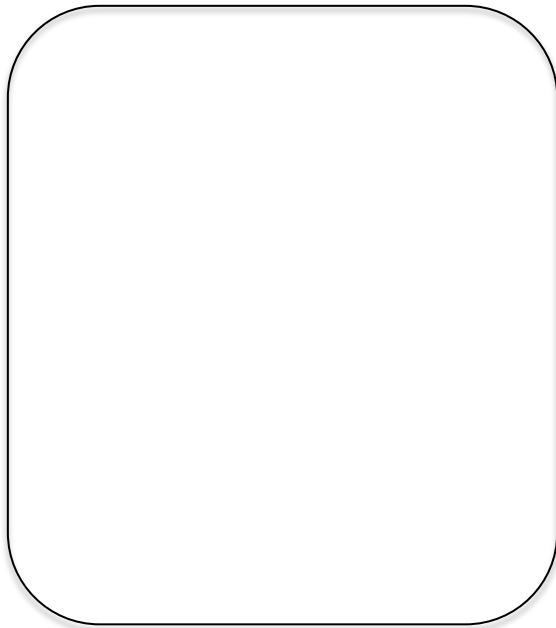
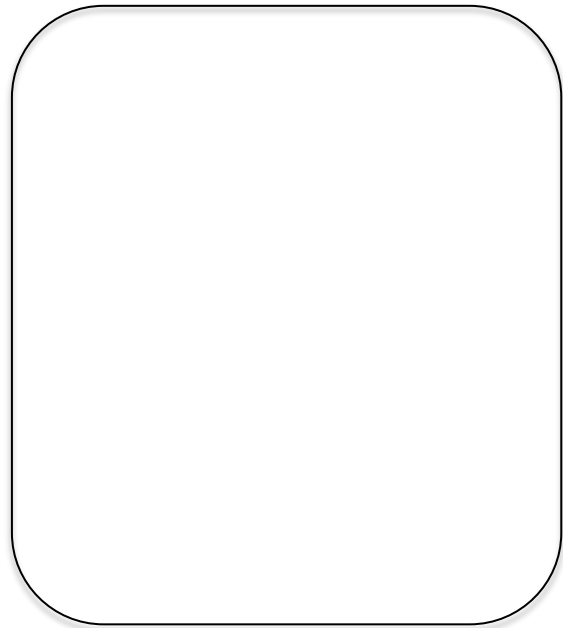


Figure 7: 2021 Telecom PI Sale Volumes [REDACTED]<sup>46</sup>



### 3.3.2 Fibre Networks Ireland (FNI)/Eircom/InfraVia

- 3.23 On 28 January 2022, Eircom and InfraVia announced that they had reached an agreement to create a dedicated fibre company, Fibre Networks Ireland Limited (**'FNI'**), with plans to pass over 1.9m homes with FTTP by 2026<sup>47</sup> (the **'Transaction'**). Following completion of the Transaction on 30 June 2022, InfraVia owns a 49.99% interest in Fibre Networks Ireland Holdings Limited, of which FNI is a wholly-owned subsidiary, and Eircom the remaining 50.01%. As part of the transaction Eircom transferred to FNI, certain assets (including ducts, poles and fibre but excluding exchanges and cabinets) that are principally located outside the Government's NBP IA, where NBI is currently rolling out its FTTH network.
- 3.24 This means that as a result of the Transaction, the ownership of a significant amount of PI assets previously in the sole ownership of Eircom Limited has passed to FNI.

<sup>45</sup> Source, SIR data and Non-SIR data.

<sup>46</sup> Ibid.

<sup>47</sup> [eir and InfraVia Form Partnership to Accelerate eir's Fibre Broadband Roll-Out and https://www.eir.ie/opencms/export/sites/default/content/pdf/IR/news/220701-eir-Fibre-Partnership-Completes-Press-Release.pdf](https://www.eir.ie/opencms/export/sites/default/content/pdf/IR/news/220701-eir-Fibre-Partnership-Completes-Press-Release.pdf)

- 3.25 ComReg has considered whether following the Transaction there ought to be considered, for the purpose of the market analysis, two networks; one largely contained in the NBP IA in the ownership of Eircom, and another, in the Commercial Area, in the ownership of FNI (and indirectly, of Eircom and InfraVia).
- 3.26 ComReg in this regard notes further, based on a number of provisions in the transaction documents, which include a Shareholders Agreement, a Business Transfer Agreement, a Managed Services Agreement, a Transitional Services Agreement, a Commercial Services Agreement, a Deed of Conveyance, Transfer and Assignment of Fibre Rights, a Master Duct and Pole Licence Agreement (**‘Transaction Documents’**), that InfraVia and Eircom together can be considered to have joint control of FNI, whereby they each have the possibility of exercising decisive influence over FNI, that is, they each have the power to block certain actions which determine the strategic commercial behaviour of FNI.
- 3.27 While Eircom [X [REDACTED] X], a number of rights afforded to InfraVia means that it may exercise decisive influence over FNI.<sup>48</sup> ComReg notes in particular that the Shareholders Agreement provides that FNI will have a maximum of [X [REDACTED] X] directors<sup>49</sup> of which Eircom (for so long as it holds a majority of shares in FNI) will have the right to nominate [X [REDACTED] X] directors and InfraVia will initially have the right to appoint [X [REDACTED] X] [REDACTED] [REDACTED] X<sup>50</sup>. For so long as it holds a majority of shares in FNI, Eircom will have the right to appoint and remove and replace the chairperson.<sup>51</sup> The quorum for board meetings will be [X [REDACTED] X] [REDACTED] X<sup>52</sup>. Voting at board meetings will be decided by a majority of votes cast with each director having one vote. In the event of a tie, the chairperson will have a casting vote.<sup>53</sup>
- 3.28 However, the Shareholders Agreement also provides for the establishment of a supervisory committee to monitor and to take technical and operational decisions in connection with the operation of the Managed Services Agreement, the Transitional Services Agreement, the Commercial Services

---

<sup>48</sup> For simplicity's sake, ComReg only refers here to FNI but the provisions referred to are equally relevant to Fibre Networks Ireland Holdings Limited.

<sup>49</sup> Clause 2.1.1.

<sup>50</sup> Clauses 2.2.1 and 2.2.2.

<sup>51</sup> Clause 2.3.

<sup>52</sup> Clause 3.4.1.

<sup>53</sup> Clause 3.5.

Agreement and the Master Pole Licence Agreement.<sup>54</sup> The supervisory committee is to comprise [redacted]  
[redacted]  
[redacted].<sup>56</sup> The Shareholders Agreement also notes that discussions are [redacted]  
[redacted] and will be submitted in advance to shareholders for approval.<sup>57</sup> InfraVia is also entitled to [redacted]  
[redacted]  
[redacted].<sup>59</sup>

- 3.29 Importantly, the Shareholders Agreement also sets out a number of reserved matters which are subject to higher thresholds for adoption, including the matter of changes to, or adoption of new, business plans or budgets and approval of the FTTH Roll-Out Plan, which requires the approval of the holders of [redacted]  
[redacted].<sup>60</sup>
- 3.30 On the basis of the Transaction Documents, ComReg found that the Transaction had the effect of triggering Regulation 15 of the Access Regulations as it involved an intention by Eircom, as an operator with SMP, “...to transfer [its] local access network assets or a substantial part thereof to a separate legal entity under different ownership, or to establish a separate business entity in order to provide to all retail providers, including its own retail divisions, fully equivalent access products”.<sup>61</sup>
- 3.31 ComReg is of the view, however, that the distinction drawn under the EU Merger Regulation,<sup>62</sup> between joint ventures performing on a lasting basis all the functions of an autonomous economic entity (so called full-function joint ventures) and those who do not, whereby only the former constitute a concentration within the meaning of the Merger Regulation, is also relevant

<sup>54</sup> Clause 5.1 and Schedule 2.

<sup>55</sup> Paragraph 2 of Schedule 2.

<sup>56</sup> Clause 5.3. There is an escalation procedure in the event that agreement cannot be reached.

<sup>57</sup> Clause 7.

<sup>58</sup> Clauses 6.1 and 6.3.

<sup>59</sup> Clause 6.2.

<sup>60</sup> Clause 10.2.

<sup>61</sup> See Information Notice: Eir/InfraVia Transaction, ComReg 22/57, 5 July 2022.

<sup>62</sup> Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings, OJEC L 24/1, 29.1.2004.



here. For the purpose of the EU Merger Regulation, a full function joint venture has the following characteristics:<sup>63</sup>

- (a) The joint venture has sufficient resources to operate independently on the market, i.e., sufficient assets, staff and financial resources to perform its business on a day-to-day basis;
- (b) The joint venture carries out activities beyond one specific function for the parents, i.e., it is not limited to an activity that is essentially auxiliary to its parents' and it has its own access to, or presence on, the market;
- (c) There are no supply or purchase agreements with its parents such that its autonomy would be affected; and
- (d) The joint venture will operate on a lasting basis, i.e., during a period sufficiently long that the structure of the undertakings concerned is changed.

3.32

[§< [REDACTED]  
[REDACTED] §>]<sup>64</sup>. On the basis of the Transaction Documents reviewed by ComReg, it is notably the case that FNI will be limited to an activity that is essentially auxiliary to one of its parents' (Eircom's) and it does not have its own direct access to, or presence on, the market. It is also does not appear that FNI will have sufficient resources to operate independently on the market, i.e., sufficient assets, staff and financial resources to perform its activity on a day-to-day basis.

3.33

In this regard, the Business Transfer Agreement transfers from Eircom to FNI [§< [REDACTED]  
[REDACTED] §>].<sup>65</sup> The associated assets are expressed to include the Access Network, the Fibre Rights<sup>66</sup> and other assets and property used exclusively in respect of the Business<sup>67</sup> but excluding certain Excluded

<sup>63</sup> Commission Consolidated Jurisdictional Notice under Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings (2008/C 95/01).

<sup>64</sup> [§< [REDACTED]  
[REDACTED] §>]

<sup>65</sup> Clause 1.1 (Definition of 'Business').

<sup>66</sup> Defined in the Business Transfer Agreement as "all statutory, prescriptive, contractual and common law title and property rights and all easements, rights, powers, privileges and interests which are held by the Company at Completion and which are necessary to operate the Access Network".

<sup>67</sup> Clause 2.1.

Assets. The Excluded Assets are listed in the Business Transfer Agreement<sup>68</sup> and include (amongst other things) [REDACTED]

[REDACTED]

[REDACTED] <sup>69</sup>. Finally, under a Deed of Novation between Eircom, FNI, [REDACTED]

[REDACTED] <sup>70</sup>].

3.34 However, a number of agreements mean that Eircom in practice retains operational control:

(a) [REDACTED]

[REDACTED]

[REDACTED] <sup>70</sup>

(b) [REDACTED]

[REDACTED]

---

<sup>68</sup> Clause 1.1 (Definition of Excluded Assets).

<sup>69</sup> Clauses 1 and 2.

<sup>70</sup> Clause 2.1.

(c)

[REDACTED]

71

(d)

[REDACTED]

§].<sup>72</sup> Eircom is to define and manage all regulated access products (RAP) and for managing and wholesaling any regulated access of the Physical Infrastructure, including discharging the regulatory obligations imposed on Eircom.<sup>73</sup>

3.35 In light of this, ComReg is of the view that it is appropriate to treat the PI owned by FNI and Eircom as one PI network, the operation and management of which is effectively under Eircom's control. This means that Eircom has, in practical terms, a ubiquitous national PI (duct and pole) network allowing the provision of wired network connectivity to almost every residential and business premises in the State. Its telecoms-specific PI is comprised of circa [§<

[REDACTED]

§].<sup>74</sup> Its wired network encompasses copper cables, Fibre to the Cabinet ('**FTTC**'), point-to-point fibre and FTTH transmission media although Eircom has announced that it plans to upgrade its network such that it will ultimately pass 1.9m premises with fibre by 2026<sup>75</sup>, with FTTC expected to decline considerably.

<sup>71</sup> Clause 3.1.

<sup>72</sup> Clause 3.1 and Schedule 1, Part 1.

<sup>73</sup> Clause 10.

<sup>74</sup> Information provided to ComReg by Eircom 2019.

<sup>75</sup> <https://www.openeir.ie/gigabit-fibre-network-now-available-to-more-than-800000-homes-and-businesses-across-ireland/>, retrieved 16th May 2022.

### 3.3.3 Future Trends in the Fixed Telecom PI

- 3.36 Over the next 5 years there are a number of plans for the roll-out of fibre networks from different SPs that will entail the renting or leasing of PI that will increase the size of the wholesale PIA market.
- 3.37 The most significant is that of National Broadband Ireland ('NBI') which has a contract with the State, under the National Broadband Plan, to provide wholesale broadband services to customers that do not have a commercial alternative. It is predominantly focused (but not exclusively) on the most rural and remote locations of the country. It will make its services available in an intervention area ('IA'), which accounts for 23% of the population and just over 564,000 homes, farms, schools and businesses.<sup>76</sup> NBI will be primarily utilising Eircom's currently regulated PI, ducts and poles. NBI commenced the rollout of fibre to customers in the IA in 2020/21 and has passed over 91,000<sup>77</sup> out of the target of over 564,000 premises.
- 3.38 SIRO, another wholesale provider of broadband services, has announced in 2021 that it will expand its FTTP network from 430,000 premises to 770,000 premises passed across 154 towns in Ireland<sup>78</sup>. SIRO relies primarily on the PI of ESB, the owner of the electricity network, to roll out its fixed network.<sup>79</sup>
- 3.39 Eircom, the incumbent wholesale and retail operator, has plans to upgrade its network to fibre (largely FTTC to FTTP). It is targeting to reach 1.9m of premises in Ireland with Fibre to the Home (FTTH) by 2026<sup>80</sup>. This will be using its own PI, self-supply. Furthermore, Virgin Media announced plans to upgrade their network to full fibre with a goal to pass 1 million premises nationwide by the end of 2025 provides.<sup>81</sup>
- 3.40 Figure 8 and Figure 9, below, show the anticipated growth in merchant markets PI over the 2022 to 2027 period for poles and ducts, respectively.<sup>82</sup> NBI's rollout of fibre using Eircom's PI is the largest component of this growth.

---

<sup>76</sup> <https://www.gov.ie/en/publication/5634d-national-broadband-plan-map/>, website last updated 25<sup>th</sup> October 2022.

<sup>77</sup> <https://nbi.ie/news/events/2022/11/11/nbi-quarterly-update-november-2022/>

<sup>78</sup> <https://siro.ie/roll-out/>, retrieved 16th May 2022.

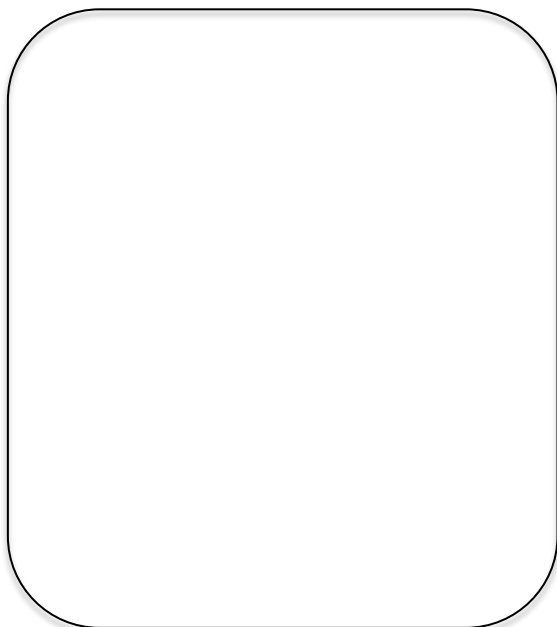
<sup>79</sup> A more detailed discussion on Siro and ESBN is considered below and in Annex 1

<sup>80</sup> <https://www.openeir.ie/gigabit-fibre-network-now-available-to-more-than-800000-homes-and-businesses-across-ireland/>, retrieved 16th May 2022.

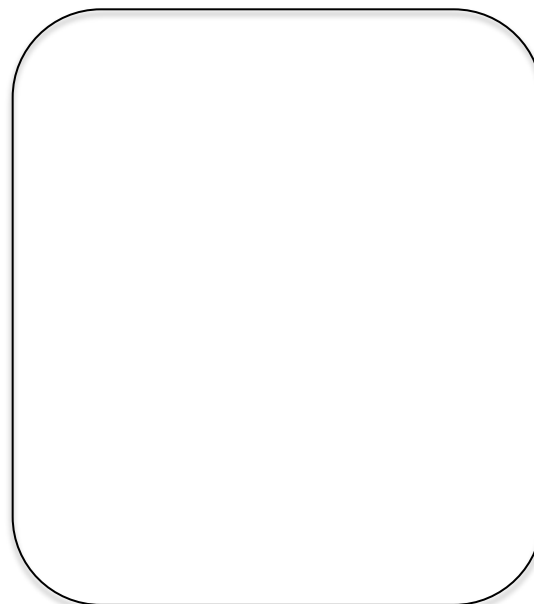
<sup>81</sup> <https://www.virginmedia.ie/about-us/press/2021/virgin-media-ireland-announces-national-fibre-network-upgrade/>, article dated 4th November 2021

<sup>82</sup> Sourced from information requests to SPs

**Figure 8: Forecast Pole Purchases  
2022-27 [REDACTED]<sup>83</sup>**



**Figure 9: Forecast Duct Purchases  
2022-27 [REDACTED]<sup>84</sup>**



### 3.4 Assessment of Relevant PIA Product Market

3.41 According to the Notice on Market Definition, 'A relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their prices and their intended use'<sup>85</sup>.

3.42 As set out in the Explanatory Note accompanying the SMP Guidelines:

*"In order to determine whether products are substitutable from a demand-side perspective, NRAs should analyse available evidence of customers' behaviour. Relevant data include historic price fluctuations in potentially competitive products and customers' reaction to such. If such data is not available, NRAs should assess the likely reactions of customers in case of a hypothetical price increase. This assessment requires a thorough consideration of barriers and costs to switching"*<sup>86</sup>.

<sup>83</sup> Source, SIR data and Non-SIR data.

<sup>84</sup> Ibid.

<sup>85</sup> Paragraph 7 EC Notice on Product Market Definition.

<sup>86</sup> Page 11 of the Explanatory Note accompanying the SMP Guidelines.

- 3.43 ComReg notes that in terms of demand for PIA, Access Seekers will generally want to enter long-term contracts to ultimately supply a range of fibre-based<sup>87</sup> services, be they mass-market broadband (and related) services or business services to particular premises. This is due in large part to the levels of investment involved in using PIA and the need to recover this (including sunk costs) over a stable and long-term time horizon. Furthermore, in general, there is likely to be strong preference amongst Access Seekers to not switch PIA supply once provisioned and in use. This is because removing and reinstalling fibre and associated ECS equipment from one PIA provider to another would be costly, impractical (as it would effectively mean maintaining two networks for a period to ensure service continuity to customers) and give rise to unacceptable operational risks associated with changing supplier. However, there may be specific use cases where this may be more feasible, such as in the case of switching PIA that connects high value customers such as large businesses with significant data requirements, many which also have multi-site locations.
- 3.44 This means that while Access Seekers may consider using different types of PI up to the point of investment in installing fibre-based services, once installed, the probability of switching is likely to be low.
- 3.45 One respondent to the PIA Qualitative Questionnaire ('QQ') [redacted] noted that its usual minimum PIA term requirement was 10 years or more and that it would require at least the same in the future, while another [redacted] indicated that a 15 to 40 years' term with renewal rights was optimal as it provides predictability for the purchaser. Another SP [redacted] stated [redacted]  
[redacted]  
[redacted] <sup>88</sup>.

### 3.4.1 Identifying the Focal Product

- 3.46 Based on engagement with various SPs, utility owners and other stakeholders and the evidence set out in paragraph 3.45 above, ComReg considers that there are 9 key demand-side product characteristics that are essential or the most desirable features of a PIA product (telecoms-specific and non-telecoms specific):

---

<sup>87</sup> ComReg's view is that, on a forward-looking basis, fibre will be the transmission media that would be installed in PI given, for example, its ability to deliver multiple ECS.

<sup>88</sup> [redacted]  
[redacted].

- (a) Speed and ease of deployment (Does the PI network allow efficient and rapid deployment of an ECN?);
- (b) Protection & resilience from damage (Is the PI network sufficiently robust to ensure a high-quality ECN can be maintained?);
- (c) Ability & ease of breakout for connections (Can ingress and egress to/from the PI network be achieved quickly and efficiently?);
- (d) Repair times (Can infrastructure be accessed easily so that faults can be remedied quickly?);
- (e) Redundancy / spare capacity (Is there sufficient PI capacity to allow accommodation of additional customers at the required volume level?);
- (f) Data / surveys on the condition of infrastructure (Are records of the PI sufficiently accurate and available to access seekers on demand to ensure efficient access and provide for accurate network planning e.g., surveys etc.?)
- (g) Geographic location and scope/density (referred to as “capillarity” in the assessment below) of the infrastructure (Does the PI have access to the large majority of premises in a locality?); and
- (h) Geographic extent of the PI network; (How many different towns/cities/premises does the PI network serve?).

3.47 How PI networks in Ireland measure against the characteristics listed in in the previous paragraph 3.46 is set out in Annex 2: summarised in Table 18 of this annex, and reproduced in Table 6 below. This summary is ComReg’s appraisal of the likelihood that each of these networks can satisfy these characteristics listed. In this table, an “✘” indicates that our view, it would be challenging for a network to fulfil this desired characteristic, an “✓” means that we think it should easily meet the corresponding feature, and “–”, means that we are not in a position to offer any opinion.

Table 6 Summary of assessment of PI networks<sup>89</sup>

	Ease of Deployment	Breakout for connections	Resilience from damage	Repair times	Surveys of infrastructure	Spare capacity	Geo locations / density	National Ubiquity
Aurora / GNI	x	x	-	-	-	x	x	x
BT	x	x	-	-	-	x	x	x
Colt	x	x	-	-	-	x	x	x
Eircom	✓	✓	-	-	✓	✓	✓	✓
ESB	x	x	-	x	x	x	✓	✓
ESBT*	x	x	-	-	x	x	x	x
eNet	x	x	-	-	-	x	x	x
EU Net	x	x	-	-	-	x	x	x
GTT	x	x	-	-	-	x	x	x
Irish Rail	x	x	x	x	x	x	x	x
Irish Water	x	x	x	x	x	x	x	x
LA <sup>90</sup> duct	x	x	x	x	x	x	x	x
LA drains	x	x	x	x	x	x	x	x
NBI*	x	x	✓	-	x	x	x	x
Rivers, canals	x	x	x	x	x	x	x	x
SIRO*	x	x	✓	-	x	x	x	x
TII	x	x	x	x	x	x	x	x
VM	x	x	✓	-	-	-	x	x
VF	x	x	✓	-	x	x	x	x
WI	x	x	x	x	x	x	x	x
Wireless	✓	x	x	-	x	-	x	✓
ZAYO	x	x	✓	-	-	x	x	x

\*SPs who mostly use PI of other entities for deployment of their fibre networks

<sup>89</sup> Replication of Table 18, Annex 2:

<sup>90</sup> LA refers to Local Authority.



3.48 The Explanatory Note to the 2020 Recommendation states in respect of PI that:

*“The market would include the supply of wholesale access to electronic communications – specific physical infrastructure for deploying an electronic communications network. The scope should be limited to networks that can host fixed elements... such as ducts, poles and chambers. The scope of the relevant product market is likely to be limited to electronic communications-specific physical infrastructure in many Member States”.* <sup>91</sup>

3.49 An appropriate focal product accordingly may be defined as telecoms-specific PI, that is, the telecoms ducts and poles built specifically for wired ECNs for the provision of ECS such as broadband, data services, telephony, wired backhaul, etc.,<sup>92</sup> and which in the future, can be expected to be used predominantly for the installation of fibre cables.

3.50 The focal product incorporates accordingly all passive telecoms specific infrastructure used to house or carry fixed elements of a wired network, regardless of the owner of that infrastructure. This ‘telecoms-specific’ PI includes any other associated facilities including, but not limited to, inspection chambers, footway boxes, cabinets, and exchange buildings, etc. It also incorporates telecoms-specific duct installed adjacent to canals (in towpaths) and gas mains as they are entirely separate from the associated gas services or waterways and are deployed for the specific purpose of containing wired ECNs.

3.51 The focal product is defined independently of the owner of the PI network and includes all SPs’ telecoms-specific PI, no matter what the size or scope of their respective PI networks. We do, however, take account of the size and scope of networks in considering the geographic scope of the market and in the SMP assessment. The focal product also includes telecom-specific duct owned by private developers and management companies, such as may exist in many business parks, and Local Authority duct, where it is deployed for telecoms specific networks/services.<sup>93</sup> This includes, for example, Local Authority duct used for such purposes as traffic control and monitoring and CCTV security cameras. While some PI networks may be very limited in size/density and the quantity of PI, others maybe lacking continuity, we do not make any comparisons in the market definition exercise as to the

---

<sup>91</sup> Page 68, Explanatory Note to the 2020 Recommendation.

<sup>92</sup> This is a non-exhaustive list of services capable of being provided over wired ECNs.

<sup>93</sup> Such as DCC duct in the Dublin Docklands area. See: <https://www.dublincity.ie/business/economic-development-and-enterprise/telecoms/dublin-docklands-telecoms-network>.

likelihood of their attractiveness to access seekers looking to install an ECS network. Any such comparisons are undertaken in the SMP analysis section of our analysis

- 3.52 By contrast the focal product excludes all non-telecoms specific PI and wireless telecoms PI, and accordingly excludes all masts and poles which are solely used to site wireless telecoms equipment such as antennae which are used to support non-fixed telecoms services.
- 3.53 The focal product can be used by various types of SPs seeking access (**'Access Seekers'**), irrespective of the use they may put it to. Some SPs concentrate on providing ECS to residential customers, while others are focussed exclusively on delivering services to businesses, wholesale or retail or both. Yet other SPs are active across various sectors, wholesale and retail, and residential and business markets.
- 3.54 Large business customers are often multi-site enterprises, and having many premises located throughout the country which need connectivity to satisfy their various IT and voice demands, or network requirements. SPs that provide services to both residential and business users could use PI as an input to provide various downstream wholesale and retail services (including for own network build in providing such services).

### 3.4.2 Treatment of self-supply

- 3.55 In light of the relatively low (although growing) level of activity in the PI merchant (wholesale) market as described in Section 3.3 above, and the fact that the product features between PI provided internally to that supplied externally are likely to be sufficiently similar, it is appropriate to include self-supplied PI in the scope of the product market. This also has regard to the general ability to compare self-supply to merchant market supply, although we recognise the complexity of doing so would have regard to the size of the undertaking and its systems and other capabilities. This is consistent with the Explanatory Note accompanying the 2020 Recommendation, which states the following:

*“Where self-supply and external supply are undistinguishable from a consumer perspective and services are functionally similar and interchangeable, such self-supply should be considered to be part of the same product market as the services supplied externally”*

### 3.4.3 Demand Side Substitutes

- 3.56 As set out above, demand-side substitutability gauges the degree to which users are prepared to switch to potential substitute PI products away from a

focal product in response to a small but permanent price increase. In this respect, the SMP Guidelines note that:

*“Demand-side substitution makes it possible for NRAs to determine the substitutable products or range of products to which customers could easily switch in response to a hypothetical small but significant and non-transitory relative price increase. In determining the existence of demand substitutability, NRAs should make use of any evidence of previous customers’ behaviour as well as assess the likely response of customers and suppliers to such price increase of the service in question.”*<sup>94</sup>

3.57 Direct constraints can arise where, in response to a sustained 5-10% SSNIP of telecoms-specific PI, Access Seekers would switch in sufficient numbers to other types of PI such that it would render the price increase unprofitable. For instance, switching from telecoms-specific PI to non-telecoms specific PI such as electricity poles/ducts or sewage pipes etc.

3.58 The substitute should be sufficiently close to the focal product or service from product characteristics, pricing and intended use perspectives so it can provide a valid alternative. However, it is important to note that although it may match the focal product with respect to a number of features (or even exceed it in some), it may not be sufficiently close in other key attributes so as to render it an unlikely substitute overall in practice. In this respect, as noted in the SMP Guidelines:

*“According to settled case-law, the relevant product market comprises all products or services that are sufficiently interchangeable or substitutable, not only in terms of their objective characteristics, their prices or their intended use, but also in terms of the conditions of competition and/or the structure of supply and demand in the market in question. Products or services that are only interchangeable to a small or relative degree do not form part of the same market. NRAs should thus commence the exercise of defining the relevant product or service market by grouping together products or services that are used by consumers for the same purpose (end use).”*<sup>95</sup>

3.59 Potential demand-side substitutes to the focal product include non-telecoms specific PI, both non-telecoms specific PI networks that are used for the deployment of ECS, although when originally built were not designed for this, and other non-telecoms PI networks that are not currently used to host ECS.

---

<sup>94</sup> Paragraph 33 of the SMP Guidelines.

<sup>95</sup> Paragraph 33, 2018 SMP Guidelines.

## Non-telecoms specific PI: ESB PI

3.60 The main non-telecoms specific PI currently housing wired ECNs is ESB's PI, used by both SIRO and ESBT. However, for the reasons set out below, due to, *inter alia*, the limitations in functionality and other demand characteristics, ComReg does not consider that it is a sufficiently close substitute to telecoms specific PI to be considered part of the same product market.

3.61 This is consistent with the Explanatory Note to the 2020 Recommendation which states:

*"The scope of the relevant product market would likely be limited to the electronic communications-specific physical infrastructure in many Member States. This is because ducts constructed for other purposes may not be always suitable to host electronic communications networks for the following main reasons:*

- *technical characteristics, including lack of suitable sites for hosting technical facilities,*
- *accessibility, including the lack of sufficient access points and/or restrictive rules for access (in particular for water, gas and electricity physical infrastructure),*
- *unsuitable network design or topology – they may be more fragmented and may not mirror the routes followed by electronic communications-specific infrastructure,*
- *constraints arising from saturation of certain segments,*
- *security requirements and risks, including a hostile environment for network co-existence (sewers),*
- *difficult and costly adaptation and repair. For instance, district heating networks may not be suitable due to temperature and leakage constraints, and it may be particularly difficult to install fibre within water and gas networks due to the presence of valves, while rail and motorway networks lack the necessary capillarity for the deployment of electronic communications networks.*

*All these factors raise costs in comparison with the use of ducts specific for hosting electronic communication networks. In addition, the terms and conditions for access may potentially be less favourable."*<sup>96</sup>

---

<sup>96</sup> Page 68 of Explanatory Note to the 2020 Recommendation.

- 3.62 ESB's duct and pole PI is used by a subsidiary of ESB, namely ESBT, which mostly utilises the High Voltage ('HV') network for end-to-end WHQA services, and by SIRO – a joint venture between ESB and Vodafone – which utilises the Medium Voltage ('MV') and Low Voltage ('LV') distribution network to provide WLA and other services. ESBT is a vertically integrated subsidiary of the ESB Group. It has the sole rights to utilise fibre cables on the HV network for providing ECN/S services to 3<sup>rd</sup> parties and shares rights with SIRO on the MV and LV networks. ESBT is connected to a [REDACTED] [REDACTED] connectivity.<sup>97</sup>
- 3.63 SIRO is a full function joint venture between ESB and Vodafone. It was established in July 2014 with both parties holding 50% of the share capital and voting rights.<sup>98</sup> SIRO was created to build and operate a high capacity FTTH network deployed on ESB's overhead and underground infrastructure in order to offer wholesale access to the network on a commercial, open access and non-discriminatory basis. ESB grants SIRO access to parts of the ESB electricity distribution system in return for a fee.<sup>99</sup>
- 3.64 SIRO and ESB have agreed that the installation of the fibre cable on the overhead distribution system, is undertaken in conjunction with the multi-year ESB network programme of works agreed with the Commission for Regulation of Utilities ('CRU'). Due to this requirement, and the necessity to undertake a detailed survey and associated deployment plan, which may require new poles and reconfiguration of electrical plan, means that it takes at least [REDACTED] [REDACTED] months from submission of a detailed surveyed access request from SIRO to ESB before the commencement of fibre installation.<sup>100</sup>
- 3.65 There are a number of limitations impacting the substitutability of the ESB's PI network for that of telecom-specific PI, as follows:
- (a) Capacity limitations**
- 3.66 ESB's PI has been designed solely for the purposes of installing an electricity cable distribution system, with no account having been taken of the need for additional capacity to accommodate use by other cabled networks. ESB's 'Make Ready for Fibre attachment on MV and LV networks' standard

<sup>97</sup> Meeting with ESBT 14/721.

<sup>98</sup> Case No. Comp/M.7307 – ESBN/Vodafone/JV.

<sup>99</sup> Ibid.

<sup>100</sup> Meeting with ESBN Sept 2021.

document, sets out various health and safety restrictions on installing fibre cables on ESB poles which house live electrical cabling/equipment. It states:

*“The establishment of a mandatory physical separation between power conductors and fibre cable at the support attachment point is the best method of ensuring an adequate clearance for safety between an electric power system and a communications network. ESB overhead network is designed and optimised to ensure that electricity is distributed safely. Given the pre-existing low attachment height of ESB power networks...the attaching of fibre cable onto the overhead power network uses up available spare structural capacity.”* <sup>101</sup>

3.67 Furthermore, the ESB internal guidance document entitled “Technical Requirements for Communications on ESB Distribution Network” (**TRCEN**) sets out a range of requirements which, in order to be met, means that limitations are imposed in respect of the number of fibre cables that can be installed onto the overhead power supply network to one fibre cable. These requirements include the following:

*“...the following issues shall be addressed when designing communication network that will be deployed on power networks:*

- *ESB’s MV and LV network was designed with the sole purpose of providing a safe and reliable power network. The network is designed to minimise risk to members of staff, contractors and the public and to ensure it is sufficiently resilient to withstand loading imposed by extreme weather events.*
- *Stringing ADSS<sup>102</sup> cable on the power network has the potential to overload some poles beyond the limits set in the design parameters. Such poles shall have to be replaced to accommodate the additional loading caused by the ADSS cable.*
- *Minimising the diameter of the ADSS cable to be deployed on the power network will reduce the number of pole replacements required.*
- *The number of supports and enclosures on ESB network shall be minimised*
- *Attachments may be associated with supports for the ADSS cable and service drops, risers for communication cables routed underground, splicing, splitting or slack storage.*

<sup>101</sup> Make Ready for Fibre attachment on MV and LV networks’ standard; Introduction.

<sup>102</sup> All Dielectric Self Supporting (I.e.; Fibre Optic)

- *A Passive Optical Network (PON) shall avoid the need for power supplies.*
- *The communication network shall be designed to be easily installed and repaired with minimal interference to the power network.*
- *Ideally, the clearance between ADSS cable and power conductors should be sufficient to avoid power outages when it is being installed operated and maintained whilst complying with minimum ground clearance. However, there will be locations where separation from the power network will not be sufficient to avoid power outages for access to the communication network.*
- *The communication network shall typically be strung underneath the power network. If there is a risk that the communication network may be pulled down by a high vehicle, it shall be designed to fail before the failure of poles supporting the power network.*
- *Ingress and egress points of the communication network onto the network shall be designed to minimise the need for additional stays. Ideally, ingress and egress shall be at end poles on the power network.*<sup>103</sup>

3.68 In order to ensure that these requirements are met, the ESB has limitations on the number of fibre cables that can be installed onto the overhead power supply network to one fibre cable.

3.69 Although these conditions do not apply to the ESB's underground duct PI, most of its underground duct route is combined with overhead portions carried on poles. In practice, this means it is not generally feasible to just use underground portions of the ESB's PI in isolation from any overhead sections. To do so would result in stranded cable or require the installation of significant volumes of additional poles by the Access Seeker thereby raising its costs of use.<sup>104</sup>

3.70 This means it is probable that any Access Seeker now considering use of ESB's PI would likely be restricted to using it in geographic locations where either ESBT or SIRO do not use it (or where they have agreed plans to do so in the future). This likely reduces the attractiveness and/or availability of ESB's PI to potential Access Seekers.

---

<sup>103</sup> Section 1.1, Communication Network on Overhead Power network.

<sup>104</sup> ComReg meeting with ESB on 4 July 2021.

### (b) Additional Health and Safety Requirements and costs

3.71 Health and Safety Authority ('HSA') rules<sup>105</sup> and restrictions apply to all employees/contractors required to work close to the live electrical infrastructure due to the danger of electrocution. Furthermore, the rules which apply to staff which work directly on the electrical plant and PI are obviously required to be even stricter and more specialised. As a consequence, it means that personnel working on the ESB's PI require additional specialist training and equipment and are subject to more stringent procedures than those that apply to the use of telecoms-specific PI. These rules contribute towards a higher cost of use relative to telecoms specific PI and applies to both the installation and maintenance of fibre networks on electrical PI, more particularly to overhead infrastructure.<sup>106</sup> ComReg understands that the installation without an electrical outage and all maintenance of telecoms on ESB overground PI is done by ESB Networks or their sub-contractors. Where the installation work is carried out by SIROs ESB approved and trained contractors, this can only be undertaken with the power switched off.

### (c) Survey costs and timings

3.72 As planned outages on the electricity network require the approval of the CRU, ESB must have a multi-year programme of works which both ESBT and SIRO must align with in order for their fibre cables to be installed on ESB's PI. In order to comply with the CRU's approval process, [REDACTED]

[REDACTED] <sup>107</sup>.

3.73 The type or very existence of electrical underground duct is often not recorded on inventory management systems. In parts of the country, The type or very existence of electrical underground duct is often not recorded on inventory management systems sufficiently to allow a desktop design be carried out, meaning detailed field surveys are required to investigate the suitability/availability of PI.

<sup>105</sup> [https://www.hsa.ie/eng/publications\\_and\\_forms/publications/codes\\_of\\_practice/code\\_of\\_practice\\_for\\_avoiding\\_danger\\_from\\_overhead\\_electricity\\_lines.html](https://www.hsa.ie/eng/publications_and_forms/publications/codes_of_practice/code_of_practice_for_avoiding_danger_from_overhead_electricity_lines.html)

<sup>106</sup> It should also be noted that all repairs on ESB infrastructure can only be carried out by ESB staff or their contractors.

<sup>107</sup> ComReg meeting with ESB on 4 September 2021.



- 3.74 ESB does not, as a matter of course, always record the type (direct buried or ducted) of all of its underground electrical cable, as this is not essential for its maintenance of the electrical service i.e., whether or not its electricity cables are ducted or directly buried. [REDACTED] [REDACTED]. This means that the ESB PI's is not available to all premises in an area and the volume of additional new PI required may render any deployment uneconomic.
- 3.75 Additionally, ESB duct can be 'vaulted' or 'non-vaulted'. Non-vaulted duct means that there is no footway chamber outside the customer's premises, so new vaults must be built at this point to allow fibre cable to be pulled into the premises. This adds considerable costs and time delays when used for fibre deployment.
- 3.76 Deployment may be abandoned in some areas where there is no in-situ duct, i.e., the electrical cable is directly buried, and entirely new local PI would be needed. Such areas can be extensive and cannot be predicted or estimated in advance. [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED].<sup>108</sup>
- 3.77 For these reasons, set out above, extensive and detailed surveys of the electrical PI network must be undertaken before any fibre deployment can be contemplated. Desk-top surveys are not sufficient for such an undertaking. This contributes cost and additional time to a fibre rollout.

#### (d) Primacy of the electrical service – Sectoral specific regulation

- 3.78 Another limitation which undermines the likelihood that Access Seekers would use of ESB's PI arises from ESB's requirement to maintain the primacy of the electrical service over that of any telecoms (or other) service which uses or may use its PI. This obligation is imposed on it by the sector-specific regulator, the CRU<sup>109</sup> and from which the ESB must obtain permission, to allow 3rd party access to its electrical PI. In practice, this means that in the case of build, maintenance or a fault/outage, the electricity service must be restored in advance of any repair to a telecoms service, in any instance where a conflict may arise.

<sup>108</sup> SIRO stated than roll-out to [REDACTED] [REDACTED] had to be abandoned because of the lack of available duct. Meeting with SIRO 4 July 2021.

<sup>109</sup> Refer to Annex 2: paragraph A 2.55.

3.79 This impacts practically and contractually on repair times for any use of such PI by Access Seekers, ultimately impacting downstream wholesale and retail ECS offerings. [REDACTED]

[REDACTED] [REDACTED] <sup>110</sup>. It can also impact on speed of deployment of Access Seekers' telecoms services in ESB PI, where planned outages on the electrical network<sup>111</sup> may cause delays and uncertainty for SPs, which in turn are unacceptable to their downstream customers.

3.80 An example of how the primacy of the electrical power service impacts on ECS delivery, [REDACTED]

[REDACTED] <sup>112</sup>.

#### (e) Switching costs

3.81 As noted previously in paragraphs 3.43, once an Access Seeker has installed its fibre into PI, changing supplier would require it to build and install almost an entire parallel fibre network, with associated passive equipment such as fibre closures, splitters and cabinets etc., and the accompanying electronic and other equipment. It would effectively have to replicate almost its entire access network in order to avoid prolonged outage periods for existing end-users. Transferring customers (whether wholesale or retail customers of the Access Seeker) to an effective alternate fibre network would not be a simple matter and would involve considerable cost and risk.

3.82 If we consider the case of NBI, the largest user of wholesale PI (albeit under existing SMP regulatory obligations imposed on Eircom), its only potential alternative PI provider having the required coverage to satisfy its requirements is the ESB. However, the ESB's network topology and associated substations and electrical switching yards, are entirely separate to Eircom's roadway-bound pole and duct network and associated exchanges, RSUs and cabinets. Switching supplier from Eircom to the ESB would mean having to install new fibre and all the associated electronic

---

<sup>110</sup> Siro SLA with ESB.

<sup>111</sup> As cited by [REDACTED].

<sup>112</sup> Meeting with SIRO, 1 September 2021.

equipment in different locations, based on the ESB's network topology of switching yards, sub-stations, and other electrical network features.

- 3.83 It would also mean having to retrain staff, develop and adopt new ways of working etc., which would raise costs and undermine the viability of switching.

### Conclusion on substitutability of electrical PI

- 3.84 The capacity limitations inherent to the ESB's PI, arising from the fact that ESB PI was not built to house anything other than electrical equipment, in addition to the greater complexity in accessing it and the sector specific regulation which imposes primacy of the electricity service over any telecoms service, all mean that any ESB PI is unlikely to pose a sufficiently immediate and effective competitive constraint such that it would render unprofitable a SSNIP in telecoms-specific PI by a HM.

- 3.85 This conclusion is supported by the fact that only one of the 10 Respondents to the QQ stated that electrical PI was a suitable substitute to telecoms-specific PI<sup>113</sup>. Some Respondents stated that they could not commit to any use of PI without having a detailed working knowledge of not just the commercial terms, but how the use of the PI would work in practice. They cited the absence of any published offers for access to electrical PI (and other forms of non-telecom's PI), noting that they do not consider using such alternatives. NBI has also publicly indicated that ESB PI is not a substitute for telecom specific PI, noting that;

*"...if the ESB were to be brought on board its network would be used to deliver no more than 1 per cent of the network. Their infrastructure would only be used where there was "absolutely no alternative", or in specific instances where NBI needed to transit between two distant points when building the network."*<sup>114</sup>

- 3.86 Furthermore, where ESB could be used, it would be dark fibre from ESB that would be supplied. As such, NBI would not be accessing ESB's PI directly.

- 3.87 ComReg also notes that difficulties associated with using ESB's PI were also highlighted by [REDACTED]

<sup>113</sup> Refer to Annex 3: paragraphs A 3.29 to A 3.35.

<sup>114</sup> Business Post 11 April 2022.

[REDACTED] [REDACTED] [REDACTED].

### Non-telecoms specific PI: National rail network

3.88 As stated in Annex 2: , paragraphs A 2.71 to A 2.76, the fibre cable routed on the national rail network, is [REDACTED] [REDACTED] in many places (or laid above ground, as observed by ComReg), and so there is no PI in-situ or available on these parts of the network. There are some portions which are [REDACTED] [REDACTED].

3.89 Additionally, breakout of the fibre (as opposed to the PI) is, in any event, usually only available at railway stations. Even if this fibre were fully ducted along the entire railway network, by its very nature, as stated in the Explanatory Note to the 2020 Recommendation, it:

*“...lacks the necessary capillarity for the deployment of electronic communications networks”.*<sup>115</sup>

3.90 For these reasons, ComReg does not consider railway PI (to the extent it exists) to be an effective substitute for telecoms-specific PI. Further details on our assessment of the rail network in this regard is set out in paragraphs A 2.71 to A 2.76 of Annex 2: .

3.91 BT and eNet both have access to fibre on the rail fibre network which allows them to compete in various downstream wholesale and retail markets. It is also unlikely that CIE/Iarnród Eireann would build a duct network on the railway in response to any SSNIP for a HM supplier of PI, and even if it were to do so, it would lack the necessary density/capillarity such that there would be insufficient demand-side substitution for it to constrain a HM supplier of telecoms-specific PI.

### Non-telecoms specific PI: Gas Networks Ireland (‘GNI’) network; water, waste-water, stormwater, rivers or canals networks

3.92 The substitutability of the PI supporting Gas Networks Ireland (‘GNI’) network; the water, waste-water, stormwater, rivers or canals networks is considered together below given the commonality of their relevant characteristics. Further detail is set out in Annex 2: .

3.93 GNI does not allow any fibre into their pressurised gas network, although Aurora Telecom (part of GNI) lays telecom duct alongside some gas pipes

<sup>115</sup> Page 67; 2020 Recommendation

for carrying fibre optic cables. This duct is separate to the gas pipes and, given it is telecoms-specific PI, is included in the product market as stated in paragraph 3.50 above.

- 3.94 In a similar manner to the GNI piped gas network, the potable water, waste and storm water networks are not suitable for the deployment of fibre. We note the Explanatory Note to the 2020 Recommendation cites reasons why they are generally unsuitable for hosting ECNs:

*“Security requirements and risks, including a hostile environment for network co-existence (sewers)”*

and

*“For instance, district heating networks may not be suitable due to temperature and leakage constraints, and it may be particularly difficult to install fibre within water and gas networks due to the presence of valves, while rail and motorway networks lack the necessary capillarity for the deployment of electronic communications networks.”<sup>116</sup>*

- 3.95 Rivers and canals are excluded from the market as they do not have PI. They could in theory be used to route PI within them, but we have no evidence to suggest this is likely to happen in the foreseeable future.
- 3.96 No Respondent to the QQ considered that any of these networks were suitable for the deployment of an ECS and none would contemplate using any of them. Similarly, none of the bodies which are responsible for managing these networks or utilities, would consider entering the PIA market.
- 3.97 There were no reasons offered by either SPs or utilities, for supporting demand or supply side logic or intent, for any of these networks being used to support ECS within the timeline of this review period. Therefore, they are not included in the relevant product market.

#### **3.4.4 ComReg’s preliminary conclusion on the PI Product Market**

- 3.98 For the above reasons, ComReg considers that the relevant PI Product Market consists of all telecoms specific duct and pole PI and excludes all non-telecoms specific PI.

---

<sup>116</sup> Page 72

## 3.5 Geographic Market Assessment

### 3.5.1 Approach

3.99 The relevant geographic market can be defined as an area where:

*“...the conditions of competition are similar or sufficiently homogeneous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different.”<sup>117</sup>*

3.100 Insofar as the electronic communications sector is concerned, the SMP Guidelines<sup>118</sup> further clarify that:

*“...The definition of the geographic market does not require the conditions of competition between traders or providers of services to be perfectly homogeneous. It is sufficient that they are similar or sufficiently homogeneous, and accordingly, only those areas in which the conditions of competition are ‘heterogeneous’ may not be considered to constitute a uniform market. In general, the process of defining the geographic boundaries of markets involves identifying any geographic areas where a distinct break in competitive conditions can be observed. This approach places weight on the underlying structural and behavioural factors that are relevant in determining the competitiveness of a market.”*

3.101 The BEREC Common Position on Geographic Aspects of Market Analysis<sup>119</sup> indicates also that in defining the geographic scope of a market, a range of conditions may be considered, such as the number of competitors present and their respective market shares, by reference of units of geographic disaggregation.

3.102 However, insofar as PI is concerned, most PI tends to be supplied for own use, rather than taken for sale/rental in the wholesale merchant market so that any analysis of market shares would not be useful or instructive. Additionally, SPs and other owners of PI who met with ComReg, indicated that they were not interested in offering their self-supplied PI to other SPs in any substantial manner. Many indicated in their response to the QQ that they had no interest in productising such an offer (other than Eircom and eNet which are obliged respectively to offer PIA, under SMP regulation and its

---

<sup>117</sup> Notice on Market Definition, paragraph 8.

<sup>118</sup> SMP Guidelines, paragraph 48.

<sup>119</sup> BEREC “Common Position on Geographic Aspects of Market Analysis”, BoR (14) 73, 05.06.2014.

contract with the Government) and any sales or purchases of PI were undertaken on an ad-hoc basis.

3.103 According to the SMP Guidelines, the appropriate geographic units should be:

*“(a) of an appropriate size, i.e. small enough to avoid significant variations of competitive conditions within each unit but big enough to avoid a resource-intensive and burdensome micro-analysis that could lead to market fragmentation,”*<sup>120</sup>

*(b) able to reflect the network structure of all relevant operators; and*

*(c) have clear and stable boundaries over time.”*<sup>121</sup>

3.104 The SMP Guidelines also note that in the electronic communications sector, the geographical scope of the relevant market has traditionally been determined based on two main criteria; the area covered by a network, and the existence of legal and other regulatory instruments.<sup>122</sup> This has particular resonance in Ireland where NBI, which is rolling out the NBP, will be utilising the PI of Eircom for nearly all of the roll-out of its FTTH network, which is geographically dispersed and reaches to the majority of rural premises of the State, though it does extend to premises in a number of urban areas.

3.105 Accordingly, in considering the geographic scope of the market, ComReg takes into account such geographic features such as the density of a network in a particular geographic location (which measures the number of premises in a geographic location that the PI can reach), also referred to as PI ‘capillarity’, and other features, which are related to the geographic nature of the various PI networks, including the ability and ease of breakout for connectivity, the number of premises passed, etc. To this end, this analysis is based on the assessment of the various PI networks described in Section 3.5.2 below and further detailed in Annex 2:, under the following criteria:

- (a) Geographic differences in entry conditions over time;
- (b) Variation in the number and size of potential PIA competitors;
- (c) Evidence of geographic differentiated pricing strategies or marketing;
- (d) Distribution or differences of market shares on geographic basis; and

<sup>120</sup> 2018 SMP Guidelines paragraph 47.

<sup>121</sup> Ibid, paragraph 50.

<sup>122</sup> Ibid, paragraph 51. ComReg does not consider that there are relevant legal or other regulatory instruments.

(e) Geographic differences in product functionality and demand characteristics.

- 3.106 Prior to assessing under these criteria, ComReg notes two further aspects that are also relevant to defining the geographic scope of the PI market in Ireland, namely the low level of activity in the merchant market (albeit NBI's use is expected to change this), and the treatment of self-supply.
- 3.107 As shown previously in Section 3.3 on market trends, in paragraphs 3.16 to 3.18 above, there is a very low level of activity in the merchant market for telecoms specific PI, particularly when compared to the overall volume of self-supplied PI. Other than that used by NBI, there were circa 150 records of duct rentals at the end of 2021 and the majority of these were historic or dated in nature. More than half of these PI rentals have been in place for over 5 years with the average age being 7 years. With regard to poles, only one purchaser, NBI, materially availed of Eircom's regulated offer on the commencement of the National Broadband Plan ('**NBP**') rollout.
- 3.108 Analysis of the 150 PI purchase/sales records indicated that they consisted of geographically randomly distributed pockets of rentals/sales in some business parks and commercial areas, and mainly in a piecemeal and non-contiguous fashion. In many cases, they do not have capillarity and are not connected into most premises in localities which they pass. The PI being used is in many cases skeletal, lacking capillarity, and often stranded. Furthermore, the longer and usually singular inter-city routes, generally used for national backhaul, cross multiple counties and cannot, therefore, assist in the defining of any useful geographic boundaries.
- 3.109 The low volume of activity of SPs (other than the increasing demand from NBI), means that available data is not useful and any analysis of it does not offer any meaningful or worthwhile results. ComReg notes in this regard that the most significant development in the PIA market over the past 5 years has been the offering of SMP regulated PI products by Eircom<sup>123</sup>, further to its obligations under the 2018 WLA Market Decision.
- 3.110 The inclusion of self-supply in the market (on the basis that there is no material product differentiation between product supplied into the merchant market to that used for self-supply), combined with the MGA approach adopted in our analysis, means that any sales of both regulated and unregulated product revert to the original supplier and the assessment is in respect of a largely notional market. In practical terms, any detailed analysis of the low volume merchant market sales is of little value to the geographic

---

<sup>123</sup> Launched in 2018.



assessment other than to show that there is no discernible geographic pattern to sales or demand.

### 3.5.2 Geographic nature of telecoms PI in the State

#### Eircom's PI Network

- 3.111 Eircom's PI (pole and duct) network<sup>124</sup> is the largest fixed network nationally. It is the most extensive geographically, being effectively ubiquitous in nature, and through which it has established ECS connectivity (using copper and/or fibre cables), to almost every premises in the country. It is active in all wholesale and retail telecoms markets and offers a wide range of wholesale and retail services (both regulated and unregulated). Its PI network consists of [redacted] [redacted].<sup>125</sup> It is described in greater detail in Annex 1.

#### Virgin Media's PI network

- 3.112 Virgin Media's wired network passes 958,700<sup>126</sup> homes in the country, its cable network being present in most urban centres in the country. However, the scope and scale of the supporting PI (largely duct, used to enclose backbone fibre), is much more limited relative to the cabled network. Its network is described in detail in Annex 2, paragraphs A 2.94 to A 2.106 and briefly summarised below.
- 3.113 The majority of VM's PI, largely duct, is non-contiguous in nature and lacks capillarity. In addition to being placed in duct, its wired network is in most instances, routed by being surface or fascia mounted on houses. The nature of its network is such that the partially ducted fibre backbone, supports the larger and much denser coaxial cable infill that is connected into premises. This is mostly, but not exclusively, surface mounted along the eaves of houses. Additionally, its duct is generally located in the carriageway, and in the majority of cases is not directly connected into customers' premises. The coaxial cable portion of its network has the capillarity required to reach the majority of residential customers within its footprint, but as noted above this is typically surface mounted directly on premises. Even if an Access Seeker were to use VM's duct, it would then still need to mount its fibre on the eaves

<sup>124</sup> Here we refer to the PI network of both Eircom in the IA and that of FNI, which is generally outside it. See Section 3.3.1 Paragraphs 3.28 to 3.40 above. This PI network also incorporates associated chambers, street cabinet and exchange buildings

<sup>125</sup> Information provided to ComReg by Eircom in 2019.

<sup>126</sup> Liberty Global's Q2 2022 Fixed Income Release: Virgin Media Ireland Preliminary Q2 2022 Results [Ex 99.1 Fixed Income Q2 2022 Release \(libertyglobal.com\)](https://www.libertyglobal.com/~/media/2022/07/2022-Q2-Fixed-Income-Release-Virgin-Media-Ireland-Preliminary-Q2-2022-Results.pdf).

of premises (or build new duct to each) and in doing so seek the premises owner's permission. This undermines its potential use by an Access Seeker.

- 3.114 The capillarity of its coax network is demonstrated in its network maps of various urban locations contained in Annex 2.
- 3.115 Although Virgin Media has announced that it intends to migrate its HFC network to a fully fibred network<sup>127</sup>, ComReg does not envisage that this will impact significantly on the current volume of the PI network. This is because it will likely be reusing already established cable routes rather than building new PI.
- 3.116 Virgin Media has however, installed some FTTH MANs which are entirely ducted, in various location around the country. It has deployed [REDACTED] [REDACTED]<sup>128</sup> which constitutes a small portion of its overall stated cabled network reach.
- 3.117 Ascertaining the precise premises coverage of the Virgin Media's PI in an accurate manner in relation to its cable connected customers is challenging, owing to the fact that the PI network coverage is smaller in scope than that of the cabled network. The majority of Virgin Media's customers are not directly connected by its PI, but usually connected by coaxial cable, which can be surface, or facia mounted on premises. Its PI (usually duct) is generally, but not exclusively, used to enclose its fibre "backbone" network, and this is in many instances, non-contiguous in nature. As a result, a geographic measurement of its cabled or wire connected premises is not a useful or accurate metric for measuring the geographic scope or density of its supporting PI network. ComReg, as an alternative, has quantified the length of its carriageway located duct against the total length of roadway, using various geographic units. These measurements shown in tabular format in Annex 2 (Table 21 and Table 22) below, clearly demonstrate the limited geographic coverage of its duct network.

<sup>127</sup> <https://www.virginmedia.ie/about-us/press/2021/virgin-media-ireland-announces-national-fibre-network-upgrade>, November 2021.

<sup>128</sup> QKRD Q2 2022 information.

**Figure 10: Stylised map of Virgin Media Network**



Duct shown in red, surface mounted coaxial cable in blue.

- 3.118 Furthermore, as Virgin Media’s duct in many areas is located within the road carriageway and does not generally extend into its customers’ premises (as detailed in paragraph 3.113 above and as demonstrated in the stylised map of a sample of its network in Figure 10 above), significant additional PI would have to be installed if this existing PI were to be extended fully into all customers’ premises.

### Leased Line (‘LL’) Type PI networks

- 3.119 Aurora Telecom, BT Ireland, Colt Ireland, eNet, ESBT<sup>129</sup>, EU Networks, GTT, Magnet, Viatel, Vodafone and Zayo all can be classified as “LL Type” SPs sharing common attributes in terms of their PI networks, as described below:
- (a) have PI that is skeletal in nature, lacking capillarity;
  - (b) mostly limit their PI deployment to within business/commercial areas;
  - (c) target low volumes of high value customers absorbing relatively high connection costs (compared to residential customer connections);
  - (d) have limited capacity PI networks designed to cater for low volumes that are not suitable for residential deployments; and,
  - (e) have challenges for breakout for customer connections.

<sup>129</sup> Albeit that ESBT’s network generally uses ESN PI for its national backhaul network, refer to a detailed description of its network in Annex 2.

- 3.120 In addition to having limited footprints, being skeletal and lacking capillarity, these networks also overlap with each other in many areas. This can be seen for instance, on the T50 telecoms infrastructure in Dublin, and on routes both between and within major business parks, particularly in the Greater Dublin area.
- 3.121 The total volume of fibre connected LL premises in the country connected by all SPs, including these “LL Type” PI networks in 2018 was circa 8.5K<sup>130</sup>, a figure which included Eircom’s fibre LLs connected premises. This represents a small proportion of the approximate 2.3+ million premises nationally.
- 3.122 Furthermore, due to the skeletal nature and lack of capillarity of the networks, additional connections to new premises often require the addition of new PI. The associated high connection charges can only be accommodated by high value customers.
- 3.123 Given that LL-type SPs’ PI is usually connected directly into the customers’ premises, the volume of connections is a useful indication of their relative approximate sizes, both collectively and individually. While the volume of connections of a network does not have an absolute direct relationship in proportionate terms to the volume of supporting PI<sup>131</sup>, it does indicate that LL-type SPs’ PI networks are orders of magnitude smaller than the major PI networks of Eircom and Virgin Media. This confirmed by the SP’s network maps (some of which are publicly available and reproduced in Annex 2: ).

### Other providers of PI

- 3.124 There are many other providers of small amounts of PI. These include private property developers, Local Authorities and Transport Infrastructure Ireland (‘TII’), the motorways and national routes roadway authority. Such providers tend to give access to their duct infrastructure to allow connectivity into and within business parks, or to facilitate SPs to remedy gaps in their networks, e.g., to provide road and bridge crossings on specific routes. However, while these may be useful for individual SPs to provide service to specific customers, or ensure contiguity of their networks, they are unlikely to meet demand for PI for the purposes of any significant network roll-out.
- 3.125 In particular, although they may be helpful for reaching individual locations, there are major drawbacks in using them for larger deployment. The PIs’

---

<sup>130</sup> Figure 16 Tera Report, Annex 4 of ComReg WHQA Decision D03/20, Document No.20/06a published 24 January 2020 (more recent figures are not yet available), though the number of FTTP broadband subscriber lines was 431K, ComReg Quarterly Key Data Report Q2 2022, Document No. 22/76 published 8 September 2022.

<sup>131</sup> E.g. a network with 1,000 connections is not necessarily have 10 times the volume of PI than a network with 100 connections.

geographically dispersed nature means that they have very small footprint sizes, are stranded in nature, and lack capillarity. In addition, obtaining access necessitates having to negotiate individual access arrangements and contracts with multiple suppliers.<sup>132</sup>

### 3.5.3 Geographic differences in entry conditions over time

- 3.126 There has been limited new PI network deployment on an overall national context, measured by reference to self-supplied PI, which shows no significant new entry or expansion of the PIA market over the past 5 years.<sup>133</sup>
- 3.127 Aurora Telecom undertook some expansion of its inter-city PI network on the Dublin – Waterford – Cork route.<sup>134</sup> eNet has built a privately owned MAN in Castlebar commissioned in 2016, and it has also taken over some existing PI network in the Dublin area. There has also been some expansion of international connectivity using undersea cables, but these are connected by backhaul routes, which are not used to connect to end-users' premises.
- 3.128 There has also been some minor customer specific installation of PI by the LL Type SPs during this period (Aurora, BT, Colt, ESBT, eNet, EU Networks, GTT, Magnet Networks, Vodafone, Verizon and ZAYO). Other than customer connections, expansions have been mostly confined to business parks. Some SPs have extended their wired networks, as distinct to their PI networks, by purchasing or renting dark fibre, or installing their own fibre in the pre-existing PI of other SPs, including the use of non-telecoms specific PI.
- 3.129 Virgin Media has also built some new, but limited amount of PI as part of its FTTH deployments in a number of cities and provincial towns.<sup>135</sup>
- 3.130 At the end of 2021, Virgin Media had installed FTTH deployments in [redacted] towns which combined, supported [redacted]. It has not [redacted]. [redacted]. This is not significant in terms of the overall size of its PI network.

<sup>132</sup> See Annex 2: individual Local Authorities each have separate access arrangements and terms and conditions attached to their offers, as have private developers.

<sup>133</sup> Furthermore, it is important to note that SIRO's utilisation of the ESN network is not considered to be in the market for the reasons set out in Section 3.4 above.

<sup>134</sup> <https://www.siliconrepublic.com/comms/aurora-telecom-sean-odonnell-dark-fibre-interview>.

<sup>135</sup> <https://irishtechnews.ie/virgin-media-expands-their-broadband-network-to-give-gorey/>.

- 3.131 The majority of Virgin Media's investment over the past years has been concentrated on upgrading its existing HFC network to DOCSIS-3.1. It has also added incremental new build to in-fill pockets of unserved residential premises previously overlooked within the general HFC network footprint. It is now planning to upgrade its network to full FTTH over the next number of years<sup>136</sup>.
- 3.132 Furthermore, based on information obtained from SPs and utilities,<sup>137</sup> there appears to be no significant plans for expansion of telecoms-specific PI over the next five years.
- 3.133 Accordingly, there is no evidence of there being discernible differences in entry conditions applying across different areas over this time, such that they would indicate the presence of different competitive between different geographic areas.

#### 3.5.4 Variation in the number and size of PIA competitors

- 3.134 The data considered in Section 3.5.3 regarding the geographic differences in entry conditions show that there have been no significant new entrants into the PIA merchant market, or significant self-supply expansions, over the recent period. Aurora Telecom and Virgin Media's expansions are the only expansions of note undertaken since 2017. A comparison of the PI suppliers in order of size, namely: Eircom, Virgin Media and the LL type PI networks, and others, also shows that the expansion of self-supplied PIA has been limited to Virgin Media's new FTTH rollout.
- 3.135 In conclusion, the localised and stranded PI infrastructures with footprints confined to particular business parks or other commercial areas are not sufficiently large or geographically comprehensive or coherent to indicate the existence of differences in competition that would suggest the existence or development of specific geographic markets.
- 3.136 ComReg finds accordingly that there has been no significant change in the size and number of PI competitors, in regard to different geographical areas, such as to indicate the presence of different competitive conditions, between different areas to any appreciable degree.

---

<sup>136</sup> <https://www.virginmedia.ie/about-us/press/2021/virgin-media-ireland-announces-national-fibre-network-upgrade>

<sup>137</sup> [PIA SIR issued 12 March 2021.](#)

### 3.5.5 Evidence of geographic differentiated pricing strategies or marketing

- 3.137 ComReg has not found evidence of geographically differentiated pricing or marketing strategies deployed by any SPs in the PIA merchant market, be it in respect of access to poles or ducts.
- 3.138 As referred to above, the volume of activity in the merchant market has been very low. Other than rentals taken by NBI, there were circa 150 instances of duct rentals recorded at the end of 2021 for the remainder of industry. Furthermore, only eNet,<sup>138,139</sup> and Eircom<sup>140</sup> advertises or markets PI products or offerings. Both are required to publish details of their PIA offers, including pricing, based on obligations imposed by SMP regulation (Eircom) and other “open access” rules (eNet), and both are bound by regulation or open access requirements, so that they may not offer differentiated pricing.
- 3.139 The remainder of the other records are divided between 11 suppliers and do not provide sufficient evidence of geographically differentiated pricing being applied by any provider.
- 3.140 Additionally, the pricing of pole access to telecoms specific PI is based on regulated pricing and so there is no geographic pricing strategy applicable.
- 3.141 There is little marketing strategy for the provision of PIA. LL type SPs focus on targeting high value customers with downstream business-oriented services, while that of residential broadband suppliers (who also market 3 and quad play offers), concentrate on building PI and cable network to reach as many customers as possible, rather than on the PI merchant market.
- 3.142 The information provided to ComReg by SPs demonstrated that requests for PIA tend to be lodged and dealt with on an ad-hoc basis. This also confirm the absence of differentiated pricing or marketing strategies.

### 3.5.6 Distribution or differences of market shares on geographic basis

- 3.143 As outlined in paragraph 3.17 above, the volume of trading in the merchant market is so low that the data is not representative of the overall market and therefore, reliance is placed on data based on self-supply of PI. As a result,

---

<sup>138</sup> <https://www.enet.ie/uploads/File/PDF/duct-sub-duct.pdf>

<sup>139</sup> <https://www.enet.ie/uploads/File/New%20Download%20Forms/3.%20Pricing%20Table.pdf>

<sup>140</sup> Available at [www.openeir.ie](http://www.openeir.ie).

market shares are estimated by reference to the scope and scales of existing telecoms specific PI networks.

- 3.144 Comparison of PI networks shows that Eircom has the largest and most coherent telecoms specific PI network in terms of geographic size or footprint, capillarity, and connectivity into premises. The Virgin Media PI network, (as distinct to its coaxial cable network), is non-contiguous in many areas and does not extend to the customers' premises in the majority of cases, and so lacks capillarity. Additionally, it is not present in many parts of the country as demonstrated by the measure of its PI presence based on ED and EAs in Table 22 in Annex 2: and on counties in Table 21 in Annex 2: .
- 3.145 LL Type PI SPs have, both individually and collectively, skeletal networks which lack capillarity and have limited geographic footprints. LL Type SPs concentrate on connecting specific individual high-value customers' premises, usually located within business and other commercial areas. In many cases, even within these areas, they do not have dense networks and are not connected to the majority of premises within their footprints.
- 3.146 The level of demand for access of telecoms-specific PI in the merchant market is expected to increase substantially over the next 5 to 6 years with the rollout of the NBP by NBI. Its major supplier of PI is Eircom, and it is unlikely that this arrangement will be subject to change over the lifetime of the existence of the NBP's wired network. As this demand will not expand the overall volume of PI to any appreciable extent, it does not materially affect the geographic analysis based on self-supply.
- 3.147 On this basis, ComReg finds that, market shares (noting there limitations in the context of PIA) do not suggest there are sufficient differences in conditions of competition on a geographic basis, to indicate the existence of, or probable emergence of, geographically differentiated markets.

### **3.5.7 Geographic differences in product functionality and demand characteristics**

- 3.148 ComReg does not see that there are any discernible differences in product functionality or demand characteristics across different geographic areas.
- 3.149 Most telecoms-specific ducts are largely interchangeable from a product characteristics perspective; they are virtually identical in that they are built and designed to carry telecoms cables. There may be some differences in the associated passive infrastructure. For instance, large copper cables often require larger inspection chambers to accommodate copper joint closures and cables, compared to those for fibre cables. Fibre cables can also use



sub-duct and micro-duct, but both generally are routed in the same standard 110mm or 32mm access duct, or older similar duct, which are used for copper cable. The same applies to telecom-specific poles in that they can be used to route all types of telecoms cables.

- 3.150 There is no material difference in geographical terms between any individual tracks of duct or pole routes, insofar as each duct is a pipe which encloses telecoms cable(s) and each pole can carry the telecom cable load for which it was designed.

### **3.5.8 Conclusion: Geographic Market Definition**

- 3.151 Based on the evidence presented above, ComReg's preliminary view is that the PIA geographic market is national in scope.

## **3.6 Overall Preliminary Conclusion on the Relevant PIA Market Definition**

- 3.152 In paragraphs 3.1 to 3.151 above, ComReg has set out its preliminary view that the Relevant PIA Market consists of all telecom-specific PI in the State.

Q. 1 Do you agree with ComReg's definition of the Relevant PIA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

## Chapter 4

# 4 PIA Competition Analysis – 3CT and SMP Assessment

## 4.1 Three Criteria Test ('3CT') for Relevant PIA Markets

- 4.1 As noted earlier, the 2020 Recommendation does not include PIA on its list of markets deemed susceptible to *ex ante* regulation. Prior to any intervention, ComReg must therefore establish that, at national level, the Relevant PIA Market is susceptible to *ex ante* regulation, that is, they meet the 3CT set out in Article 67(1) of the EECC.
- 4.2 Under the 3CT, a relevant market not identified in the 2020 Recommendation will be considered susceptible to *ex ante* regulation where each of the following three criteria is met:
- (a) The presence of high and non-transitory barriers to entry;
  - (b) A market structure which does not tend towards effective competition within the relevant time horizon; and
  - (c) The insufficiency of competition law alone to adequately address the market failure(s) concerned.
- 4.3 If the 3CT is passed, that is to say, all three criteria are satisfied, a competition assessment is carried to determine whether or not that market is characterised by the presence of any SP(s) having SMP. If, on the other hand, at least one of the 3CT criteria fails, *ex ante* regulation is not justified.
- 4.4 Each of the three criteria is considered in turn below in respect of the Relevant PIA Market.

### Criterion 1: High and non-transitory barriers to entry

- 4.5 The 2020 Explanatory Note identifies that high and non-transitory barrier to entry may be either structural, or legal and regulatory in nature.

### Structural barriers to entry

- 4.6 Structural barriers to entry arise where technology or network characteristics (e.g. cost structure, level of demand) create asymmetric conditions between SPs which raise barriers to entry. Examples include the presence of absolute cost advantages, substantial economies of scale or scope, capacity

constraints, high sunk costs, control of infrastructure not easily duplicated, etc.<sup>141</sup> In the context of deploying fixed telecoms networks, the building of the PI component accounts for the most significant cost – estimated to be approximately 80% of the total.<sup>142</sup> The high levels of investment required, coupled with the fact that the costs would be largely sunk, create high and non-transitory barriers to entry. The presence of alternative PI in place also undermines the potential for entry given the scale of the (sunk) investment and risks of non-recovery<sup>143</sup>. Overall, therefore, the building of PI is not likely to be easily replicated.

### Legal or regulatory barriers to entry

- 4.7 Legal or regulatory barriers result from legislative, administrative or other State measures that directly affect the relevant market. Examples include legal requirements related to the necessary civil works permissions to roll out infrastructure (e.g., planning permission for civil works, or the need to obtain rights of way to roll out a network)<sup>144</sup>.
- 4.8 ComReg has not identified any significant legal barriers to entry in the PIA market although building new infrastructure at scale can require significant administrative and co-ordination activities with Local Authorities from a planning and licensing perspective, with this creating cost/time disadvantages relative to SPs that have already built PI.<sup>145</sup>
- 4.9 Overall, the high level of (sunk) costs in building a PI network is likely to act as a high and non-transitory barrier to entry to the PIA Market, and in ComReg's view, the first criterion of the 3CT is met in relation to the PIA Market.

#### 4.1.1 Criterion 2: the Market does not tend towards effective competition within the relevant time horizon

- 4.10 The trends and developments within the Relevant PIA Market show to date that only a marginal volume of PI is traded between operators and that PI is mainly used by SPs for self-supply. However, recently and looking forward, it is clear that NBI will be the largest merchant market consumer of PIA during

---

<sup>141</sup> Ibid.

<sup>142</sup> Page 62; 2020 Recommendation.

<sup>143</sup> ComReg acknowledges that small scale entry nonetheless remains possible. For example, in specific one-off use cases such as physical infrastructure built to serve large enterprise customers with high bandwidth leased lines over a long contract duration.

<sup>144</sup> Ibid.

<sup>145</sup> However, Local Authority wayleaves are required to access public roads.

the period that this market review covers, (see Figure 8 and Figure 9), and that it is planning to rely on Eircom PI for the vast majority of its roll-out.

- 4.11 Furthermore, the PI entry and expansion plans of other SPs, over the time horizon of this review, do not indicate that there will be any significant investment in the construction of new PI to support fixed telecoms in the medium term. As set out in Section 3 above, most of these networks are either focussed on business connectivity and lack sufficient capillarity or else are non-contiguous in nature, where they are used for mass market residential services such as Virgin Media's network and so are not appropriate for the deployment of competing fixed networks.
- 4.12 Noting that ESB's infrastructure does not fall within the Relevant PIA Market, there is no expectation of significant material use of ESB's PI by SPs other than SIRO. In ComReg's view, such infrastructure will not materially increase the level of competition for PI to deploy fixed telecoms networks. Rather, the competitive impact of SIRO's use of ESB's PI falls to be considered in downstream markets.
- 4.13 ComReg's view accordingly is that the Relevant PIA Market will not trend towards effective competition within this 5 year market review period, based on insufficient observable trends towards effective competition, the lack of potential entry, and limited technological developments, so that the second criterion is met.

#### **4.1.2 Criterion 3: The insufficiency of competition law alone to adequately address the market failure(s) concerned**

- 4.14 The third criterion assesses the sufficiency of competition law by itself to deal with any market failures identified in the market analysis, in the absence of *ex ante* regulation. Where competition law is sufficient to address identified competition problems, *ex ante* regulation is not justified.
- 4.15 Insofar as the Relevant PIA Market is concerned, competition problems identified later in Section 6 include refusal to supply and excessive pricing, which ComReg is of the view will not be addressed effectively through competition law including the Competition Acts 2002 to 2022, or Articles 101 or 102 of the Treaty on the Functioning of the European Union ('TFEU'). *Ex post* intervention under competition law will not be sufficient to deter and prevent anti-competitive conduct in the short to medium term, does not provide regulatory certainty for SPs or establish the necessary conditions for investment and entry in downstream markets through the use of PI.

- 4.16 Accordingly, ComReg is of the view that competition law is insufficient to adequately address market failures on the Relevant PIA Market, and that the third criterion is met.

## 4.2 Framework for assessing SMP

- 4.17 Having defined the Relevant PIA Market and concluded that it passes the 3CT, prior to any intervention, ComReg must establish whether the market is effectively competitive, namely, whether any SP is in a position of SMP. Where one or several SPs together have SMP, the market is considered not to be effectively competition and regulatory intervention is required.

- 4.18 SMP is defined by Article 63(2) of the EEC as follows:

*“An undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers.”<sup>146</sup>*

- 4.19 The European Commission’s SMP Guidelines, of which ComReg is required to take utmost account, describe a range of criteria that may be considered by NRAs when seeking to establish whether an undertaking(s) has SMP in a relevant market.

- 4.20 The SMP Guidelines state:

*“According to established case-law, very large market share held by an undertaking for some time — in excess of 50 % — is in itself, save in exceptional circumstances, evidence of the existence of a dominant position. Experience suggests that the higher the market share and the longer the period of time over which it is held, the more likely it is that it constitutes an important preliminary indication of SMP.”<sup>147</sup>*

- 4.21 Market shares in excess of 50% therefore give rise to a strong presumption of SMP. However, the existence of a high market share alone is not sufficient to establish the existence of SMP; rather it means that the undertaking concerned *may* be in a dominant position and this needs to be considered alongside other potentially relevant criteria for assessing the existence of SMP, such as:

- (a) Overall size of the undertaking;

---

<sup>146</sup> Mirrored under Regulation 45(1) of the European Union (Electronic Communications Code) Regulations 2022, SI No. 444 of 2022.

<sup>147</sup> Paragraph 55 of the SMP Guidelines.

- (b) Control of infrastructure not easily duplicated;
- (c) Technological advantages or superiority;
- (d) Absence of, or low, countervailing buyer power;
- (e) Easy or privileged access to capital markets or financial resources;
- (f) Product/services diversification (e.g., bundled products or services);
- (g) Economies of scale;
- (h) Economies of scope;
- (i) Vertical integration;
- (j) A highly developed distribution and sales network;
- (k) Absence of potential competition; and
- (l) Barriers to entry and expansion.

4.22 The relative importance of each factor may vary from one analysis to another as the characteristics or dynamics of the relevant market under examination change. Consequently, flexibility is needed in applying the above criteria. In addition, many of the above factors, while presented separately, may, in fact, be interrelated and all available evidence is considered by ComReg as a whole before a determination on SMP is made. The SMP Guidelines note that:<sup>148</sup>

*“A dominant position can derive from a combination of the above criteria, which taken separately may not necessarily be determinative.”*

4.23 Consistent with the SMP Guidelines, SMP is determined using the above factors that are most relevant to the market on the basis of a forward-looking analysis over the market review period (next 5 years) having regard to existing and likely future market conditions.<sup>149</sup>

---

<sup>148</sup> Paragraph 79 of the SMP Guidelines.

<sup>149</sup> Paragraph 20 of the SMP Guidelines states that *“In carrying out the market analysis....NRAs will conduct a forward looking, structural evaluation of the relevant market, based on existing market conditions. NRAs should determine whether the market is prospectively competitive, and thus whether any lack of effective competition is durable, by taking into account expected or foreseeable market developments over the course of a reasonable period. The actual period used should reflect the specific characteristics of the market and the expected timing for the next review of the relevant market by the NRA. NRAs should take past data into account in their analysis when such data are relevant to the developments in that market in the foreseeable future.”*

4.24 For the purposes of the analysis of the Relevant PIA Market, ComReg considers that the following criteria are of most relevance to the assessment of SMP:

- (a) Overall size of the undertaking;
- (b) Control of infrastructure not easily duplicated;
- (c) Absence of or low countervailing buyer power;
- (d) Economies of scale and scope;
- (e) Vertical integration;
- (f) Absence of potential competition; and
- (g) Barriers to entry and expansion.

4.25 Other factors in addition to those set out at paragraph 4.24 above which could be used to assess the presence of SMP have been considered of less (or no) relevance for the purposes of the SMP assessment in the Relevant PIA Market include the following:

- (a) Technological advantages or superiority due to the fact that PIA is not a technically complex product;
- (b) Easy or privileged access to capital markets or financial resources as replication of PI in most circumstances is often economically inefficient;
- (c) Product/services diversification as PIA is a homogenous non-differentiated product; and
- (d) A highly developed distribution and sales network due to the fact that demand is homogenous and centrally sourced from the provider and not through intermediaries.

### 4.3 SMP assessment in the Relevant PIA market

4.26 For the purpose of assessing competition in the Relevant PIA Market, ComReg considers first the level of existing competition, including an assessment of any indirect constraints arising from downstream wholesale and/or retail competition from vertically integrated fixed telecom providers, followed by the likelihood of entry and associated potential competition, and finally, the extent of countervailing buyer power ('**CBP**') from purchasers of PIA. This assessment is conducted in line with the MGA approach whereby no regulation is present in either the PIA or downstream markets.

### 4.3.1 Existing Competition in the Relevant PIA Market

- 4.27 As noted above, Eircom has the most extensive PI network, several times larger and more extensive (both in terms of density and geographic scope) than its nearest competitor. As such, no existing alternative SP has a PI network that would suggest it is capable of exercising a sufficient competitive constraint on Eircom. Although, some network extension based on infrastructure investment may occur, alternative SP coverage is unlikely to constrain Eircom's ability to behave independently of competitors in the Relevant PIA Market. Furthermore, as contracts for PIA are long-term, there are significant barriers to switching<sup>150</sup> which increases the market power of SPs already present.

#### Strength of Existing Competitors

- 4.28 As set out in Section 3 and Annex 2, there are a number of other fixed telecom SPs that use their own PI to provide fixed telecom services. Aside from Eircom, Virgin Media provides both residential and business services using their own PI (although Virgin Media is largely residential based). Furthermore, there are a number of other SPs that have fixed networks that are focussed on the business and network connectivity sectors such as BT, Colt, eNet, euNetworks, etc. Overall, there is little competition or trade in PIA, as is illustrated in Figure 3, where PIA represented 2.5% of wholesale fixed line revenues and 1% of total retail fixed line revenues, in 2021.

### 4.3.2 Direct Constraints

- 4.29 As set out in Section 3, one of the main demand-side features of PIA is density or local ubiquity (capillarity). This means, that a PIA product should be able to offer connectivity to virtually any premises within a local area that is the target of a network roll-out.
- 4.30 The other important feature is national coverage. The efficiency of being able to reach any geographic area under a single contract, with uniform, well established terms and conditions and processes provides both commercial and operational certainty to Access Seekers wishing to reach particular locations for multi-site business customers.

#### Virgin Media PI

- 4.31 Its duct network is disaggregated or non-contiguous and generally not connected to end users' premises and therefore, it would not likely be viewed by a sufficient number of Access Seekers as being a practical alternative for

---

<sup>150</sup> See paragraphs 3.81 and 3.83 above.



use in attempting to install a wired telecoms infrastructure in order to connect customers.

### LL Type SPs

- 4.32 There are limitations on the ability of these networks to be a competitive constraint both individually and in aggregate, due to the fact that, inter alia:
- (a) Their networks are skeletal in nature;
  - (b) Rapid speed and deployment is challenging as new connections generally require new civil engineering/PI i.e. new network build;
  - (c) Breakouts (ingress and egress) may require new build;
  - (d) Capacity is limited to cater for small volumes of customer connections;
  - (e) Density of network and volume of premises passed is relatively low due to the skeletal nature of these networks, and those that are passed require new build as cited in (b) above; and
  - (f) They do not have national ubiquity.

### Local Authority Duct

- 4.33 Some minor use has been made by some SPs of various Local Authorities' spare ducts. Even where access has been granted, it is usually on an ad-hoc basis and used for limited infill such as the need to cross specific roads etc.

### Canal Duct

- 4.34 A limited amount of dedicated telecoms duct has been laid within the towpath adjacent to canals in the Leinster region. This connects a small number of towns and districts in Dublin, Kildare and Meath. This infrastructure is limited geographically and cannot provide connections to premises not adjacent to the towpath. It is used for backhaul services between connected towns and Dublin City by a number of SPs.

### LUAS Duct

- 4.35 There are telecoms ducts available on the LUAS light railway system on the Red and Green routes in urban and suburban Dublin, a portion of which have been accessed by some SPs to connect to suburban business parks.

### Motorway Duct

- 4.36 All motorway “M” routes have duct installed for emergency communications for motorists and spare duct has also been installed, some of which has been used to a limited extent by SPs.

### Business Parks

- 4.37 Many business parks and other commercial developments have their own duct networks which were installed either in the build phase or retrospectively by the developer. These are pockets of PI dedicated solely to commercial businesses within these developments and do not form a competitive alternative to Eircom’s nationally ubiquitous PI.

### Control of Infrastructure not easily duplicated

- 4.38 Constructing PI for fixed telecoms requires very high levels of investment, a large proportion of which are likely to be sunk costs, and a considerable period of time to rollout.
- 4.39 Eircom is the only SP with a ubiquitous national duct and pole network having capillarity. The high cost of building duct and pole physical infrastructure required to deploy fibre, is a barrier to large-scale network deployment by competing operators. Having already incurred these costs – a substantive portion of which are sunk – Eircom relative to other SPs is in a position to deploy network more quickly and cheaply, and at less risk.
- 4.40 Even when SPs deploy their own PI, predominately in major urban areas, it doesn’t rival that of Eircom in terms of coverage, contiguity or capillarity. Apart from SP PI deployed in urban areas, PI deployment in regional and rural areas has tended to be limited in scope.

#### 4.3.3 Indirect Constraints

- 4.41 Indirect constraints in the context of PIA could arise whereby demand for downstream services (wholesale and/or retail) which use the PI inputs supplied by the HM would, in response to the pass-through of PI price increases into Access Seekers’ downstream services, switch to alternative services not reliant on the PI input. If sufficient switching occurred, then it may place a competitive constraint on the price setting behaviour of the HM supplier of PI. In this market context, and bearing in mind the MGA, the assumption for this PIA market review is that there is no SMP regulation in downstream markets (WLA/WCA, WDC etc). This means that consideration is given to whether sufficient switching would occur to networks that do not rely on the Eircom PI input – i.e., completely independent networks.

- 4.42 SIRO and Virgin Media<sup>151</sup> provide active wholesale and retail ECS services respectively for residential retail and some business customers. Likewise, as set out in section 4.3.2 above, the LL SPs provide wholesale and retail services to business customers and SPs. However, their lack of national coverage, capillarity and ubiquity means they are unlikely to divert enough wholesale and/or retail demand away from an SP with ubiquitous national coverage will not constrain its ability to behave independently.

### Conclusion on Existing Competition

- 4.43 Eircom has operational control of a ubiquitous fixed telecom PI network that has capillarity and is not easily duplicated, there is also a lack of effective indirect pricing constraints and no notable evidence of existing competition, absent regulation in this market. Therefore, Eircom cannot be sufficiently constrained by existing competition such that it would prevent Eircom from behaving to an appreciable extent, independently of competitors, customers and consumers.
- 4.44 Below, ComReg considers other relevant factors (potential competition and CBP<sup>152</sup>) which may have the effect of diminishing or undermining Eircom's position in the Relevant PIA Market.

#### 4.3.4 Potential Competition in the Relevant PIA Market

- 4.45 Assessing potential competition involves consideration of whether entry in the Relevant PIA Market is sufficiently likely, timely, and credible to such an extent that it would effectively constrain Eircom's ability to act independently of its competitors, customers and consumers over the market review period (5 years).

#### 4.3.5 Barriers to Entry and Expansion

- 4.46 Barriers to growth and expansion are obstacles that a new entrant (or smaller existing competitor) faces in its ability to grow or expand in a particular market, and which limit its ability to assert an effective competitive constraint over the medium to longer term.
- 4.47 Assessing the barriers to entry and expansion involves initially identifying what represents credible entry into the Relevant PIA Market. In order to provide an effective competitive constraint, a potential entrant must provide

---

<sup>151</sup> Virgin Media currently offers wholesale leased lines services and has announced plans to provide wholesale broadband services in the future,

<sup>152</sup> The existence of some level of CBP would not, in itself, be sufficient. Rather, it must be sufficiently strong such that it results in PIA pricing being prevented from rising above a level that would pertain in a competitive market outcome.

a product that at least meets the characteristics of the PIA products, services and associated facilities set out in Section 4 (thereby meeting the expectations of Access Seekers).

- 4.48 ComReg considers that the existence of high and largely sunk costs associated with the installation of PI and the fact that the Relevant PIA Market is characterised by economies of scale, scope and density are likely to act as significant barriers to entry and expansion for SPs, with their own fixed telecom PI in this market.
- 4.49 In ComReg's view, this means that a significant expansion of existing networks or the entry of new PI networks into the Relevant PIA Market will be unlikely to recover the high fixed and sunk costs associated with such a network expansion. It is recognised that this does not preclude entry/expansion on a smaller scale.
- 4.50 In contrast, Eircom operates a ubiquitous duct/pole network with significant capital costs that were sunk in the initial construction of the Eircom access network and which at this point in time are significantly amortised. Notwithstanding this, these assets require ongoing maintenance and, in many cases, may be no longer reusable, in which case their replacement is required. Any potential entrant, expanding its network in the Relevant PI Market at scale (or new entry) would, nonetheless, face high sunk costs which create cost disadvantages and higher risks of non-recovery relative to those faced by Eircom given its existing PI network has been rolled out for some time.

#### 4.3.6 **Strength of Potential Competitors**

- 4.51 ESB, with the electricity network, is the only possible potential competitor to Eircom in that it has a nationally ubiquitous electrical network with capillarity. The limitations previously discussed in paragraphs 3.60 to 3.87 outline why ComReg does not view this network as an effective substitute for Eircom's network. These limitations are likely to remain over the 5 year time horizon for this market review, including to the regulatory obligations imposed on ESB by the CRU over this period.
- 4.52 For the reasons set out above, absent regulation in this market it is unlikely that Eircom would be sufficiently constrained by potential competition such that it would prevent Eircom from behaving to an appreciable extent, independently of competitors, customers and consumers.
- 4.53 ComReg considers that alternative telecom specific PI operators would be unlikely to enter the Relevant PIA Market over the period of this review at any

level of materiality<sup>153</sup>. As such, ComReg considers that existing alternative independent network operators would be unlikely to exert a sufficient competitive constraint on Eircom in the Relevant PIA Market.

### 4.3.7 Countervailing Buying Power

4.54 Below, ComReg considers whether bargaining power on the buyer side of the Relevant PIA Market is likely to impose a sufficiently effective competitive constraint on Eircom, such that it would credibly offset Eircom's suggested power to behave, to an appreciable extent, independently of competitors, customers and ultimately consumers.

4.55 In so doing, ComReg examines whether sufficient CBP exists such that it results in Eircom not being able to sustain PIA prices that are above the competitive level, i.e., the effective exercise of CBP is one which results in such PIA prices being constrained to the levels that would be achieved in a competitive market outcome.

### Overview of Framework for CBP Assessment

4.56 The effectiveness of CBP is likely to be significantly dependent on the strength of the bargaining power of the purchaser in its PIA negotiations. The European Commission's 2009 enforcement priorities in applying Article 102 of the Treaty of the Functioning of the European Union to abusive exclusionary conduct by dominant Undertakings<sup>154</sup> (the '2009 Enforcement Priorities') are informative on the issue of CBP in competition assessments. These state that:

*“Competitive constraints may be exerted not only by actual or potential competitors but also by customers. Even an Undertaking with a high market share may not be able to act to an appreciable extent independently of customers with sufficient bargaining strength. Such countervailing buying power may result from the customers' size or their commercial significance for the dominant Undertaking, and their ability to switch quickly to competing suppliers, to promote new entry or to vertically integrate, and to credibly threaten to do so. If*

<sup>153</sup> We acknowledge that it is possible that some SPs/utilities may engage in low volumes of PI sales to overcome particular difficulties in crossing certain routes with fibre networks (for example, crossing motorways, bridges, railway lines etc).

<sup>154</sup> Communication from the Commission — Guidance on the Commission's enforcement priorities in applying Article 82 of the EC Treaty to abusive exclusionary conduct by dominant Undertakings (2009/C 45/02). Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:045:0007:0020:EN:PDF> Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:045:0007:0020:EN:PDF>.

*countervailing power is of a sufficient magnitude, it may deter or defeat an attempt by the Undertaking to profitably increase prices.* <sup>155</sup>

### CBP Assessment in the Relevant PIA Market

- 4.57 The circumstances where CBP might be observed to act as an effective competitive constraint are where buyers/customers:
- (a) account for a significant proportion of the supplier's total output;
  - (b) are well-informed about credible alternative sources of supply; and
  - (c) are able to switch to other suppliers at little cost to themselves, or to self-supply the relevant product relatively quickly and without incurring substantial sunk costs.

### NBI

- 4.58 NBI, in the context of rolling out the NBP, is a large purchaser of PI, which it is sourcing from Eircom.<sup>156</sup> Prime facie, its purchase of Eircom's PIA for the roll-out of the NBP could be considered sufficient to meet the condition of a significant portion of Eircom's total PI. However, NBI has no credible alternative sources of supply. Moreover, it cannot switch to any other sources – even if they were to emerge – without incurring significant sunk costs. Finally, NBI is contractually bound by the State Aid agreement governing the NBP to roll out this network in a timely manner and therefore, cannot credibly refuse to purchase Eircom's PIA. As such, ComReg is of the view that NBP does not have sufficient CBP to counteract Eircom's likely SMP in the provision of PIA.

### Conclusion on CBP Assessment in PI Market

- 4.59 Having regard to the analysis in paragraphs 4.57 to 4.58 above, ComReg's view is that CBP is not sufficient to prevent Eircom from behaving to an appreciable extent, independently of competitors, customers and consumers.

## 4.4 Designation of Eircom with SMP

- 4.60 Where ComReg determines, based on market analysis carried out by it in accordance with Regulation 27 of the Framework Regulations<sup>157</sup>/Regulation 49 of the ECC Regulations, that a given market identified in accordance with Regulation 26 of the Framework Regulations/Regulation 46 of the ECC

<sup>155</sup> Paragraph 18 of the 2009 Enforcement Priorities.

<sup>156</sup> NBI's use of other sources of PI is trivial.

<sup>157</sup> This provision is mirrored at Article 67(4) of the EECC.

Regulations is not effectively competitive, ComReg is obliged under Regulation 27(4) of the Framework Regulations/Regulation 49(8) of the ECC Regulations to designate the undertaking or undertakings which have SMP.

- 4.61 For the reasons set out above, in the absence of sufficient constraints such that Eircom would be prevented from behaving to an appreciable extent, independently of competitors, customers and consumers in those markets, ComReg finds that Eircom has SMP on the Relevant PIA Market and proposes to designate Eircom accordingly.

Q. 2 Do you agree with the SMP assessment above and that Eircom is likely to have SMP in the Relevant PIA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

## Chapter 5

# 5 Competition Problems in the Relevant PIA Market and Impacts

## 5.1 Overview

- 5.1 In this Section, ComReg seeks to identify those competition problems which, absent regulation, could arise in the Relevant PIA Market, with impacts also flowing into downstream related markets in light of ComReg's proposed designation of Eircom as having SMP on the Relevant PIA Market. As set out in the Explanatory Note to the 2020 Recommendation, the underlying purpose of the ex-ante regulatory framework is to tackle the likely competition problems that have their origin in the structural factors at play within a market(s).
- 5.2 In accordance with Regulation 27(4) of the Framework Regulations/Regulation 49(8) of the ECC Regulations, where an undertaking is designated as having a position of SMP on a relevant market, ComReg can impose on that undertaking each of the remedies (or obligations) set out in Regulations 9 through 13 of the Access Regulations (Regulations 51 through 56 of the ECC Regulations), noting that the obligations imposed must, in accordance with Regulation 8 of the Access Regulations/ Regulation 50 of the ECC Regulations, be (among others) based on the nature of the problem identified in the market analysis.
- 5.3 Of particular concern in this regard is Eircom's control over infrastructure not easily duplicated, coupled with Eircom's position as a vertically integrated supplier competing with its wholesale PIA customers in related downstream wholesale and retail markets.
- 5.4 Even where Eircom does not directly or fully compete with other undertakings in downstream markets, it has the ability and incentive to engage in anti-competitive behaviours given its control over PI not easily duplicated and has the incentive to maximise its profits through, for example, excessive pricing, and/or actual or constructive denial of access. For example, as noted in earlier sections, NBI is, and is likely to remain, the predominant purchaser of PIA from Eircom, with NBI using such access to provide downstream WLA and WCA services in the IA. Given NBI is providing services to premises found to be commercially uneconomic to serve it will not typically face competition from Eircom or other undertakings at many of these premises (we acknowledge that some undertakings, including Eircom, may roll-out



networks to some of the IA premises, thus creating some degree of overlap).

- 5.5 ComReg notes that it is neither necessary to catalogue examples of actual abuse, nor to provide exhaustive examples of potential abuse. The purpose of *ex ante* regulation is to prevent or mitigate the risks of anti-competitive behaviours arising, given that an SP has been identified on a preliminary basis as having SMP in the PIA Market and having regard to Eircom having both the ability and incentive to engage in specific practices, to the detriment of competition and, ultimately, end-users.

## 5.2 Types of competition problems

- 5.6 In determining what *ex ante* regulatory remedies are justified in the Relevant PIA Market, ComReg has carried out an assessment of a range of potential competition problems which could arise in the absence of regulation. We note that Eircom's PIA has been regulated to date through obligations imposed in the downstream WLA market. However, in assessing potential competition problems, this is discounted in accordance with the MGA given the WLA market sits downstream from the Relevant PIA Market and ComReg's approach is to regulate, as appropriate at the most upstream level possible. Given Eircom's control over bottleneck physical infrastructure that is not easily replicated, the lack of effective current and potential competition, and it being a vertically integrated undertaking in competition with other undertakings in a range of downstream markets, it has incentives to engage in anti-competitive behaviour.
- 5.7 ComReg has identified three categories of potential competition problems which are likely to occur, absent regulation in the Relevant PIA Market, which include:
- (a) **Exclusionary practices:** where Eircom acts in a manner which could prevent current or potential competition in downstream wholesale and/or retail markets, by foreclosing access to its PI;
  - (b) **Leveraging:** where Eircom, a vertically-integrated SP leverages its market power in the Relevant PIA Market in order to exert undue influence in other downstream markets, at different levels (vertical) in the distribution chain<sup>158</sup> also restricting and/or distorting competition; and

---

<sup>158</sup> Horizontal leveraging is not relevant due to PIA being the most upstream of fixed telecoms markets.

- (c) **Exploitative practices:** where Eircom engages in exploitative behaviours, such as excessive pricing or practices leading to inefficiency and/or inertia, to the detriment of both competition and end-users.

5.8 Each of the types of competition problems set out above is discussed in more detail below with regard to the specificities of the Relevant PIA Market. The specific remedies to address these competition problems are discussed later in Sections 6 and 7, and further elaborate on the justification for ComReg's intervention.

### 5.3 Exclusionary Practices

5.9 Exclusionary practices refer to a specific set of actions carried out by an SMP SP in an attempt to defend or consolidate its position in a market, by constructively or actively blocking potential competitors from entering the market, by hindering or preventing actual competitors from growing in the market, or by inducing or forcing competitors to exit the market, where they are already present.

5.10 From the outset it should be noted that replication at any reasonable level of scale of existing telecom specific PI would often be economically unviable given the sunk costs involved.

5.11 Eircom may also decide to withhold investment in the PI and/or downstream markets to delay or impede the development of competition in those markets. For example, Eircom faces lower incentives to invest in PI falling within the IA on the basis that, on a forward-looking basis, it would not likely be the primary user of such infrastructure. Similarly, upgrading infrastructure (or parts of it) that might be used by other SPs may not be in Eircom's interests, particularly where this does not affect its own existing or expected use of such infrastructure.

5.12 ComReg is of the preliminary view that Eircom, as vertically integrated SP that is likely to have SMP in the Relevant PIA Market, has both the ability and incentive to deter or delay entry into downstream retail and wholesale ECS markets to the detriment of its competitors, customers and ultimately, end-users. In ComReg's view, such exclusionary practices include, but are not limited to:

- (a) Imposing a margin squeeze between PIA and downstream services which would reinforce entry barriers in the downstream markets which rely on PI inputs and potentially foreclose entry or investment (or delay through uncertainty) by other SPs seeking to enter those

markets. Whether or not Eircom engages in a margin squeeze would depend on the threat of more independent and increased competition from Access Seekers using PI, being greater than the intensity of competition which would stem from use of WLA (although for the PIA assessment the WLA markets, for example, are assumed to be unregulated in accordance with the MGA).

- (b) Refusing to supply access to PI, applying unreasonable and/or discriminatory terms and conditions of access (relative to its own downstream divisions or amongst Access Seekers, such as restrictions on use), and/or creating or exploiting information asymmetries all of which serves to delay/effectively deny use of PI by competing undertakings as well as raising their effective costs of use.

## 5.4 Leveraging

- 5.13 Leveraging describes conduct in which a vertically integrated SP with SMP in one market leverages its power to exert influence in other vertically or horizontally related markets, thereby enabling it to either strengthen its position in these markets and/or further consolidate its position in the current market in which it has SMP.
- 5.14 Vertical leveraging<sup>159</sup> arises where a vertically integrated SP has the ability and incentive to leverage its SMP position at one level in the production or distribution chain (in this case the Relevant PIA Market) into downstream wholesale and/or retail markets, in which it is also active. This behaviour can take the form of either non-price-based or price-based vertical leveraging (as outlined below).
- 5.15 Given the close relationship between the Relevant PIA Market, and the suite of vertically related downstream markets that Eircom is active in (both regulated and unregulated), absent regulation, there is likely potential for vertical leveraging to occur. In the context of the Relevant PIA Market, ComReg is of the preliminary view that vertical leveraging could occur, given that Eircom as a vertically-integrated SP with SMP likely has both the ability and the incentive to use its market power to influence the competitive conditions in downstream wholesale and/or retail markets and, in particular, through its ability to control the key inputs used by Access Seekers which compete against Eircom in the downstream wholesale and retail markets. This could result in the distortion of, or a reduction in, competition in these

---

<sup>159</sup> As PIA is at the deepest level of the value chain for the delivery of services over wired infrastructure, there are no significant horizontally adjacent markets.

downstream markets, which would ultimately result in harm to end-users, potentially in the form of higher prices, lower output or sales, and reduced quality or reduced consumer choice.

#### 5.4.1 Non-Price Based Vertical Leveraging Behaviour

5.16 Absent regulation in the Relevant PIA Market, Eircom has the ability and incentive to engage in the following forms of non-price based vertical leveraging behaviour:

- (a) **Restrictions on or denial of access:** where vertical leveraging manifests in an outright refusal to provide PIA inputs (and/or associated facilities) by Eircom to competitors in related downstream markets which rely on those inputs (while at the same time providing access to its own downstream arms). Eircom could also apply disproportionate usage criteria or attach unreasonable terms and usage conditions to access, resulting in a constructive delay or denial of access.
- (b) **Delaying tactics:** this includes conduct such as protracted negotiations in respect of the supply of new or existing PIA products and facilities, or delay in the provision of information necessary to effectively access PIA services or associated facilities to downstream competitors;
- (c) **Quality discrimination:** Eircom could provide downstream competitors with PIA at a lower quality (or provide inferior information) to that which Eircom provides to its own downstream arm (or to certain other favoured Access Seekers);
- (d) **Creating or exploiting information asymmetries, and the withholding of relevant information:** where downstream competitors are dependent on Eircom to provide PIA and require certain (quality or technical) information in order to effectively compete in downstream markets, a lack of transparency, or asymmetry in the provision of relevant information, can impede access and effective competition in downstream markets;
- (e) **Unreasonable quantity forcing:** Eircom may require downstream competitors to purchase a minimum quantity of PIA product, over and above their requirements and thereby imposing unnecessary costs on the Access Seeker.

## Restrictions on, or denial of Access

- 5.17 A restriction on access may involve an SMP SP restricting the use of a PIA product to specific downstream retail or wholesale services. For instance, Eircom could restrict Access Seekers' use of its PIA products, services or facilities, to the provision of only certain services by Access Seekers (whilst Eircom's own self-supply is not subject to any such restrictions). This potentially has the effect of limiting Access Seeker investment, as they cannot benefit from the economies of scale and scope that would result from the ability to use PIA inputs across a range of downstream markets, such as retail and wholesale broadband access, fixed telephony or retail TV services.
- 5.18 In the instance where access is provided to Access Seekers, Eircom could impose capacity constraints<sup>160</sup> on an Access Seeker such that it hinders the Access Seeker's ability to provide a timely and quality service to its downstream customers. Such behaviour would serve to enhance the position of Eircom in the Relevant PIA Market and downstream markets by undermining Access Seekers' ability to have access to wholesale services and thereby compete effectively downstream.

## Delaying tactics

- 5.19 Eircom also has the ability and incentive to engage in a 'first mover advantage' strategy by offering a retail or wholesale ECS offering before an upstream PIA input product (including one of an equivalent nature to which it offers itself) is made available (either at all or effectively) to potential Access Seekers. This first mover advantage has the potential to raise the Access Seekers' costs relative to Eircom's and restrict the Access Seekers' potential future retail sales. Other examples include, for example, only agreeing certain contractual terms and conditions while prolonging negotiations on others or agreeing to provide access to PIA services, but delaying negotiations on other terms and conditions such as SLAs, order volumes etc.

## Quality discrimination

- 5.20 Given that Eircom is vertically integrated, it may be difficult to compare the PIA products supplied to its own downstream arm, with those offered to other Access Seekers on a merchant market basis (to other downstream competitors). A lack of transparency surrounding any differences between those products might facilitate an environment where Eircom has both the ability and incentive to engage in a number of non-price-based means of leveraging its SMP. For example, Eircom could give priority to its own

---

<sup>160</sup> Such as order limits or limits on Access Seekers' use of PIA, limiting orders of PIA (and services that can be offered over them) through restrictive contractual terms and conditions or limitations in processes.

customers when repairing faults or using/upgrading PI network assets, which given Eircom is currently rolling out its own FTTH network, is an important factor for consideration. In another example, Eircom's allocation of its sub-contracted resources may be insufficient to deliver Access Seeker's PIA orders in a timely manner when compared to Eircom's allocation of resources to deliver its own network rollout.

### **Creating or exploiting information asymmetries and withholding relevant information**

- 5.21 A vertically integrated SMP SP may also create or exploit information asymmetries to impede downstream competition. For example, this arises due to variations in IT system access rights for the SMP SP's downstream arm, compared to other Access Seekers in the market. As these IT systems support the infrastructure associated with Operational Support Systems ('OSS') and are likely to evolve over time, Access Seekers who do not have visibility of (or input into) such systems are unlikely to be in a position to effectively contribute, make a request for service, or make the informed decisions necessary for future planning and investment. Furthermore, an issue could arise where operational changes are not implemented simultaneously, or to the same standard, for Eircom's downstream arm on the one hand, and Access Seekers, on the other hand.
- 5.22 A lack of transparency in the respective terms and conditions of supply of PIA on a self-supply basis, and on a merchant market basis, could also make it difficult for Access Seekers to make effective commercial or operational decisions, where those decisions involve the use of PIA inputs in the provision of their own downstream services.
- 5.23 Information asymmetries may also apply to future planning by the SMP SP. For example, changes by Eircom to its PI network or pre-ordering/ordering processes could hinder effective competition. For example, insufficient notice of PI network rollout or associated process changes could significantly impede effective competition in fixed telecoms markets.
- 5.24 Information asymmetries may also apply where an Access Seeker is not provided with information to allow it to effectively use PIA. Such behaviour would serve to enhance the position of Eircom in the Relevant PIA Market and downstream markets by undermining Access Seekers' ability to have effective access to PI and thereby compete effectively downstream.
- 5.25 Another example of information asymmetries could include situations where Access Seekers require metrics on order processing, service delivery and fault repair to view the overall performance of Eircom's PIA products from a

provisioning and service assurance perspective. Failure by Eircom to provide such data to its wholesale customers would likely impair their ability to compare the performance of Eircom's supply of PI to itself. Uncertainty for Access Seekers (and their retail and/or wholesale customers) as to the performance and quality of their purchased PIA inputs relative to the services and information made available internally to Eircom, could potentially discourage investments in markets dependent upon Eircom's PI inputs (for example, through a lack of visibility of average repair time).

- 5.26 A lack of information, and associated uncertainty, could potentially discourage Access Seekers from investing in, or expanding upon, their downstream footprint. Furthermore, such information asymmetries may lead to delayed consideration of Access Seekers' requirements, as part of such network developments, which is likely to delay or impede their ability to respond to any new retail or wholesale offerings by the SMP SP.

### **Unreasonable quantity forcing**

- 5.27 Eircom may create a minimum order quantity, such as a minimum distance of ducts and associated facilities or a minimum number of poles, when downstream competitors seek to order PIA. This may add additional costs for downstream competitors seeking to roll out fibre to their customers premises, paying for a greater quantity than is actually required.

### **5.4.2 Price-based Vertical Leveraging Behaviour**

- 5.28 Vertical leveraging may also be evident in the pricing behaviour of vertically integrated SMP SPs. In the context of the Relevant PIA Market, absent regulation, Eircom could engage in this type of behaviour and utilise its SMP position in an attempt to foreclose competition in downstream markets.
- 5.29 Price discrimination could be used to raise an Access Seeker's costs downstream and induce a margin squeeze. By charging a higher price (above cost) to downstream competitors than itself, such a margin squeeze between PIA prices and downstream prices could undermine the effectiveness of a PIA product offering. In doing so, Eircom could harm competition in downstream retail and/or wholesale markets by eliminating competing SPs, thereby distorting competition, or discouraging the entry of new SPs (or expansion by existing SPs).
- 5.30 Any form of margin squeeze is likely capable of distorting competition across the supply chain, including at the wholesale and retail levels, to the detriment of end-users, and reinforce Eircom's SMP position in the Relevant PIA

Market and ultimately in retail markets. A margin squeeze could distort competition and have an adverse effect on end-users in a number of ways:

- (a) Foreclosure of competitors, leading to higher prices;
- (b) Setting higher prices for PIA products to mitigate rivals' competitive advantages;
- (c) Raising the prices of PIA products to absorb the benefits of rivals' investments in related downstream markets; and
- (d) Raising rivals' uncertainty, through the threat of a margin squeeze to deter competition and/or investment.

## 5.5 Exploitative Practices

5.31 Economic theory suggests that where a firm possesses market power, it is in a position to increase prices above, and/or reduce output below competitive levels, thereby enabling the accumulation of higher than normal profits. These higher profits effectively create a wealth transfer from the end-user to the firm with market power. Eircom, as an SP with SMP in the Relevant PIA Market, given its presence in a number of adjacent markets, has the ability and incentive to engage in exploitative practices, such as excessive pricing and some degree of inefficiency or inertia, to the detriment of end-users.

### 5.5.1 Excessive pricing

5.32 EU competition case law describes excessive pricing as a situation where the price which a firm with SMP charges for a product or service is not closely related to its value to the end-user and/or the cost of producing or providing the relevant service.<sup>161</sup> Concerns about excessive pricing arise where, absent regulation, price levels would likely be persistently high with no effective pressure (e.g. from new entry or innovation) to bring them down to competitive levels over the duration of the review period.

5.33 The Relevant PIA Market is characterised by an absence of existing effective competition, high and non-transitory barriers to entry (associated with control over infrastructure not easily replicated), limited scope for potential competition, high sunk costs and insufficient CBP. Thus, there is insufficient pressure to constrain Eircom from behaving, *“to an appreciable extent,*

---

<sup>161</sup> Case C 27/76 United Brands v. Commission, [1978] ECR 207, [1978] 1 CMLR 429, para. 250. In United Brands the Court of Justice of the European Union held that: *“...charging a price which is excessive because it has no reasonable relation to the economic value of the product supplied would be... an abuse”*.



*independently of its customers, competitors or consumers*”,<sup>162</sup> including its ability and incentive to engage in excessive pricing in the Relevant PIA Market.<sup>163</sup>

- 5.34 For example, raising the cost of PIA inputs above a competitive level would, in turn, raise input costs for those Access Seekers that purchase Eircom PIA (assuming Eircom were to continue supplying PIA inputs, absent regulation) in order to compete in downstream ECS markets, such as the WLA market. Given that the extra costs incurred by Access Seekers, due to increased input prices, may for example then be passed on to their retail customers via higher broadband prices. This ultimately has the potential to harm the development of effective competition in the retail broadband market, as end-users pay higher broadband prices, due to Access Seeker pass-through of increased PIA input costs. Thus, the exploitative conduct engaged in by Eircom at the wholesale level may ultimately be experienced at the retail level by end-users, as Access Seekers attempt to avoid incurring the additional expenses arising from increased PIA prices by passing these cost increases through to their customers.
- 5.35 Excessive prices can also distort competition amongst SPs in a market, as the higher charges could create a cross-subsidy to the SMP SP, while simultaneously reducing other SPs’ investment incentives. Absent regulation in the Relevant PIA Market, Eircom, as the SMP SP, is likely to have the ability to increase prices at the wholesale level, in order to extract supernormal profits from Access Seekers. If Access Seekers attempt to absorb these higher PIA costs (instead of passing them onto end-users) and are restricted by the absence of demand-side substitutes, they would likely be subjected to a margin squeeze, thereby reducing their own profit margins and restricting their ability to compete with the incumbent in downstream markets.
- 5.36 Eircom, accordingly, as the SMP SP, has both the ability and incentive to engage in excessive pricing behaviour as, absent regulation, both Access Seekers and end-users are restricted by the absence of effective demand-side substitutes or indirect retail constraints, enabling Eircom to act independently of competitive pressure.

---

<sup>162</sup> Judgment of the Court of 13 February 1979. Hoffmann-La Roche & Co. AG v Commission of the European Communities. Dominant position. Case 85/76. European Court Reports 1979 -00461. ECLI identifier: ECLI:EU:C:1979:36 Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:61976CJ0085&from=EN>

<sup>163</sup> Eircom’s wholesale prices in the PIA Market are currently regulated under the 2018 WLA/WCA Decision.

## 5.5.2 Inefficiency and inertia

- 5.37 A firm with SMP in a relevant market may, by virtue of the lack of effective<sup>164</sup> competitive pressure in that market, be insulated from the need to innovate and improve or maintain the quality of its PI. This may limit the rollout of competing networks and/or lead to higher cost and less efficient methods of supply<sup>165</sup> and, consequently, higher prices for end-users than would likely otherwise exist under competitive market conditions.
- 5.38 Although Eircom is currently in a period of network upgrading of its PI in order to facilitate deployment of its FTTH network, this may not continue in the future. Once its FTTH network rollout is complete, Eircom could fail to continue maintaining and upgrading its PI network to the extent that this would inhibit other SP using its PI to deploy rival ECSs, for example by failing to remove redundant cable and equipment in the PI on receipt of a PIA order.

## 5.6 ComReg's preliminary conclusions

- 5.39 Having regard to the analysis set out in this Section, ComReg is of the view that, absent regulation, Eircom, as the proposed SMP SP in the Relevant PIA Market, has the ability and incentive to engage in the types of exclusionary practices, leveraging behaviour, and exploitative practices identified and outlined above. These are likely to negatively impact on competition and end-users in related retail and/or wholesale markets, as well as having the potential to reinforce its SMP in the Relevant PIA Market over time.

Q. 3 Do you agree that the competition problems and the associated impacts on competition end-users identified are those that could potentially arise in the related markets downstream of PIA? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

---

<sup>164</sup> As noted in Section , regulated access to wholesale products in other downstream markets or indirect constraints from the retail market are insufficient to effectively constrain Eircom's behaviour in the PIA Market. However, Eircom's decision to invest and innovate may be at least partially influenced by the presence of independent retail competitors in the downstream retail markets.

<sup>165</sup> Such inefficiency could potentially be considered an abuse under competition law, specifically, Article 102(2)(b) of the TFEU.

## Chapter 6

# 6 Imposition of Non-Price Remedies in the Relevant PIA Market

## 6.1 Introduction

- 6.1 Under Regulation 8(1) of the Access Regulations/Regulation 50 of the ECC Regulations, where an undertaking is designated as having SMP in a relevant market, ComReg is required to impose at least one obligation by way of remedy addressing the competition problems that have been identified, as set out in Regulations 9 to 13 of the Access Regulations/Regulations 51-56, 58 and 62 of the ECC Regulations.
- 6.2 According to Regulation 8(6) of the Access Regulations/Regulation 50(5) of the ECC Regulations, the obligation or obligations imposed must:
- (a) be based on the nature of the problem identified;
  - (b) be proportionate and justified in light of the objectives laid down in Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations;<sup>166</sup> and
  - (c) only be imposed following public consultation.

## 6.2 Existing Non-Price Remedies

- 6.3 Before considering the non-price remedies, which would best address the competition problems arising in the Relevant PIA Market, ComReg recalls below, in summary, the non-price remedies currently in place, as imposed by the 2018 WLA Market Decision, that are directly relevant to PIA. They include obligations of access, non-discrimination and transparency in respect of Civil Engineering Infrastructure ('CEI').

---

<sup>166</sup> Pursuant to Section 12 of the Communications Regulation Act 2002 (as amended), ComReg's relevant objectives in relation to the provision of electronic communications networks and services are: (i) to promote competition; (ii) to contribute to the development of the internal market; and (iii) to promote the interests of users within the Community. Regulation 16 of the Framework Regulations/Regulation 4 of the ECC Regulations further specifies ComReg's objectives and sets out a number of obligations in relation to the pursuit of its objectives.

## 6.2.1 Access

- 6.4 Eircom, under the 2018 WLA Market Decision, is required to provide access to its pole network (Pole Access) and to its duct network by way of Duct Access, Sub-Duct Access and Direct Duct Access, as defined in the WLA Decision Instrument<sup>167</sup>. This includes for the purpose of access to the pole and duct networks, access to ingress and egress points, to a CEI Connection Service (whereby a fibre connection is provided by Eircom between an Access Seeker co-located equipment to an Eircom chamber or pole), to chambers and to co-location for CEI. Furthermore, Eircom is required, where Access to CEI is not available, to provide Access to Dark Fibre where Dark Fibre is reasonably available, and also to provide access to its Passive Access Records ('**PAR**').
- 6.5 Eircom is also required to meet certain conditions in respect of the provision of access, including requirements governing fairness, reasonableness and timeliness of access, including Service Level Agreements ('**SLAs**') and requirements regarding timeliness of product development.

## 6.2.2 Non-Discrimination

- 6.6 Eircom is currently subject to an obligation of non-discrimination in respect of CEI, which applies regardless of whether or not a specific request for products, services, facilities or information has been made by an Access Seeker to Eircom. The requirement for non-discrimination applies both as regards the treatment of Access Seekers by Eircom as between those Access Seekers (so that Eircom must apply equivalent conditions in equivalent circumstances), and also as regards the treatment of Access Seekers as between those Access Seekers and Eircom itself (including its subsidiaries, affiliates and partners). The applicable standard of non-discrimination as regards pre-ordering, ordering, provisioning, fault reporting and repair for CEI is on an Equivalence of Inputs ('**Eoi**') basis, whereby, in summary, products, services and information are provided to Access Seekers by means of the same systems and processes as Eircom provides to itself.

## 6.2.3 Transparency

- 6.7 Under the 2018 WLA Market Decision, Eircom is subject to a general obligation of transparency in respect of the access that it is required to provide under that Decision. In addition, the 2018 WLA Market Decision specifies a number of requirements which Eircom must meet in respect of the

---

<sup>167</sup> 2018 WLA Market Decision, Appendix 20.

information that must be made available to Access Seekers, including in particular an Access Reference Offer ('**ARO**') setting out the terms and conditions applicable to access, including prices, detailed descriptions of the products and services available from Eircom and SLAs. Specific timelines apply in respect of the provision of advance notification to Access Seekers and to ComReg of proposed changes to the ARO, to prices and the introduction of products, services and facilities.

- 6.8 Other specific transparency requirements include requirements regarding clarity of billing and reporting on actual performance achieved on an aggregate basis compared to the committed service levels contained in relevant SLAs, and the publication of information with respect to the progress of access requests through the Eircom product development process as well as information on that process.
- 6.9 Finally, Eircom is required to publish in advance of implementation, information regarding its CEI rollout plans and information relating to wholesale products, services and facilities, such as the expected time for service availability.

#### **6.2.4 Other obligations**

- 6.10 Eircom is also required to produce a Statement of Compliance ('**SoC**'). Under this obligation, in summary, Eircom is required to set out the measures and policies that it has in place in order to ensure regulatory compliance (regulatory governance) and to identify and mitigate compliance risks.

### **6.3 Remedies for the Relevant PIA Market**

- 6.11 In the Sections below, ComReg sets out the remedies that it is proposing to impose upon Eircom in the Relevant PIA Market to address the competition problems, identified in Section 5, bearing in mind the requirement set out in Regulation 50 of the ECC Regulations, to act proportionately and use the least intrusive way. Any decision imposing obligations on the Relevant PIA Market will repeal and replace the CEI obligations that currently apply.
- 6.12 As explained in detail below, in light of the competition problems arising or likely to arise in the Relevant PIA Market, ComReg proposes to impose the full set of remedies (including obligations of access, transparency, non-discrimination, price control and cost accounting, and accounting separation) and they are considered in turn below.
- 6.13 ComReg notes the requirement in Regulation 55(5) of the ECC Regulations that where ComReg considers imposing obligations on the basis of

Regulation 54 [Access to civil engineering] or Regulation 55 [obligations of access to, and use of, specific network elements and associated facilities], it examines whether the imposition of obligations on the basis of Regulation 54 alone would be a proportionate means by which to promote competition and the end-user's interest.

- 6.14 Regulation 54 of the ECC Regulations provides that where as a result of a market analysis, ComReg concludes that denial of access or access given under unreasonable terms and conditions having a similar effect, would hinder the emergence of a sustainable competitive market and would not be in the end-user's interest, ComReg may impose obligations on undertakings to meet reasonable requests for access to, and use of, civil engineering including, but not limited to, buildings or entries to buildings, building cables, including wiring, antennae, towers and other supporting constructions, poles, masts, ducts, conduits, inspection chambers, manholes and cabinets.
- 6.15 However, the competition problems identified in Section 5 arise from Eircom's ability and incentive to foreclose competition in the Relevant PIA Market and related markets, leverage its SMP into downstream markets, and exploit and/or exclude wholesale/retail SPs, ultimately to the detriment of competition and end-users including through:
- (a) refusing to supply access to its PI and thus restrict competition in the provision of products and services in downstream markets;
  - (b) providing access on less favourable terms as compared to those obtained by its own downstream businesses; and
  - (c) setting excessive charges for access to its physical infrastructure and/or engaging in price squeeze behaviour.
- 6.16 In light of these issues ComReg is of the view that a requirement under Regulation 54 of the ECC Regulations or obligations under Regulation 12 of the Access Regulations (pending the ECC Regulations having become effective) alone to meet reasonable requests for access to and use of CEI would not be sufficient to address the competition problems arising from Eircom's SMP and that it is necessary to impose also obligations of transparency and non-discrimination (as well as a price control).

## 6.4 Access Remedies

### 6.4.1 Statutory requirements and criteria

- 6.17 Regulation 12(1) of the Access Regulations/Regulation 55 of the ECC Regulations provide that ComReg may impose on an operator, obligations to meet reasonable requests for access to, and use of, specific network elements and associated facilities where ComReg considers that the denial of such access, or the imposition on operators of unreasonable terms and conditions having a similar effect, would:
- (a) hinder the emergence of a sustainable competitive retail market;
  - (b) not be in the interests of end-users; or
  - (c) otherwise hinder the objectives set out in Section 12 of the Communications Regulation Act 2002 (as amended) and Regulation 16 of the Framework Regulations/Regulation 4 of the ECC Regulations.
- 6.18 According to Regulation 12(5) of the Access Regulations/Regulation 55(6) of the ECC Regulations, when imposing obligations of access, ComReg may lay down technical or operational conditions to be met by the provider or the beneficiary of the access where necessary to ensure normal operation of the network. Conditions covering fairness, reasonableness and timeliness may also be attached to obligations of access under Regulation 12(4) of the Access Regulations/Regulation 55(3) of the ECC Regulations.
- 6.19 In determining whether access obligations imposed under Regulation 12 of the Access Regulations are appropriate and proportionate, ComReg must also have regard to the following:
- (a) the technical and economic viability of using or installing competing facilities, in light of the rate of market development, taking into account the nature and type of interconnection and access involved, including the viability of other upstream access products such as access to ducts;
  - (b) the feasibility of providing the access proposed, in relation to the capacity available;
  - (c) the initial investment by the facility owner, bearing in mind the risks involved in making the investment;
  - (d) the need to safeguard competition in the long-term, with particular attention to economically efficient infrastructure-based competition;

- (e) where appropriate, any relevant intellectual property rights; and
- (f) the provision of pan-European services.

6.20 The equivalent of Regulation 12 of the Access Regulations under the ECC Regulations, Regulation 55, adds the following criteria:

- (a) The expected technological evolution affecting network design and management;
- (b) The need to ensure technology neutrality enabling the parties to design and manage their own networks; and
- (c) In respect of the need to safeguard competition in the long term, the requirement to give attention not only to economically efficient infrastructure-based competition but also to innovative business models that support sustainable competition, such as those based on co-investment in networks.

6.21 For the reasons set out below and in respect of each of the specified access remedies, ComReg notes that only an obligation of access is capable of addressing the competition problems identified in the market analysis and there is no other less intrusive obligation available capable of achieving the same outcome.

6.22 In particular and in general terms, as noted in Section 5, ComReg does not consider that existing or potential competition would effectively constrain Eircom's market power within the next five years. On the contrary, access to Eircom's PI will continue to be necessary to support the rollout of VHCNs, including NBI's network deployment in the Intervention Area ('IA'), which is dependent upon the use of PI inputs from Eircom and allow further economically-efficient infrastructure-based competition. As set out in Section 4, as a vertically integrated undertaking with SMP in the Relevant PIA Market, Eircom self-supplies PI inputs for the provision of Wholesale Local Access ('WLA'), Wholesale Central Access ('WCA'), Wholesale High Quality Access ('WHQA') and retail services. Eircom has the ability and incentive to refuse to supply PI to Access Seekers, either actually or constructively, and to delay and prevent the development of sustainable infrastructure-based competition. There are likely to continue to be differences in bargaining power between Eircom and Access Seekers, particularly given the absence of widely available and appropriate alternative sources of supply within the timeframe of this review period. In this respect, imposing an obligation of access on Eircom in respect of its PI is necessary to ensure the development of sustainable and effective downstream competition and to minimise exploitative and/or foreclosure concerns that could arise absent regulation.



In ComReg's view there is no other obligation which would achieve the same outcome.

- 6.23 Access to Eircom's PIA is key to promoting sustainable competition through network rollout. Efficient network rollout is achieved by removing unnecessary network build costs. ComReg notes that the level of investment required by a third party to replicate Eircom's PIA in order to build a network is such as not to be economically viable. Eircom's PIA therefore is a bottleneck asset without access to which Access Seekers are unlikely to build their own Electronic Communications Networks ('**ECNs**') infrastructure, whether small-scale<sup>168</sup> or large-scale. The more network infrastructure an Access Seeker can self-supply, the more control it has over its product and service offerings, over its technology choices and product development, thereby enabling innovation and a better differentiation of product offerings in the downstream markets.
- 6.24 Against this background, ComReg proposes to maintain (subject to amendments and clarifications as discussed below) Eircom's existing obligations of access to CEI, and notes the following as regards the criteria listed in Regulation 12 of the Access Regulations/Regulation 55 of the ECC Regulations:
- (a) In terms of the technical and economic viability of using or installing competing facilities, given the barriers to entry in the Relevant PIA Market (related to control of infrastructure/resources not easily duplicated, economies of scale and scope), using or installing competing facilities to provide PIA is not likely to be economically feasible within the period of this review. There are accordingly significant issues arising for operators in terms of economic viability from using or installing competing facilities. Furthermore, given that access is to the physical infrastructure, no issue arises as regards expected technological evolution affecting network design and management and it is entirely consistent with the need to ensure technology neutrality enabling the parties to design and manage their networks;
  - (b) There is also no question as regards **the feasibility of providing access in relation to capacity** available. PIA products, services and facilities are currently provided by Eircom, and ComReg is not aware that there would be any material capacity constraints that would give rise to Eircom facing difficulties in meeting the proposed access obligations in the future. Eircom has signalled that it may

---

<sup>168</sup> For example, where an Access Seeker provide an end-user with a connection to its ECN.

proceed over the forthcoming years with switching off its copper network<sup>169</sup> which in ComReg's view could provide substantial capacity for Duct and Pole Access in the long term, if such an initiative (or similar initiative) is implemented;

- (c) ComReg also does not see that Eircom's (and its predecessors') **initial investment** in PI constitutes a reason not to impose an obligation of access and notes that Eircom benefitted for many years from protection from competition and that the price control proposed allows for a reasonable return on Eircom's investment;
- (d) By contrast, ComReg is of the view that an obligation of access is required having regard to **the need to safeguard competition** in the long term: Section 5 describes the competition problems which arise from Eircom's SMP and its ability and incentives to potentially engage in exploitative or exclusionary behaviours in the Relevant PIA Market absent regulation. Of particular concern is the risk of actual or constructive denial of access which could damage the development of sustainable competition in downstream wholesale and/or retail markets. Access to PI is critical to ensure competition in the long term;
- (e) **Intellectual property rights**, including in particular any rights of Eircom which may attach to the physical records for passive access containing spatial and non-spatial information of Eircom's physical infrastructure, are not a concern in the context of the provision of PIA products, services and facilities and ComReg does not consider this to constitute a reason not to oblige Eircom to provide such access;
- (f) ComReg considers that obligations to provide access to PI should facilitate the **provision of pan-European services** on the basis that ComReg's proposed approach is consistent with the policies of the European Commission and other NRAs. Consistent regulation of PIA across the EU will help to support a seamless provision of pan-European services by allowing SPs in other Member States to provide Electronic Communication Services ('ECS') in Ireland, including by using Eircom's PIA products, services and facilities potentially combined with other wholesale services, to compete within Ireland;
- (g) Finally, for the purpose of Regulation 55 of the ECC Regulations specifically (when effective), no issue of relevance arises in terms of the expected **technological evolution** affecting network design and

---

<sup>169</sup> [https://www.openeir.ie/wp-content/uploads/2021/03/White-paper\\_Leaving-a-Legacy.pdf](https://www.openeir.ie/wp-content/uploads/2021/03/White-paper_Leaving-a-Legacy.pdf).

management from a PIA perspective, and PIA is entirely consistent, and supports, the need to ensure **technology neutrality** enabling parties to design and manage their own networks.

- 6.25 Accordingly, it is necessary, proportionate and justified to impose on Eircom an obligation of access pursuant to Regulation 12 of the Access Regulations/Regulation 55 of the ECC Regulations.
- 6.26 As discussed below, ComReg proposes, in addition to an obligation to meet reasonable requests for access under Regulation 12(1) of the Access Regulations/Regulation 55(1) of the ECC Regulations, to require Eircom to provide specified forms of access under Regulation 12(2)(a) of the Access Regulations/Regulation 55(2)(a) of the ECC Regulations, an obligation to negotiate in good faith under Regulation 12(2)(b) of the Access Regulations/Regulation 55(2)(c) of the ECC Regulations, an obligation not to withdraw access to facilities already granted under Regulation 12(2)(c) of the Access Regulations/Regulation 55(2)(d) of the ECC Regulations, an obligation to provide PI Co-location and other forms of associated facilities sharing under Regulation 12(2)(f) of the Access Regulations/Regulation 55(2)(g) of the ECC Regulations and an obligation to provide access to operational support systems or similar software systems under Regulation 12(2)(h) of the Access Regulations/Regulation 55(2)(f) of the ECC Regulations. ComReg also proposes to attach to those obligations conditions in order to ensure fairness, reasonableness and timeliness of access.
- 6.27 In designing the obligation of access which ComReg proposes to impose on Eircom, ComReg notes that there are several ways in which, although no outright refusal of access might arise, access is constructively denied through delays, reduced interoperability, unfit product design, or unwarranted requirements in respect of work practices or processes.
- 6.28 For the avoidance of doubt, the obligation of Access is to benefit any authorised operator availing of access in connection with the provision of an ECN and ECS, regardless of the nature of the ECN (access and core networks) or ECS (and which may include without limitation broadband, broadband enabled services (e.g., IPTV, VOIP), leased lines and fronthaul/backhaul for fixed and mobile services, and inter-connecting co-located equipment). Use of PIA will likely involve the installation of cables into ducts and onto poles to create an ECN which will support multiple downstream services in several markets.
- 6.29 Artificial restrictions on the use of PIA could deter downstream market entry and thus weaken competition by artificially reducing economies of scale thereby raising effective costs of use by Access Seekers. In order that

Access Seekers can compete effectively, they need to be able to match Eircom's economies of scale and scope. Network rollout by Access Seekers allows them to replace wholesale access product inputs with self-supplied inputs potentially allowing them to offer further differentiated services in downstream markets. If the range of services that Access Seekers can offer using PIA inputs is unreasonably restricted, an Access Seeker may be unable to fully utilise its network investment to provide all the ECS that their ECN is technically capable of delivering. Therefore, the Access Seekers' network investment case will not be maximized.

6.30 Artificial and unnecessary restrictions have the effect of discouraging network investment, with subsequent negative consequences for competition and the products and services offered to end-users. Any authorised operator may avail of PIA in connection with the provision and maintenance of ECN(s) and ECS. Access Seekers should not be restricted from using PIA for network rollout and for the purposes of providing services, over an ECN(s).

6.31 Details of the proposed obligations are set out below.

#### **6.4.2 Obligation to meet reasonable requests for access**

6.32 On the basis that access to Eircom's PI is necessary to ensure the development of sustainable and effective downstream competition and to minimise exploitative and/or foreclosure concerns arising from Eircom's position of SMP, ComReg proposes to impose on Eircom an obligation to meet reasonable requests for Access, as provided for under Regulation 12 of the Access Regulations/Regulation 55 of the ECC Regulations.

6.33 There are a number of corollaries to the obligation to meet reasonable requests for Access. First, that any refusal or partial refusal of Access must be objectively justified; second, that Access already granted ought not to be withdrawn; and third, that negotiations for Access must be conducted in good faith.

#### **Justification for refusal to grant of Access limited to objective criteria**

6.34 The obligation on Eircom to meet reasonable requests for Access means that Eircom may only deny requests that are not reasonable. In practice, ComReg expects that circumstances giving rise to a legitimate denial of Access would be exceptional and limited to those situations where objectively, it is not technically feasible to meet the request for Access, or there are concerns regarding the protection of Eircom's network integrity which may not be mitigated otherwise than through denying Access. This is consistent with the Code which states at Recital 191 that:

*“...[access] requests should only be refused on the basis of objective criteria such as technical feasibility or the need to maintain network integrity.”*

6.35 ComReg notes in this regard that in considering whether requests for Access are reasonable, in addition to ascertaining where necessary the technical feasibility of the requests, Eircom may, negotiating in good faith (refer to paragraphs 6.49 to 6.51), set out those terms and conditions that it proposes to attach to the product or features required to meet the Access request, having regard also to the requirements which ComReg proposes to impose in respect of fairness, reasonableness and timeliness of Access.

6.36 Once a form of Access is reasonable, and a product is made available, there is no basis to decline or refuse orders for Access which meet the reasonable terms and conditions associated with the product concerned.

### **Network remediation**

6.37 The obligation on Eircom to meet reasonable requests for Access to its PI also means, at a fundamental level, an obligation on Eircom to provide Access by way of products that are usable by Access Seekers. In Section 6.5 below, ComReg proposes to impose an obligation of non-discrimination on Eircom in relation to access to its PI. As Eircom may need to remediate its PI when installing sub-duct and cable for its own use, this in turn may require that Eircom remediates the PI assets to be accessed, where and as necessary. In that regard a requirement for remediation does not, in and of itself, constitute an objective reason for refusal for Access.

6.38 The level of network remediation that Eircom may be required to undertake is that as required to re-condition the PI to a usable state in order that an Access Seeker can use the PI to deploy its ECN. In the case of access to Eircom’s poles, remediation may include activities such as pole replacement, pole straightening, heavy tree trimming and removal of vegetation from poles. In the case of access to Eircom’s ducts or sub-ducts, remediation may involve rebuilding chambers, replacing damaged chamber lids and repairing ducts.

### **Cable removal**

6.39 Capacity or congestion issues will also not constitute an objective reason for refusing Access where the issue may be addressed by removing redundant cables and enclosures<sup>170</sup> in a duct (including lead-in duct)<sup>171</sup> where removal is technically feasible (namely, save for those circumstances where removal

---

<sup>170</sup> For example, an enclosure which contains a cable joint and installed in a chamber.

<sup>171</sup> A lead-in duct is a duct connecting a chamber to an end-user’s premises or service termination point.

of a redundant cable is likely to damage existing cables in a duct) or by removing redundant cables, closures and equipment from poles. This means that Eircom may not refuse to meet a PIA order on the basis that there is no capacity available where there are redundant cables which may be removed, and in such circumstances, Eircom is required, on receipt of a PIA order, to remove the redundant cable(s).

### Network Integrity

- 6.40 As a matter of general principle, Eircom may specify objectively justified reasonable terms and conditions governing access to PIA in order to safeguard network integrity. However, any requirements in respect of PIA imposed by Eircom on Access Seekers with the view to ensuring that the integrity of the Eircom network is adequately protected, such as accreditation, audits and supervision requirements, must be reasonable, proportionate and non-discriminatory by reference to the task concerned and the circumstances pertaining to the Access. In particular, ComReg does not object to transparent supervision requirements which are fully justified and proportionate to the risks arising and applied in such a manner that they do not result in unjustifiable impediments to the work of Access Seekers or inefficiencies or unnecessary overheads for Access Seekers.
- 6.41 In that regard, ComReg sees no reason for any accreditation requirements imposed by Eircom in respect of PIA to be more onerous than the requirements applied by Eircom in respect of its own staff or agents with respect to the use of PI. Furthermore, supervision requirements should be limited to what is appropriate and necessary in the circumstances. Any supervision should be carried out in a manner that is fair, reasonable and timely.
- 6.42 In particular, and unless the task involves work that presents a material risk to national security, public safety or public health, or work that presents, taking into account the nature of the work, a serious risk to the integrity of Eircom's network due to the location of the PI concerned in Eircom's network including the proximity of the PI to network equipment that is critical to the functioning of Eircom's overall network, any supervision requirements must be applied in such a way that they do not have the effect of delaying or preventing Access Seekers from commencing or continuing work in the absence of an Eircom supervisor. This would include, among others, the following activities:
- (a) Sub-Duct installation in Eircom duct by Access Seekers or their contractors;

- (b) Installation of fibre cables in duct without the use of a sub-duct, including installation of a drop cable(s) (where permitted);
- (c) Core drill break-in to Eircom chambers;
- (d) Dig down by Access Seekers to buried Eircom chambers;
- (e) Any civils work carried out on Eircom plant by an Access Seeker in connection with installing a sub-duct, including unblocking of ducts.
- (f) Fleeting of Access Seekers' cable(s).

6.43 Where Eircom imposes supervision requirements, such requirements should not operate in such a way that they lead to delays or inefficiencies or unnecessary overheads for the Access Seekers concerned. In order to ensure that this is the case, any such requirement should be accompanied by an SLA making provision for service credits<sup>172</sup> that adequately incentivise Eircom to deliver an efficient level of performance in respect of supervised Access and allow Access Seekers to recoup, at a minimum, the direct costs and any other reasonable loss of value incurred as a result of the circumstances that had triggered the payment of service credits. This, in ComReg's view, strikes the right balance between protecting Eircom's right to take appropriate measures to protect the integrity of its network and granting Access Seekers effective access to PI.

#### Reasons to be given

6.44 In order to ensure clarity as regards the scope of Eircom's obligation to meet reasonable requests for Access and to limit the possibility of misunderstanding and disputes between Eircom and Access Seekers, the reasons on which Eircom relies in refusing Access (whether partial or in full) must be communicated in writing to the Access Seeker concerned in sufficient detail to allow the Access Seeker to understand the reasoning for the refusal within 1 month of receipt of the Access request.

6.45 Furthermore, with the view to facilitating monitoring by ComReg of compliance by Eircom with its obligation of Access, ComReg proposes that Eircom provides ComReg on a quarterly basis with the list of all requests for Access by way of new products or amendments to existing products received from any Access Seeker which have been accepted or refused/declined within the quarter, in each case together with the reasons refusing declining to meet the request for Access.

---

<sup>172</sup> that is, a financial compensation payable by Eircom.

### **6.4.3 Requirement not to withdraw Access to facilities already granted**

- 6.46 Given that access to Eircom's PI is found to be necessary to address the competition problems arising from Eircom's position of SMP, once granted, there ought to be no reason for withdrawal. However, ComReg does not believe that it would be proportionate to require Eircom to maintain access to facilities once granted in all cases and regardless of the specific circumstances at hand. Instead, ComReg proposes that Eircom must seek ComReg's prior approval before any withdrawal of Access. ComReg considers that the proposed remedy will promote regulatory certainty for all parties without unduly restricting investment incentives.
- 6.47 More specifically, ComReg proposes that Eircom is required to notify ComReg, in writing, of any proposal to withdraw Access to facilities already granted, giving reasons borne out of a detailed analysis of the proposed Access withdrawal, to include the impact that the withdrawal of Access is likely to have on existing PI purchasers and end-users.
- 6.48 Where Eircom proposes to withdraw access, ComReg may consult with relevant parties, prior to making a decision on whether to grant or to withhold its approval to any such request.

### **6.4.4 Requirement to negotiate in good faith**

- 6.49 Absent regulation, Eircom has the ability and incentive to expressly or constructively refuse to provide PIA and therefore an obligation to negotiate in good faith regarding requests for Access (including for improvements, variations or other amendments to an existing product) makes it more difficult for Eircom to do so. The obligation will also somewhat address imbalances between the bargaining powers of the respective parties in the negotiation process by reducing incentives to unnecessarily prolong negotiations. Negotiating in good faith includes, in this regard, Eircom assisting Access Seekers in formulating, for instance, technical aspects and specifications of their requests for Access, in light of its knowledge and expertise of its own network and systems.
- 6.50 ComReg notes that the obligation to negotiate in good faith encompasses the way in which Eircom conducts the negotiations as well as the positions that it takes in them. In investigating an allegation of a failure to negotiate in good faith, ComReg might draw inferences from Eircom's behaviour and from the adequacy of the processes and controls it has put in place to assure compliance with this obligation. For example, ComReg might draw adverse inferences from the following:



- (a) a failure on the part of Eircom to behave in the way that a willing seller would behave when negotiating with a willing buyer;
- (b) a failure by Eircom to respond to proposals made by Access Seekers in a timely and constructive manner;
- (c) a failure by Eircom to deploy participants in the negotiations who have the appropriate knowledge and authority, so that negotiations could proceed in a timely manner;
- (d) the absence of effective controls to ensure that decision-making processes within Eircom in relation to the negotiations could not be influenced by concerns about the commercial impact on Eircom's downstream business; and
- (e) the presence of incentives for individuals within Eircom who participated in or influenced the negotiations that might lead them to receive greater financial or other benefits if the negotiations were to be delayed, or to result in an outcome other than that which might have been freely negotiated between a willing buyer and a willing seller.

6.51 The precise nature of any investigation and the degree to which inferences might be drawn from behaviour would need to be assessed in the context of the actual circumstances of any particular case.

#### **6.4.5 Access to Eircom's Operational Support Systems ('OSS')**

6.52 ComReg proposes that Eircom provide Access Seekers with access to its OSS bearing in mind the requirement that Eircom provides PIA using the same systems and processes it uses for its own purposes (refer to subsection 6.5 below).

6.53 An Access Seeker requires Access to Eircom's OSS (or similar software systems) for the purpose of PIA ordering, provisioning, repair (including service assurance) and in-service management. Access to OSS (or similar software systems) is, therefore, essential, to the effectiveness and efficiency of the operational aspects of the supply of the wholesale PIA products, services and associated facilities that are used as inputs to the supply of service(s) to end-users.

## 6.4.6 Specified forms of access

### Overview

- 6.54 In addition to the general obligation to meet reasonable requests for Access to PIA products, services and associated facilities, ComReg proposes to impose access requirements upon Eircom to provide a specific range of products, services and associated facilities. The details of those access remedies are described below.
- 6.55 For the avoidance of doubt, ComReg's proposed access obligations do not preclude Eircom developing, or Access Seekers requesting, additional functionality or features, in accordance with Eircom's obligation to meet reasonable requests for Access, as set out above. In doing so, Eircom will act in a non-discriminatory manner in line with the obligations proposed in Section 6.5 of this Consultation.
- 6.56 ComReg proposes that Eircom is required to provide access to the PIA products specified below:
- (a) Pole Access;
  - (b) Access to Eircom's duct network including:
    - (i) Duct Access;
    - (ii) Sub-Duct Access;
    - (iii) Direct Duct Access;
  - (c) Where PIA is not available, Dark Fibre where reasonably available;
  - (d) Associated facilities including:
    - (i) Access to Chambers;
    - (ii) Ingress and Egress points;
    - (iii) Access to Passive Access Records;
    - (iv) PI Co-location;
    - (v) Co-location Resource Sharing;
    - (vi) Co-location Rack Interconnection;
    - (vii) PI Tie Connection Service between the Co-location space/ rack and the Ingress and Egress points;

6.57 They are considered in turn below.

### Access to the Eircom Pole Network

6.58 ComReg proposes that Eircom continues to be required to offer access to its pole network by way of Pole Access.

6.59 Pole Access is the installation, by the Access Seeker, of a cable(s) and associated equipment onto Eircom poles.

### Access to the Eircom Duct Network

6.60 ComReg proposes that Eircom continues to offer access to its duct network by way of Duct Access, Sub-Duct Access and Direct Duct Access, as further described below.

### Duct Access

6.61 Duct Access is the installation of a sub-duct (single-core or multi-core),<sup>173</sup> by the Access Seeker, into an Eircom duct<sup>174</sup> in order to allow an Access Seekers to install its cables in the sub-duct.

6.62 The clearance of blockages, due to for example a build-up of material such as silt in the duct, is an integral part of installing sub-ducts into ducts and Eircom has described blockage clearance as "*part of the rod, rope and test procedure to prepare a route*".<sup>175</sup> In terms of the party to undertake such clearances, ComReg notes that placing responsibility for clearance solely on Eircom means that Access Seekers' rollout may become overly dependent on timely intervention from Eircom, including in respect of tasks (such as desilting) which may not require a halt to works if undertaken by the Access Seeker installing sub-ducts; on the other hand requiring Access Seekers to clear all blockages regardless of the works required may place an undue burden on them, and limit effective Access to Eircom's PI network for Access Seekers with limited civil engineering resources.

---

<sup>173</sup> A group of Sub-Ducts surrounded by an outer plastic membrane. For example, a 3-way Sub-Duct is a bundle of three Sub-Ducts surrounded by an outer plastic membrane.

<sup>174</sup> Duct is typically underground but may also be overground (e.g., duct attached to the structure of a bridge).

<sup>175</sup> ComReg 21/60R, paragraph 23, page 12.

- 6.63 ComReg Direction 21/60R of 8 June 2021, corrected on 8 October 2021,<sup>176</sup> requires Eircom to make available a Sub-Duct Self-Install Duct Access product, whereby Access Seekers install by themselves sub-ducts into Eircom's ducts and for that purpose unblock the ducts as needed, save that in those circumstances where unblocking requires repair to the duct, the unblocking is to be undertaken by Eircom. Repair in that context involves the following:
- (a) Activities required to remediate a duct's structure where damage to the duct's structure has the effect of preventing an Access Seeker installing its sub-duct into the Eircom duct;
  - (b) Civil works, including in particular duct excavation and opening activities, required to clear a blockage that cannot be cleared otherwise where that blockage is preventing an Access Seeker from installing its sub-duct into the Eircom duct.
- 6.64 ComReg Direction 21/60R reflects ComReg's position that it is appropriate and efficient that the Access Seeker clears blockages that do not require repair, that is, blockages where the structure of the duct has not been compromised in any way and can be cleared without a need to excavate and open the duct. In particular, a duct is in need of repair where for example the structure of the duct is compromised or where the duct may need to be excavated and opened to clear a blockage that cannot otherwise be cleared, in order that an Access Seeker is able to install its sub-duct. The activity to repair a duct will be performed by Eircom in instances where an Access Seeker requests such repair to be carried out. The absence of the repair of the duct would limit effective Access to Eircom's PI network for Access Seekers with limited civil engineering resources.
- 6.65 However, the distinction drawn in Direction 21/60R between blockages that do not constitute repair to be carried out by Access Seekers, and blockages that do require repairs to be carried out by Eircom, does not mean that such a product is the only form of Duct Access which Eircom may be required to provide.
- 6.66 ComReg notes in this regard that there is demand for Duct Access whereby unblocking, regardless of whether it constitutes repair or not within the

---

<sup>176</sup> Direction ComReg 21/60R is under appeal before the High Court and judgment is awaited. See Information Notice 21/142 of 22 December 2021 and Information Notice ComReg 22/12 of 23 February 2022. As set out in Information Notice ComReg 22/12, pending the determination of the appeal, Eircom has agreed to offer to Access Seekers the version of the Sub-Duct Self-Install Duct Access product that it notified to ComReg on 30 July 2021, whereby Access Seekers carry out at their own cost unblocking of Ducts where unblocking does not require repair (as per the definition of repair in the Direction).

meaning of ComReg Direction 21/60R, is carried out by the Access Seeker. NBI in particular has brought to ComReg for resolution, a dispute with Eircom concerned with NBI's request for the development of an appropriate duct blockage clearance and repair process when availing of Duct Access.<sup>177</sup>

- 6.67 To support efficient network deployment, an Access Seeker may wish to undertake the required repairs of Eircom ducts, on behalf of Eircom, when blockages are encountered during the installation of its sub-duct. An Access Seeker, with accredited civil engineering resources, could thus obtain operational efficiency by retaining control of the end-to-end installation of the sub-duct, including repair of the Eircom duct, thereby avoiding potential delays in the rollout of its network. This involves liaising directly with the local authority to obtain the necessary licences to open the road/footpath thus eliminating the additional process step of handing over the blockages to Eircom to resolve. This would provide the Access Seeker with the confidence to roll out its network on time and within budget.
- 6.68 ComReg believes accordingly that it is necessary and appropriate to require Eircom to offer, in addition to Sub-Duct Self-Install Duct Access, a Duct Access product whereby all remediation is undertaken by the Access Seeker (subject to reasonable terms and conditions). ComReg proposes to allow Eircom up to seven months to make this product available to Access Seekers from the effective date of the final Decision (including a prior notification period of one month to ComReg), without prejudice to any Access requests currently being progressed under the 2018 WLA Market Decision.

### **Sub-Duct Access**

- 6.69 ComReg proposes that Eircom continues to be required to offer Sub-Duct Access. Sub-Duct Access allows an Access Seeker to install its cable in an Eircom sub-duct between ingress and egress points.
- 6.70 Inefficient use of duct network infrastructure, for example installing new sub-ducts on a duct route where spare sub-duct capacity is available, could result in increased costs for Access Seekers. Requiring that Eircom provides access to sub-ducts where there is spare capacity (both where a sub-duct is available or can be decongested) allows for efficient use of duct network resources and is ultimately to the benefit of end-users. Furthermore, access to sub-ducts provided at the ingress/egress points (including multi-core sub-duct) of the Access Seeker's choice avoids inefficient use of existing duct capacity and higher build and duct rental cost for Access Seekers arising from avoidable installation of additional sub-duct and fibre. This means also that

---

<sup>177</sup> See Draft determination of a dispute between NBI and Eircom, ComReg 22/80, 28 September 2022.

there should be no restrictions to creating a new cable joint<sup>178</sup> along an existing sub-duct route.<sup>179</sup>

- 6.71 Sub-Duct Access means that the Access Seeker's cable is installed in a sub-duct between an ingress and an egress point. ComReg proposes that an option should be offered to Access Seekers, to have a new sub-duct installed including where there is spare capacity. This means that Eircom is required to provide for the following two options for Sub-Duct Access:
- (a) Eircom controlled Sub-Duct, whereby either Eircom installs a new sub-duct (e.g. single-core, 3-core or 7-core) between the ingress and egress points, or Eircom assigns an existing Eircom controlled Sub-Duct to the Access Seeker (noting this may involve Eircom cutting into the Eircom sub-duct to create the requested ingress and/or egress points at accessible chambers). At the request of the Access Seeker, Eircom will cut into this sub-duct at an accessible chamber to allow the Access Seeker to create additional ingress/egress points for connections to the Access Seeker's ECN;
  - (b) Access Seeker controlled Sub-Duct, whereby a new sub-duct is installed by Eircom at the request of the Access Seeker between the ingress and egress points, regardless of whether a spare sub-duct is available in a multi-core sub-duct. The Access Seeker can cut into the sub-duct at an accessible chamber to create additional ingress/egress points for connections to its ECN.
- 6.72 ComReg notes in this regard that no technical issues arise from providing access to existing spare sub-duct in a bundle of sub-ducts, known as a multi-core sub-duct bundle, including where a multi-core sub-duct contain cables providing ECS. In particular, multi-core sub-duct bundles are specifically designed to enable network operators to have access to each sub-duct individually. A technician can remove the outer protective plastic membrane of the multi-core sub-duct bundle to reveal the individual sub-ducts. Each sub-duct is labelled by colour coding or is translucent, which reduces the risk of a technician cutting into the incorrect sub-duct. This means that an Access Seeker may request Eircom to create a new ingress/egress point, at an accessible chamber, to access its cable, whether or not multi-core sub-duct Coupling Points have been installed.

---

<sup>178</sup> For example, an Access Seeker who installs a 96-fibre cable on a route it may wish to cut the outer protective layer of the cable, at an accessible chamber, in order to access a spare fibre pair. This fibre pair may then be jointed to another fibre cable to provide an ECS to the Access Seeker's customer.

<sup>179</sup> For example, to provide an ECS to a business customer.

## Direct Duct Access

- 6.73 ComReg proposes that Eircom continues to be required to offer access to Direct Duct Access. Direct Duct Access involves the installation by an Access Seeker of a fibre cable in an Eircom duct without using a sub-duct. ComReg recognises, and accepts as a matter of general principle, Eircom's policy that fibre optic cables ought to be installed within a protective sub-duct so as to minimise the risk of damage to existing cables as a result of drawing in new cables into conduits. However, ComReg also notes that Eircom does accommodate within this policy instances where fibre cables are installed directly into a duct without a sub-duct. In order that Access Seekers get the full benefit of access to PI, requiring Eircom to allow Direct Duct Access is necessary and justified in specific circumstances, namely where the space available (on either the entire duct route or a portion of a duct route) is not sufficient to accommodate a sub-duct, or in the case of lead-in ducts, that is, ducts connecting a chamber to an end-user's premises or service termination points.<sup>180</sup> ComReg notes in this regard that it is Eircom's practice to install its cable into the lead-in duct without using a sub-duct and the adjoining section of distribution duct where the cable connects to its FTTH Distribution Point ('DP').
- 6.74 Where Direct Duct Access is availed of, ComReg considers that there should be no restrictions as regards the type of cable to be installed, including in particular as regards the capacity of the cable to be installed in the lead-in duct. For example, an Access Seeker may choose to install a single or dual fibre pair cable to a residential end-user's premises and a 12-fibre cable to a business end-user's premises in order to deliver multiple fibre-based services. In the latter example, it is more efficient (from a duct capacity perspective) and cost effective to install a single 12-fibre cable than multiple single fibre pair cables.

## Access to Dark Fibre

- 6.75 ComReg proposes that Eircom continues to be required to offer access to its Dark Fibre (where 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. In that case, where Access to PI is not available, ComReg proposes that Eircom offer Dark Fibre access, where Dark Fibre is available, as an alternative to PIA, and further, that in such a case, the Access Seeker may require access to Eircom's Dark Fibre for the entirety of the duct or pole route or just a portion in order that the

---

<sup>180</sup> Including business premises and street furniture (e.g. traffic lights, CCTV poles).

Access Seeker can, as the case may be, minimise the number of joints in a duct or pole route.

- 6.76 ComReg also proposes that if the rod rope and test activity reveals that the duct infrastructure is damaged/blocked and an Access Seeker could incur a cost for duct network remediation (i.e. cost above the proposed threshold of €11,000 per km, as outlined in subsection 7.7.6 below) then Eircom will:
- (a) inform the Access Seeker of the cost it will incur if it authorises Eircom to proceed with the duct remediation; and
  - (b) where Dark Fibre is available, offer access to its existing Dark Fibre.

Given this information, the Access Seeker can choose to avail of Dark Fibre (where available) or incur the cost of duct remediation to obtain PIA or cancel its PIA order.

- 6.77 ComReg does not believe that it would be justified and proportionate to require Eircom to provide Dark Fibre access in all circumstances and notes that it could act as a disincentive to Access Seekers to build their own network infrastructure, thereby undermining the goal of infrastructure competition.

- 6.78 Currently the maximum annual rental prices for Dark Fibre are set out in Table 16 of the ANM Decision and remain in place for the duration of the 2018 WLA Market Decision (ComReg Decision D10/18). In this PIA Consultation, ComReg proposes that a cost orientation obligation should continue to apply to Dark Fibre, and for that purpose we do not currently see any reason why Eircom should not continue to apply the prices from the ANM Decision. However, the onus remains on Eircom to ensure its prices are cost oriented and so it may propose an alternative cost oriented price for Dark Fibre, which would have to be notified and published in line with the standard transparency obligations. Also, ComReg may, in accordance with Regulation 13(4) of the Access Regulations/Regulation 56(6) of the ECC Regulations, require Eircom, subject to its cost-orientation price control, to provide justification for the basis for its prices and may, where appropriate, require the prices to be adjusted.

### Access to Chambers

- 6.79 ComReg proposes that Eircom continues to be required to offer access to chambers. Access to Eircom's duct network is via Eircom's exchanges and the network of underground utility boxes ('**UUBs**') known as chambers or joint boxes. Access Seekers require access to all such chambers between a Main Distribution Frame ('**MDF**')/Optical Distribution Frame ('**ODF**') in an exchange and the customer premises, regardless of their exact location. This includes



chambers located within the exchange building footprint (**'exchange chamber'**), that is, a chamber located, in whole or in part, under an exchange, noting that there may be more than one exchange chamber at an exchange in order that an Access Seeker's cables/sub-duct can transit through and/or across a chamber. Access to chambers enables an Access Seeker to access ducts, install or access the sub-ducts, equipment and cables in order to conduct all activities associated with the installation, operation and maintenance of a network including surveying, splicing, jointing, cable fleeting, pull through of cable, distribution, fault localisation and repairs.

- 6.80 Without access to chambers, Access Seekers will not be in the position to undertake works associated with the installation, operation and maintenance of an ECN. Without access to chambers, survey and installation tasks could not be carried out by the Access Seeker; furthermore, maintenance and repair tasks could be more cumbersome and time consuming, and therefore expensive. For example, in the event of a service outage due to duct damage, restoring services to customers as soon as possible may require implementing a temporary or permanent fibre bridge which may require access to several chambers on a duct route, which will avoid unnecessary replacement of cable for complete sub-duct routes. Access to chambers is accordingly necessary to ensure effective access to, and use of, the Eircom duct network.
- 6.81 Access to chambers may also be required for the purpose of installing an optical splitter and/or other passive network equipment, where physical space is available in the chamber.

### **Access to Ingress and Egress points**

- 6.82 ComReg proposes that Eircom continues to be required to offer access to ingress and egress points. An ingress point is the point on Eircom's PI where the Access Seekers gains access to Eircom's PI. Depending on the form of access concerned, it may be the point where an Access Seeker's cable enters the Eircom sub-duct, duct or chamber, or the Access Seeker's sub-duct enters the Eircom duct or chamber, or the first pole used by the Access Seeker on an aerial route. An egress point is the point on Eircom's PI, where the Access Seeker's infrastructure exits Eircom's infrastructure. In the case of Direct Duct Access and Sub-Duct Access, it is the point where the Access Seeker's cable exits the Eircom sub-duct, duct or chamber. In the case of Duct Access, the point where the Access Seeker's sub-duct exits the Eircom duct, and in the case of Pole Access, the last pole to be used by the Access Seeker on an aerial route.

- 6.83 Access to PI ingress and egress points means access from a chamber or pole to another chamber or pole on Eircom's PI to allow an Access Seeker to build and maintain its ECN. It is an intrinsic aspect of PIA without which there can be no access to the pole or duct networks.
- 6.84 The precise location of where access is granted can have a material impact on an Access Seeker's rollout costs and its ability to innovate and differentiate its product offerings based on its own network topology and deployment. For example, an Access Seeker may only require access to relatively short segments of Eircom's duct infrastructure route to connect the end-user to the Access Seeker's network. Unless the Access Seeker can nominate the points of ingress and egress, it may have to use more duct than is necessary. This would result in unnecessary additional costs and network infrastructure.
- 6.85 ComReg accordingly is of the view that Eircom should be required to allow Access Seekers nominate the points of ingress and egress from which it wishes to access Eircom's PIA and not limit the chambers from where ingress/egress are available, or limit ingress and egress to points of its own choosing. For the avoidance of doubt, this does not extend to an obligation on the part of Eircom to install new chambers or poles to provide additional ingress or egress points. However, ingress and egress should be made available at all existing chambers, ducts, poles and sub-ducts (including sub-duct in multi-core sub-duct).

## Access to Passive Access Records ('PAR')

### PAR Information

- 6.86 In simple terms PI consists of real-world entities including, *inter alia*, underground and aerial routes, ducts, sub-ducts, fibre cables, copper cables, chambers, fibre Distribution Points ('**DPs**'), copper DPs, sub-duct couplings, poles, cabinets, exchange boundaries and exchange buildings. Information on their characteristics, properties and utilisation constitutes PAR information.
- 6.87 There are two broad categories of PAR information: spatial information (i.e., the location of the entity) and non-spatial information (e.g., unique identifier, specification, dates, Work Order reference etc.) which can be further subdivided to include containment, connectivity, and attribute data. ComReg proposes to require that Eircom provide access to all available categories and sub-categories of PAR information including without limitation location, containment, connectivity, and attribute data:

- (a) Location information identifies where the PI is located. The combination of co-ordinate information and the co-ordinate reference system (e.g., the longitude and latitude) provides the location information. There are several co-ordinate reference systems that are used, but they all have a common purpose to identify a specific location. Once the detail of the co-ordinate reference system is provided with required co-ordinate information then the location PI can be determined;
- (b) Containment information provides information regarding what is contained within an entity e.g., such as which sub-duct bores/tubes contains which fibre cables, which ducts contains which sub-ducts and the equipment in chambers. The basic building blocks of underground PI are ducts, sub-ducts, and chambers. The underground PI network is essentially the combination of the chambers, ducts, and sub-ducts. Typically, a fibre optic cable is contained with a sub-duct, a sub-duct is contained in duct, and duct(s) is contained within a trench;
- (c) Connectivity information provides information regarding, for example, which ducts, sub-duct (bores) is connected or not, and how (e.g., whether sub-ducts are cut (terminated), straight through, or bypass the chamber and the adapters that are used to connect sub-ducts).
- (d) Attribute information is descriptive information such as the unique identifier of the PI, and properties (specification, status information (e.g., in-service, proposed), date information, route length, dimensions, fibre cable strand count, design reference information, trench surface type, related documents, labels, indices that enables relationships between the data to be maintained or created).

6.88 All such information constitutes PAR, irrespective of its accuracy, the use that Eircom makes of it or the relevance that Eircom attaches to certain aspects of PAR. PAR includes without limitation all available records, stored in Eircom's information systems (e.g. Smallworld or similar system) and other Eircom systems, information stored on third party systems such as sub-contractors or managed partners systems, and duct/fibre survey information stored in paper or electronic form such as photographs, 'As Built' material attached/linked to Work Orders (not stored on its Geographical Information Systems ('GIS')) and photographs.

6.89 For the avoidance of doubt, PAR include the PI photographs that are taken in the context of, or for the purposes of, surveying, installation, or remediating PI.

## Effective Access

- 6.90 Access to PAR is critical to ensure effective PIA. PAR information is in particular a critical input to the planning and design stages of infrastructure-based projects such as FTTX network rollout to end-users for wholesale and retail broadband services, provision of leased lines and backhaul and/or fronthaul services for wireless/mobile networks. Depending on the project type, the scope of the planning and design required will be different, but the common input to the planning and design stages for each type of infrastructure-based project is the PAR information. Without efficient and timely access to detailed, up-to-date PAR information, it is extremely difficult to plan, design and deploy a network that uses existing PI.
- 6.91 Efficient and timely access to PAR is concerned not only with the making available of PAR but also the manner in which it is made available.
- 6.92 ComReg notes in this regard that in order that existing PI may be reused in the context of an FTTX rollout, information on the existing network location, infrastructure type or available capacity, is required in order that the proposed network can be modelled, and the business case assessed. This includes location, attribute information, connectivity, and containment information. For example, using the PAR information to obtain a cross-sectional representation of an underground trench reveals the relationship between physical infrastructure network components and whether for instance there is spare capacity available. Similarly, information on whether there are subducts or cables passing through the chamber, splicing enclosures, fibre DPs etc., in the chamber is an indicator of whether a particular chamber or chambers are at capacity or approaching capacity.
- 6.93 In order that network modelling can be done efficiently, access to PAR information in a format that can be imported/loaded into a modelling/design tool is essential to the business case planning and network planning and thereby, the Access Seeker's analysis and decision-making process. In this regard, PAR information is a key input to the numerous business and engineering decisions that are required to progress infrastructure-based projects, including the design stage.
- 6.94 A typical network design process starts with gathering the PAR information and other relevant information that will be required both at the High-Level-Design ('HLD') stage and the Low-Level-Design ('LLD') stage. Network design engineers will, using available PAR information, first complete their HLD for their demand points/premises in scope for a local footprint to meet the business requirements such as the average cost per demand point/premises passed. Based on the PAR information available, including

dates as regards last time the PI was accessed, validation prior to LLD completion may then be required using survey information, and/or a rod, rope, and test. If the results of the survey and duct testing indicates that an underground duct route has been compromised, the network design may be altered to use a different underground route or remediation (e.g., repair) of the duct required.

- 6.95 In order that PAR information is capable of use in the above context, it must be available in such a format that it can be applied and used, in the same way as by Eircom, in the Access Seeker's chosen design/planning tools. ComReg is of the view that making PAR available by way of a digital map in a format such as PNG/JPEG displayed on a web client (e.g., a browser Safari/Chrome) through a gateway to PI inventory/GIS does not provide effective PAR access. This is because digital maps of the physical infrastructure in a selected area have significant limitations as data queries (e.g., attribute queries using a Structured Query Language ('SQL')) cannot be executed on bitmap images or similar and they do not provide access to the full set of PAR attributes. This means that completing tasks such as network analysis to determine shortest routes, least-cost routes, service area analysis etc., are not viable with digital maps. Instead, access to the repositories of the PI inventory information (data sets) is required for these functions.
- 6.96 Furthermore, Eircom should ensure that the available PAR is effective and accessible. This means ensuring that individual PAR information is uniquely identifiable by reference to location, Object ID and date. ComReg proposes that the obligation to reference photographs apply both to photographs submitted to Eircom or created by Eircom.
- 6.97 ComReg does not propose to require referencing on a retrospective basis to historical photographs but all existing photographs and existing photograph metadata should be provided in the current format.
- 6.98 In order to ensure effective Access to PAR, ComReg accordingly is of the view that it is necessary to require that Eircom:
- (a) Provide Access to all available PAR information.
  - (b) Ensure that Access Seekers may select geographical area(s) via the user application client so that PAR information can be exported in real time (for the avoidance of doubt, this includes all PAR information including containment information for the selected geographical area).

- (c) Ensure that any PI photographs created or submitted following the final decision are catalogued and indexed, for instance by unique Object identifier ID,<sup>181</sup> and geographic co-ordinates and date.

- 6.99 In alignment with the proposed non-discrimination obligations, Access Seekers when accessing Eircom's Geographical Information System must have access to all features and functionality that Eircom uses for its own purposes.
- 6.100 ComReg engaged technical advisors to conduct a technical assessment and to estimate the efforts involved and their advice is set out in Annex 4: . In summary, ComReg is satisfied that the burden of providing Access to the PAR information and meeting the proposed process and system requirements is reasonable noting that the GIS system used by Eircom, namely Smallworld, can be configured to allow an Access Seeker log in remotely to access Eircom's Smallworld system and gain access to all the user functionality of Smallworld PNI including read-only access, and create a trail (a temporary closed boundary) or select existing area objects. The PAR records for the selected objects or objects contained within the selected boundary can be extracted and exported from PNI in GeoJSON<sup>182</sup> format, with the internal Smallworld identifier for each PI object.
- 6.101 As set out in the technical advisors' report in Annex 4: , real time access to PAR information stored in GE Smallworld PNI system is technically feasibility, and real time access to PAR information could be implemented within a six-month timeframe.
- 6.102 Having considered the burden of providing Access to the PAR information and meeting the proposed process and system requirements, ComReg is satisfied that in light of the benefits of achieving effective access to PAR information for Access Seekers via the process and system requirements described above. The proposed obligation is appropriate and proportionate to help remedy the potential competition problems identified in Section 5 including of denial of access and/or constructive denial of access.

---

<sup>181</sup> Each record in each table of the inventory database has a unique key value field. This is the unique reference for a record.

<sup>182</sup> GeoJSON is an open standard geospatial data interchange format that represents simple geographic features and their nonspatial attributes. Based on JavaScript Object Notation (JSON), GeoJSON is a format for encoding a variety of geographic data structures.

## Updates to PAR

- 6.103 Eircom's PI is being developed on a continuous basis as work is carried out on its network by Eircom (including by its contractor(s)) and Access Seekers. Examples of such work include:
- (a) Installation of:
    - (i) a duct segment (including associated chambers), authorised by Eircom;
    - (ii) a sub-duct in a duct segment;
    - (iii) a cable in a sub-duct segment;
    - (iv) a cable in a duct segment;
    - (v) a chamber;
    - (vi) equipment in a chamber; and
    - (vii) poles.
  - (b) Network remediation of elements outlined in 6.103(a);
  - (c) Removal of a redundant cable from a duct segment;
- 6.104 Eircom has existing processes to update its PAR information as PI activities are completed albeit there is no defined timeline for these updates.<sup>183</sup> The availability of updated PAR information for all completed work on Eircom's PI, in a timely manner, will enable an Access Seeker to plan its network deployment more effectively and efficiently. For example, if Eircom inserts a multi-core sub-duct (with available sub-duct capacity) in a duct route, and does not update the PAR, Access Seekers will have no knowledge that this particular duct route now has sub-duct capacity available when planning its network rollout. As Eircom installed the sub-duct on this duct route it has knowledge that the duct route has additional sub-duct capacity. Eircom updating PAR information for all completed work on its PI will ensure that Access Seekers have up-to-date PAR information to plan its network deployment more effectively and efficiently.
- 6.105 ComReg proposes to impose an obligation on Eircom to update its relevant PAR, within one month, when:

---

<sup>183</sup> Eircom response to S13D Information Requirement, dated 9 November 2017. With respect to the updates to PAR process, the information provided by Eircom in 2017 is still valid in 2022.

- (a) Eircom or its contractor completes specific work, whereby
  - (i) New PI is created; or
  - (ii) Existing PI changes state;<sup>184</sup>
- (b) An Access Seeker provides confirmation and all required information (as set out in Eircom's product documentation) to Eircom that specific work on Eircom's PI has been completed, whereby the PI changes state.<sup>185</sup>

For the avoidance of doubt, this obligation, which relates to actual PI deployed (existing PI, new PI created and in usable state), is separate to the proposed transparency obligation on PI rollout plans which relates to planned PI.

- 6.106 ComReg proposes to allow Eircom a period of seven months (including a notification period of one month to ComReg) to implement the PAR obligations outlined in paragraph 6.87 to 6.105 above.

## PI Co-location

### Access to accommodation/power facilities

- 6.107 ComReg proposes that Eircom continues to be required to offer access to Co-location. An Access Seeker who deploys an ECN using PIA inputs may require access to Co-location facilities to accommodate and power its active network equipment, including both access and core network equipment. In this regard, an obligation on Eircom to provide access to Co-location is necessary in order that Access Seekers can make use of the PIA they avail of.
- 6.108 For the avoidance of doubt, Co-location includes access to cable tray capacity within the exchange from the Co-location rack to the exchange chamber, where an Access Seeker requires its own cable to directly transit from Eircom's duct network to the Access Seeker's ODF.
- 6.109 Where Access Seekers availing of PIA already have access to Co-location at an exchange in connection with other services, such as VUA, Bitstream or leased lines (Wholesale Dedicated Capacity ('**WDC**')), they should be able to use those same Co-location facilities (*inter alia*, rack space, racks, backhaul,

---

<sup>184</sup> For example, where Eircom removes a cable from single Sub-Duct route, the Sub-Duct route changes state i.e. an Access Seeker can request access to all or part of that Sub-Duct route.

<sup>185</sup> For example, when an Access Seekers completes the installation of a Sub-Duct and its cable into an Eircom Duct route, insertion of the Sub-Duct and cable changed the state of the Duct route.



power, air-conditioning, etc.) in conjunction with PIA thereby avoiding unnecessary costs and maximising use of space.

### Access to Co-location Resource Sharing

- 6.110 ComReg proposes that Eircom continues to be required to offer access to Co-location Resource Sharing whereby an Access Seeker (**'Guest Access Seeker'**) uses the co-location resources of an existing Access Seeker (**'Host Access Seeker'**) under a commercial agreement between Host Access Seeker and Guest Access Seeker. Such resource sharing allows Access Seekers to lower the cost of Co-location, thereby lowering entry and/or expansion costs and allowing them to achieve greater efficiencies and economies of scale. It may also facilitate greater optimisation of space within the Eircom exchanges as unused Co-location space is minimised. By contrast, refusing Co-location Resource Sharing may raise Access Seeker costs above what they could be, including decreasing their economies of scale and hurting their ability to compete with Eircom which is likely to have greater economies of scale (and scope).

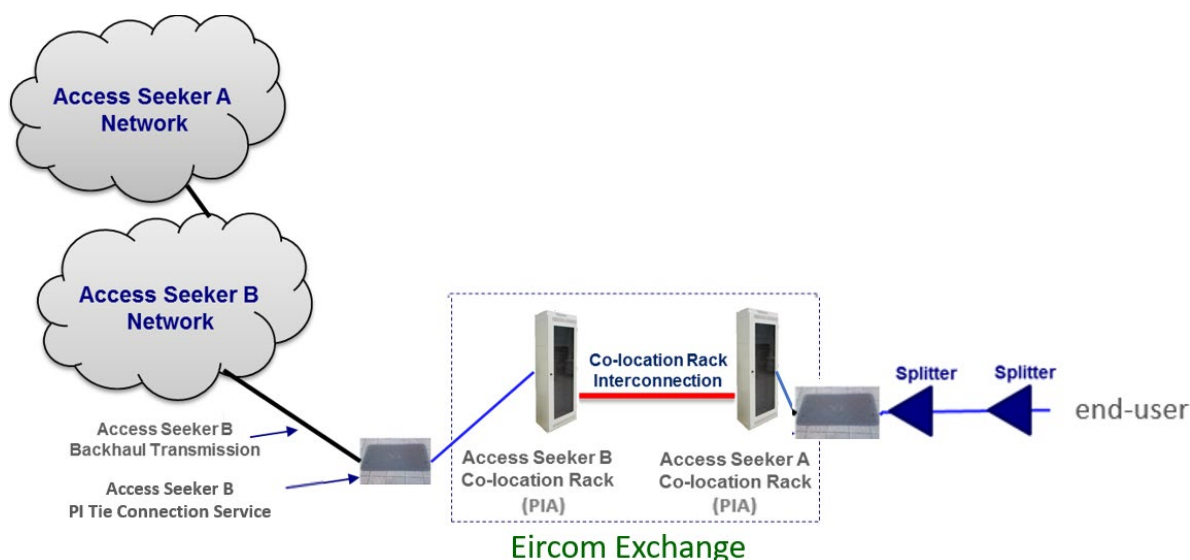
### Access to Co-location Rack Interconnection

- 6.111 ComReg proposes that Eircom continues to be required to allow Access Seekers to interconnect their co-located equipment in exchange buildings or similar facilities. For example, this would enable Access Seekers to share backhaul resources efficiently.
- 6.112 Access Seekers' equipment racks are normally adjacent or in close proximity within the exchange. Access Seekers could route their fibre cables directly between their adjacent equipment racks or route their fibre cables using cable trays between racks of equipment or by other means, as appropriate.
- 6.113 Co-location Rack Interconnection enables and supports the provision of ECN/ECS.
- 6.114 As depicted in Figure 11:, in order to provide its own FTTH services to end-users, Access Seeker 'A' (**'AS-A'**) may install equipment in a rack on a Co-location footprint within an Eircom exchange (or equivalent). Connectivity is then required between the equipment in AS-A's Co-location footprint and Access Seeker A's network in order to route traffic to and from the end-user, thus enabling the provision of FTTH to end-users.
- 6.115 Access Seeker B (**'AS-B'**) is also co-located in the same exchange (or equivalent) and has infrastructure that allows connectivity between AS-B's Co-location (in Eircom's exchange) and AS-B's network. Using Co-location Rack Interconnection, AS-A can establish a connection between its

equipment in its Co-location footprint (in Eircom's exchange) to equipment in AS-B's rack (also within its Co-location footprint within the Eircom exchange) using Co-location Rack Interconnection.

- 6.116 In this way, connectivity from equipment in AS-A's Co-located rack to AS-A's network can effectively be achieved via a backhaul service offered by AS-B. Co-location Rack Interconnection enables and supports the take-up of ECS and the provision of downstream services to end-users. Co-location Rack Interconnection can result in lower costs for Access Seekers as they may be able to avail of an alternative backhaul service from other Co-located Access Seekers. Allowing Access Seekers to share backhaul increases their economies of scale and scope thereby reducing barriers and encouraging deeper infrastructure competition.

Figure 11: Co-location Rack Interconnection



- 6.117 When considering the regulatory burden for Eircom of implementing Co-location Rack Interconnection, ComReg considered the following three deployment scenarios.
- Scenario 1: The racks are immediately adjacent to each other, and the Access Seeker's technician connects a fibre or copper cable between the Access Seekers' racks.
  - Scenario 2: The racks are not adjacent to each other, but there is an Eircom cable tray to enable the routing of fibre between the two racks by the Access Seeker's technician.

- (c) Scenario 3: The racks are not adjacent to each other and there is no cable tray to facilitate Co-location Rack Interconnection. In this case, construction work may be required e.g., Eircom installs a cable tray between Co-location racks.

6.118 In the case of Scenario 1 and Scenario 2 above, the burden on Eircom is likely to be minimal as the work to facilitate Co-location Rack Interconnection could be completed by the Access Seeker's technician. In the case of Scenario 3 above, Eircom implements Quote for Infrastructure Build ('**QIB**') and Provide Infrastructure Build ('**PIB**') wholesale processes<sup>186</sup> that are available to facilitate the construction of cable trays and the installation of fibre/copper connectivity, if required.

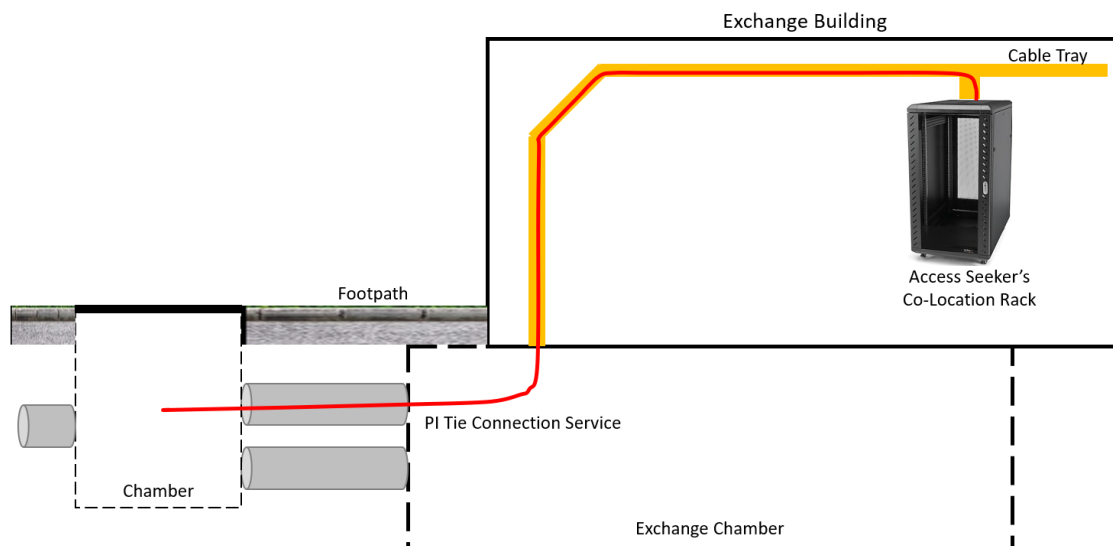
### PI Tie Connection Service

6.119 ComReg also proposes that Eircom continues to be required to provide a PI Tie Connection Service. A PI Tie Connection Service is a fibre connection between the Access Seeker's co-located equipment or the Access Seeker's co-located ODF in an Eircom exchange to PI located under the exchange (the exchange chamber or any PI within the exchange chamber) or outside the exchange (in a chamber or on a pole). An example of a typical PI Tie Connection Service is illustrated in Figure 12; the fibre connection terminates in a chamber outside the exchange.

---

<sup>186</sup> <https://www.openeir.ie/products/data/physical-co-location/>

Figure 12: PI Tie Connection Service



- 6.120 Absent this facility, the Access Seeker may be unable to connect its co-located equipment/ODF inside the exchange to PI located outside the exchange or in the exchange chamber, using an Eircom cable. If an Access Seeker is unable to connect the fibre in the chosen PI route to its Co-location/ODF facilities in an exchange building or equivalent directly then the Access Seeker is likely to incur significant additional civil engineering construction costs to complete the access or core path(s) necessary to replicate the services offered by Eircom. These additional costs could be a barrier to market entry.
- 6.121 For the avoidance of doubt, access to PI Tie Connection Service is not a substitute for access to Eircom's duct, pole and chamber (including exchange chamber) infrastructure where an Access Seeker requires its cable to connect directly to its ODF. Access to PI Tie Connection Service is required where an Access Seeker requires an Eircom cable to connect its ODF to an Eircom chamber/pole.

## Conditions to ensure fairness, reasonableness and timeliness of access

### Overview

- 6.122 Regulation 12(3) of the Access Regulations/Regulation 55 of the ECC Regulations permits ComReg to attach to obligations and requirements for access, conditions covering fairness, reasonableness and timeliness. In this regard, ComReg proposes, in order to ensure fair but effective and timely access to Eircom's PI, to attach conditions to Eircom's obligations of access

discussed in paragraphs 6.17 to 6.121 above as regards the following matters.

- 6.123 In order to ensure that Eircom provides access on fair and reasonable terms, ComReg proposes that Eircom:
- (a) May not deny access on the basis that there is no available space, where space can be made by removing cables and equipment that are not in use, as discussed in paragraph 6.39 above;
  - (b) Is required to negotiate in good faith and offer meaningful Service Level Agreements (SLAs), that is, legally binding contracts between Eircom and Access Seekers committing Eircom to defined service levels, as further described below;
  - (c) May only impose restrictions on access that are intended for the protection of the integrity of the network and/or health and safety requirements to the extent that they are justified, reasonable and proportionate, as discussed in paragraphs 6.40 to 6.43 above;
  - (d) May not refuse access by way of new product development or amendments to an existing product, unless there are good reasons to do so and those reasons have been provided to the Access Seeker; and
  - (e) May not decline orders for an existing product where the order meets the terms and conditions for the product.
- 6.124 In order to ensure that access is provided on a timely basis, ComReg proposes that Eircom is required to:
- (a) Adhere to specified processes and timelines as regards the development of new products or amendments to existing products; and,
  - (b) Adhere to specific processes and timelines as regards the negotiation of SLAs in respect of new products or amendments to existing products.

### **Product Development**

- 6.125 For the PIA market, a properly functioning product development process is particularly important for ensuring the development of effective infrastructure competition in downstream markets. A properly functioning product development process will allow Access Seekers to seek new products, services, or associated facilities or amendments to existing products,

services, or associated facilities in a timely and efficient manner. Uncertainty regarding the content and timing of product updates creates uncertainty in the market and can potentially lead to increased costs across the industry. Conversely, increased clarity and certainty with respect to product developments and process changes should enable Access Seekers to plan for such changes more effectively and allow Access Seekers to plan their infrastructure rollout. Any resulting improvements or efficiencies lower infrastructure rollout costs and improve speed to market for new networks, thereby contributing to the development of effective infrastructure competition to the ultimate benefit of end-users.

- 6.126 Eircom's current product development process, from conception through to launch, is a one size fits all process which is designed to accommodate the development of complex active products, in contrast to more straightforward Access to passive infrastructure requests. As a result, its application may contribute to unnecessary delays in processing PI requests. ComReg notes that the PIA Market is a largely process driven market. Most Access requests in the PIA Market, including for new PIA products, are delivered by new processes, amendments to existing processes and/or updates to internal Eircom systems. This would lend itself to achieving quicker delivery times for Access requests.
- 6.127 Due to the large costs involved, ComReg notes that speed to market is a key criterion within the business case of an infrastructure rollout project. It is also clear that there is an advantage to being the first network to pass a premises as end-users are less likely to go through a subsequent installation process once their premises is connected to a fibre-based network. On this basis, any delays or uncertainty over the development of PIA products, services or associated facilities which are required to make network rollouts more efficient will stymie the development of infrastructure competition.
- 6.128 To avoid such unnecessary delays, ComReg is of the view that it is necessary and appropriate to specify further the requirements associated with the development of products, services, and associated facilities, including SLAs, requested in the PIA Market and ensure that Access Seekers' requests for Access are processed in a manner that is fair, reasonable and timely, by giving full clarity regarding key development stages and milestones. This clarity should allow for active Access Seekers' participation in the development of Access requests which should result in a properly functioning product development process.
- 6.129 In particular, clarity is required as regards the following:

- (a) The **stages** of the product development process, including the times at which Access Seekers may provide inputs;
- (b) The **making of a request for Access**: the information that needs to be provided in order for an Access request to be processed by Eircom must be clearly set out (an Access request being a written request from an Access Seeker or self-initiated development by Eircom);
- (c) The **timeline** during which the request will be developed and launched.

6.130 Insofar as the timeline for product development, ComReg is of the view that it is necessary to set a maximum time period for Eircom to develop products and believes that Eircom should be required to ensure that the product development process in the PIA market takes no more than ten (10) months from the time that a request is received to launch including notification periods to ComReg and Access Seekers, save where developments will require changes to the Access Seekers' IT systems in which case a period of no more than fourteen (14) months will apply.

6.131 ComReg proposes to set the maximum period of time for product development at 10 (or 14) months based on an assessment of the time taken to date by Eircom to develop PI products. For the avoidance of doubt the proposed timelines are maximum timelines and the requirement to meet a request for Access in a timely manner will not always be met by adhering to the maximum timelines. Each Access request should be assessed on its own merit and progressed as efficiently as possible.

6.132 ComReg is satisfied that the proposed timeline strikes an appropriate balance between the time needed by Eircom to carry out the work required for launching a solution and the Access Seeker's requirement for quick availability in order to compete in downstream markets.

6.133 Within the maximum timeline for product development, ComReg proposes further to require Eircom to ensure that the product development process provides for adequate interaction and engagement with the Access Seeker making the Access request but also, other Access Seekers, and the provision of certain information throughout the product development process, as follows:

- (a) Request for Access to PI, be it for a new product, service, or associated facility or an amendment to an existing product, service, or associated facility, including in both cases requests for SLAs, to be acknowledged in writing to the requestor within three (3) working

days of receipt and providing the requestor with a unique reference to identify the Access request;

- (b) All Access Seekers to be informed of receipt of a request for Access to Eircom's PI, as soon as possible and in any event within fifteen (15) working days of the receipt of the request, to include details of the request's allocated unique reference number (to allow tracking of the request), a copy of the request, and a description of the key features and functionality requested;
- (c) Within fifteen (15) working days of the receipt of the request, on a per request basis, Eircom shall publish an engagement plan outlining:
  - (i) How and when it will consult and seek design input from the requestor and other Access Seekers (for example, workshops, meetings, Eircom's Product Development Workshop ('**PDW**'), etc.);
  - (ii) How and when it shall consult and seek views from the requestor and other Access Seekers with regard to SLA requirements;
  - (iii) What timelines will be used for design input and SLA negotiations; and,
  - (iv) When it will issue its status update (see below), which should be as soon as possible but no later than eighty-five (85) working days after receipt of the request.;
- (d) Eircom to publish a status update as soon as practicable and in any event within eighty-five (85) working days of receipt of the request, with the following information:
  - (i) A description of the solution to be provided including any aspects of the proposed solution which do not reflect or are inconsistent with the request, and the objective reasons therefor, including in particular differences in key features, functionality, or any other limitations;
  - (ii) The development timelines including proposed notification, publication and launch dates, and where Eircom anticipates at that stage that IT developments on the part of Access Seekers may be required, the objective reasons therefor; and,
  - (iii) The priority level granted to the request and any impact on the priority granted to other Access request, including any input values and calculations used by Eircom in the determination



of the prioritisation of the request, and where other Access requests are being reprioritised as a result (whether granting a lower or higher priority), the reasons for same.

### Service Level Agreements ('SLAs')

- 6.134 ComReg proposes to attach to Eircom's obligation of Access a requirement that Eircom make available in respect of all its PIA products, services, and associated facilities, SLAs setting out the level of services which Access Seekers are entitled to expect from Eircom, and the service credits to apply where these service levels are not met by Eircom. ComReg notes that SLAs are essential in ensuring Access Seekers' ability to rely on access to Eircom's network in delivering products in downstream markets, including in ensuring Access Seekers' ability to commit to service levels to their own customers.
- 6.135 In addition to demanding higher quality and more innovative products and services, end-users expect efficient and timely provision of services, including a high degree of reliability and effective fault management and repair. As such, Access Seekers are reliant on efficient delivery, service quality and after-sales support from Eircom in order to be able to compete effectively in downstream markets. In this regard, ComReg notes that the expected level of service, both at the point of delivery and in-life, are key selling points which can influence an end-user when coming to a decision to purchase a product or service or to switch service providers. This means that the SLAs supporting regulated wholesale PIA products are an extremely important component of the wholesale input and are integral to the wholesale offering.
- 6.136 The nature of an effective, fit-for-purpose SLA will depend on many factors, including the nature of the wholesale services provided by Eircom and the nature of the downstream retail or wholesale services to be provided by Access Seekers. An SLA could be based on a commitment to achieve specified service levels, or on the occurrence of particular events such as service outages, or both, and indeed other circumstances. The precise nature of a particular SLA is best settled in negotiations between Eircom and Access Seekers (subject always that Eircom and/or Access Seekers may seek ComReg's intervention by way of dispute resolution under Regulation 31 of the Framework Regulations/Regulation 67 of the ECC Regulations).
- 6.137 While recognising the very important role that negotiations have to play in reaching fit-for-purpose SLAs, ComReg notes that both sub-standard SLAs and delays in negotiating and agreeing SLAs may have a significant detrimental impact on Access Seekers, in particular those who are trying to enter the market or grow market share and win customers from established SPs such as Eircom. Sub-standard SLAs, for example may include, *inter alia*,

inadequate repair times, or service credits at a level which do not incentivise Eircom to meet the service levels committed to. Delays in the development and availability of suitable SLAs can have an adverse impact on competition and on end-users, as the absence of suitable SLAs ultimately lowers certainty regarding the timeliness and quality of Access being provided.

- 6.138 In light of those risks and having regard to Eircom's incentives in delaying negotiations or only agreeing sub-standard levels of service, ComReg is of the view that it is justified and appropriate to set down detailed requirements as regards the conduct of negotiations and the content of SLAs, as discussed in the following paragraphs.
- 6.139 Furthermore, if new SLAs or amendments to existing SLAs are required as a result of obligations arising from this Decision, these SLAs shall be available to Access Seekers at the launch date for these obligations, i.e., within seven (7) months of the Effective Date of the final Decision. Eircom may carry out expedited SLA negotiations to achieve the implementation of the updated or new SLAs within the timeline required.

#### **SLA Negotiation Period and Conclusion in respect of a Request for new SLA or amended SLA for existing products**

- 6.140 Prolonged discussions on the details of the SLA or prolonged deliberation by Eircom serve to delay the availability of SLAs, and for the reasons set out above, this is not in the best interests of Access Seekers, competition, or end-users. It can also amount to an effective refusal of Access.
- 6.141 ComReg proposes to mitigate this risk by setting a maximum period of **six months** for negotiations to take place as regards an amendment to an existing SLA or a new SLA (**'the SLA Negotiation Period'**) in respect of an existing product, service, or associated facility. During the SLA Negotiation Period, Eircom must discuss and negotiate in a proactive manner, and in good faith, with Access Seekers. The SLA Negotiation Period is to end no later than six months from the request for an amended or new SLA, either by agreement between the relevant parties or, in the absence of agreement, on the expiry of the six-month period or on any prior date where all parties agree that the negotiations are at an end, with Eircom making its Best and Final Offer (**'BAFO'**).
- 6.142 ComReg further proposes that the agreed SLA or Eircom's BAFO becomes effective following the advance notification timeline requirements,<sup>187</sup> subject to the overall 10-month (or 14-month) timeline for Access requests, save

---

<sup>187</sup> Outlined in Transparency, section 6.6 below.

where Eircom has applied, setting out reasons therefor, for an extension and ComReg, at its sole discretion, has granted same.

### SLA Negotiation Period and Conclusion in respect of new product development or amendment to existing product

- 6.143 Specific issues may arise in respect of new product development (to include amendments to existing products) where Eircom may have the incentive to delay SLA negotiations until after the completion of the product development and/or only provide an insufficient/basic SLA which does not meet Access Seeker requirements, thereby undermining the timely and effective use of the products in question. ComReg considers in this regard that SLAs are, in general, an integral part of a product offering. While not all amendments to products, services or associated facilities will require changes to the associated SLA, Access Seekers are likely to have a view as to whether proposed amendments to existing products, services or associated facilities will also require an associated SLA amendment. For these reasons, the 2018 WLA Market Decision introduced an obligation on Eircom that new or amended SLAs for new or amended products, services or associated facilities be available at time of launch to avoid any restriction or distortion on competition. This obligation will continue.
- 6.144 In order to ensure that this is the case, ComReg proposes that the start date for the SLA Negotiation Period will be the date on which the Access request itself is received. This will ensure that the SLA Negotiation Period runs alongside the product development timelines and ensure that SLA requirements are included and taken into account in the development of the Access request. The SLA Negotiation Period is to end no later than six months from receipt of the Access request, either by agreement between the relevant parties or, in the absence of agreement, on the expiry of the six-month period or on any prior date where all parties agree that the negotiations are at an end, with Eircom making its Best and Final Offer ('BAFO'). This should limit the risk of delays caused by requiring the SLA to be ready for the new or amended product launch.
- 6.145 The agreed SLA or Eircom's BAFO shall become effective following the advance notification timeline requirements,<sup>188</sup> subject to the overall 10-month (or 14-month) timeline for Access requests, save where Eircom has applied, setting out reasons therefor, for an extension and ComReg, at its sole discretion, has granted same.
- 6.146 The alignment of the SLA negotiation process with the existing product

---

<sup>188</sup> Outlined in Transparency, section 6.6 below.

development timelines does not, in ComReg's preliminary view, add any significant burden on Eircom. This obligation will provide certainty for Eircom and Access Seekers on when new or amended SLAs relating to Access requests for new or amended products, services or associated facilities will be negotiated. In ComReg's view, this proposed obligation is justified and proportionate for the reasons outlined above.

### Service Levels

- 6.147 Fit-for-purpose SLAs will achieve two main objectives: first, they will help, in setting agreed service levels between Eircom and Access Seekers, ensure that Access is provided in a manner that is fair, reasonable, and timely, and second, they will ensure that Access Seekers are compensated where service levels are not met. The two go hand in hand. SLAs will give Eircom actual and adequate incentives to deliver agreed service levels, allowing in turn Access Seekers to commit to, and compete on, guaranteed levels of service in downstream markets, only if SLAs provide for the payment by Eircom to Access Seekers of meaningful compensation where agreed service levels are not met. Meaningful compensation means that Access Seekers recoup through compensation at a minimum the direct costs and any other loss of value arising from Eircom's failure to meet the agreed level of service.
- 6.148 There should be clarity as regards the circumstances where a right to compensation arises, and the methodology used by Eircom to calculate the appropriate amount of compensation due to Access Seekers. Clarity on both aspects is required in order that Access Seekers understand how Eircom arrived at the calculated amount of service credit and have assurances that Eircom is appropriately incentivised to deliver the agreed level of service. Appropriately incentivised means that it should not be less costly for Eircom to pay the SLA service credits than meet the agreed service levels. ComReg proposes that clarity is achieved more particularly as follows:
- (a) By requiring that Eircom make available to Access Seekers during the SLA Negotiation Period, an explanation of the proposed levels of service credits by reference to the cost to Eircom of deploying resources to meet the SLA committed service levels, and expected direct and indirect losses likely to be incurred by Access Seekers where service levels are not met, as estimated by Eircom, itemising the relevant elements (such as lost rental cost, work crew redeployment cost, etc.) contributing to each service credit, along with their monetary value; and

(b) By requiring that Eircom make available to Access Seekers during the SLA Negotiation Period, worked examples of use cases where SLA payments are triggered and service credits are due, to allow Access Seekers reconcile service credit payments with the requirements of the SLA and with the service provided by Eircom over the relevant period.

6.149 As not all Access Seekers may be involved in SLA negotiations and there may be a new entrant to the PIA Market, the SLA documentation needs to be detailed enough to allow any Access Seeker to fully understand all aspects of the SLA, including the information outlined in paragraph 6.1486.148 above.

6.150 SLA service credits should be fair and reasonable. It is reasonable that Access Seekers should not have to bear any administrative burden relating to the payment of service credits as such payments arise from Eircom not meeting committed service levels.

6.151 The calculation and justification regarding the value of service credits and how they, firstly, incentivise Eircom to deliver an efficient level of service and secondly, cover costs incurred by operators in the event of metrics not being met, does not impose any significant burden on Eircom. However, appropriate levels of service credits should benefit Access Seekers in providing further assurance that they will not be at a loss due to Eircom failing to meet SLA committed service levels.

6.152 It is accordingly important that Eircom provide the methodology for calculating the quantum of service credits within the SLA documentation and justification for same, including how they incentivise Eircom to deliver an efficient level of service and allow Access Seekers to recoup direct costs and other loss of value, along with associated supporting evidence. The SLA documentation should contain an itemised list of direct costs and other losses of value contributing to the service credit and the associated monetary value as well as worked examples of use cases where SLA payments are triggered and service credits are due. Furthermore, Eircom should seek input on all aspects of service credits during the SLA Negotiation period and discuss same with Access Seekers.

### **Suspension of an SLA**

6.153 ComReg understands that there are some circumstances under which an SLA may need to be suspended. Suspension of an SLA should be an exceptional occurrence and should not have the effect of neutralising the SLA. ComReg proposes that where Eircom wishes to provide for the possibility of suspending the SLA, as part of the terms and conditions of the

SLAs, such terms and conditions should be agreed with Access Seekers during the SLA Negotiation Period. ComReg proposes further to require that in negotiating, and providing for, the terms and conditions governing the circumstances when the SLA can be suspended, and the process to be applied for the suspension of the SLA, Eircom ensures that they are reasonable, transparent, clear and detailed, and based on objectively defined and measurable parameters. This information will be included in the SLA documentation. Eircom shall include each instance of an exclusion from the SLA and the parameters upon which the exclusion is based in their monthly report to Access Seekers.

- 6.154 ComReg notes in this regard that SLA suspensions, particularly where they are prolonged or unexpected, can have a significant impact on the effectiveness of the underlying levels of Access being provided. It is essential that any suspension of an SLA is based on objective measurable criteria. Access Seekers should have an opportunity to input into the development of these objective criteria.

## 6.5 Non-Discrimination

- 6.155 Regulation 10 of the Access Regulations/Regulation 52 of the ECC Regulations provide that ComReg may impose on an SMP operator obligations of non-discrimination in relation to access or interconnection in order to ensure that the SMP operator concerned:
- (a) applies equivalent conditions in equivalent circumstances to other operators providing equivalent services; and
  - (b) provides services and information to others under the same conditions and of the same quality as the SMP operator provides for its own services or those of its subsidiaries, affiliates, or partners.
- 6.156 Regulation 52(3) of the ECC Regulations provides further that ComReg may impose on an SMP operator obligations to supply access products and services to all undertakings, including to itself, on the same timescales, terms and conditions, including those related to price and service levels, and by means of the same systems and processes, in order to ensure equivalence of access.
- 6.157 As noted in Recital 184 of the Code, the principle of non-discrimination ensures that operators with SMP do not distort competition, in particular, where they are vertically integrated operators that supply services to operators with whom they compete on downstream markets. Non-discrimination obligations also play an important role in ensuring the

effectiveness of other obligations such as those relating to access, transparency, and price control. In turn, obligations of transparency, for example those relating to KPI metrics and performance metrics, support non-discrimination obligations.

- 6.158 In light of Eircom's vertical integration, and Eircom's ability and incentive to discriminate between itself and Access Seekers in relation to pre-ordering, ordering, provisioning, and service assurance of PIA, ComReg proposes to impose an obligation of non-discrimination on Eircom, both as regards discrimination between its wholesale customers, and between wholesale customers and its own services and/or partners. An obligation of non-discrimination will ensure that Eircom does not favour itself, or unduly favour any particular Access Seeker in the provision of PIA products, services and information, such that it might otherwise restrict or distort competition in any downstream market, ultimately impacting on the development of sustainable retail and/or wholesale competition.
- 6.159 Furthermore, ComReg proposes to impose an obligation on Eircom to supply access products and services to all undertakings, including to itself, on the same timescales, terms and conditions, including those related to price and service levels, and by means of the same systems and processes, in order to ensure equivalence of access, an obligation otherwise known as an obligation to supply on an Equivalence of Inputs ('**Eoi**') basis.
- 6.160 The European Commission notes in its Non-Discrimination and Cost Methodologies Recommendation<sup>189</sup> that one of the main obstacles to the development of a true level playing field for Access Seekers of ECNs is the preferential treatment of the downstream businesses of a vertically integrated SMP operator (for example, discrimination regarding quality of service, access to information, delaying tactics, undue requirements and the strategic design of essential product characteristics). The Commission emphasises that

*"it is particularly difficult to detect and address non-price discriminatory behaviour through the mere application of a general non-discrimination obligation. It is, therefore, important to ensure true equivalence of access by strictly applying non-discrimination obligations and employing effective means to monitor and enforce compliance".*

---

<sup>189</sup> Commission Recommendation 2013/466/EU of 11 September 2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment, OJEU [2013] L251/13. ([NDCM recommendation](#))

- 6.161 An obligation of non-discrimination requires that the services or information provided to operators including to the SMP operator's own services are equivalent in terms of outputs (Equivalence of Output ('EoO') standard), measured by reference to product functionality, price, terms and conditions, service levels and timescales with specific requirements being imposed as regards the means by which non-discrimination is achieved and ensured.
- 6.162 However, a higher standard may apply requiring that there is also Eol, where the obligation of non-discrimination includes an obligation to use the same processes and systems regardless of the service recipient, including the SMP operator's own services. Recital 185 of the Code notes that
- “in order to address and prevent non-price related discriminatory behaviour, equivalence of inputs (Eol) is the surest way of achieving effective protection from discrimination. On the other hand, providing regulated wholesale inputs on an Eol basis is likely to trigger higher compliance costs than other forms of non-discrimination obligations...”*
- 6.163 Recital 185 reflects the position of the European Commission in the Non-Discrimination and Cost Methodologies Recommendation that
- “equivalence of inputs (Eol) is in principle the surest way to achieve effective protection from discrimination as access Seekers will be able to compete with the downstream business of the vertically integrated SMP operator using exactly the same set of regulated wholesale products, at the same prices and using the same transactional processes. In addition, and contrary to an Equivalence of Output (EoO) concept, Eol is better equipped to deliver transparency and address the problem of information asymmetries.”*
- 6.164 According to the European Commission, Eol is one of the most effective ways to minimise non-discrimination concerns, particularly with respect to operational issues such as pre-ordering, ordering, provisioning, and service assurance for PIA products, services, and associated facilities.
- 6.165 ComReg proposes accordingly to require that Eircom offer and provide PIA products, services, and associated facilities to the standard of Eol as ComReg has not identified a different but equally effective obligation to remedy the potential risk of discriminatory behaviour that is less intrusive.
- 6.166 For the avoidance of doubt, the requirement that Eircom uses the same systems, processes as it uses for itself in providing PIA and PIA information applies to all activities connected with the pre-ordering, ordering, provisioning, and service assurance associated with PIA. This includes also sub-processes such as remediation of PI, Rod, Rope and Test, and repair of duct.



- 6.167 For the avoidance of doubt, the obligation which ComReg proposes here to impose is a straight obligation that Eircom in all cases uses the same systems and processes as are available to Access Seekers in respect of PIA.
- 6.168 ComReg's position regarding EoI in the 2018 WLA Market Decision was that very minor and insignificant system and process differences were permitted when such differences could be objectively justified. The objective at the time was to allow some practical and very limited flexibility regarding the implementation of EoI while still ensuring a level playing field from a competition perspective. This approach did however introduce a risk that system and process differences might be characterised by Eircom as very minor and insignificant while in fact being of material importance.
- 6.169 To eliminate the risk that differences in systems and processes could be mischaracterised by Eircom, under no circumstances shall differences be permitted between systems and processes that Eircom itself uses and the systems and processes that Access Seeker(s) uses in the PIA market.
- 6.170 To illustrate by way of example in the PIA market, if an Access Seeker were to be required to submit orders/requests for PI using template forms sent by email to an account manager or to similar role, where they will be manually processed then Eircom must also submit orders/requests for PI using the same templates, using the same email methods, and these orders/requests must also be processed manually in the same way as is the case for Access Seeker's order/request for PIA.
- 6.171 ComReg also notes that to the extent that Eircom relies, for the purpose of providing access to itself, on external contractors to which PIA is effectively outsourced, then such processes, and access to the systems on which Eircom's external contractors relies, must also be made available to an Access Seeker (including the Access Seeker's external contractors). This would include, for instance, the systems and processes relied on for the purpose of the IFN rollout by Eircom regardless of the operational mechanisms which Eircom may use to execute – including but not limited to reliance on managed service partners.
- 6.172 ComReg believes that such a strict obligation is required in order to ensure equivalence of access and that Access Seekers can be confident that they can rely on Eircom's PI. ComReg notes further that it is for Eircom then to decide the processes and systems that are to be used for the provision of PIA, subject only that they are the same for Eircom and others.
- 6.173 Furthermore, Eircom is required to demonstrate that the same systems and processes are used in all cases (namely, regardless of the size of the order

and including, but not limited to, single orders, bulk orders and infrastructure rollout projects such as Eircom's IFN or NBI's rollout), through the publications of the systems and processes used by Eircom both for self-supply (regardless of whether this is effected on Eircom's behalf by third parties) and for supply to Access Seekers.

## 6.6 Transparency

### 6.6.1 Overview

- 6.174 Regulation 9 of the Access Regulations/Regulation 51 of the ECC Regulations provide that ComReg may impose obligations to ensure transparency in relation to access or interconnection requiring an SMP operator to make public specific information such as accounting information, technical specifications, network characteristics, prices, and terms and conditions for supply and use, including any permissible conditions limiting access to, or use of, services and applications. Regulation 51 makes it clear that the information that an operator may be required to make public includes network characteristics and expected developments.
- 6.175 Regulation 9(2) of the Access Regulations and Regulation 51(2) of the ECC Regulations provide more particularly that requirements may be imposed in respect of the publication of a reference offer that is sufficiently unbundled to ensure that operators are not required to pay for associated facilities which are not necessary for the service requested and which include a description of the relevant offerings broken down into components according to market needs and a description of the associated terms and conditions including prices. ComReg may also specify the precise information to be made available, the level of detail required and the manner of publication.
- 6.176 Transparency obligations can be standalone but can also support other obligations being imposed and usually relate to requirements to make specified information publicly available. In this regard, ComReg is of the view that a transparency obligation is necessary in order to monitor and ensure the effectiveness of the obligations of access, non-discrimination and price control obligations being proposed. ComReg also notes that, as set out in Recital 182 of the Code, transparency of terms and conditions for access and interconnection, including prices, also serve to speed up negotiations between operators, avoid disputes and give confidence to market players that a service is not being provided on discriminatory terms. In addition, transparency provides the means for Eircom to demonstrate that access to products, services and associated facilities in the PI Market is being provided in a non-discriminatory manner.

- 6.177 For the purpose of meeting transparency obligations, clear and unambiguous wording must be used in all material published or to be provided to Access Seekers. In accordance with general principles governing contracts, vague or ambiguous terms will be construed in the favour of Access Seekers.
- 6.178 ComReg proposes to continue in respect of PIA, the transparency obligations as they apply in respect of CEI under the 2018 WLA Market Decision, subject to a number of adjustments, as discussed below. The obligation includes the following:
- (a) A requirement to publish a Reference Offer setting out the terms and conditions including prices on which PIA is available to Access Seekers;
  - (b) A requirement to publish Information as regards its performance, including by reference to Key Performance Indicators, as may be further specified by ComReg from time to time;
  - (c) A requirement with respect to the making available to Access Seekers availing of PIA, or with a demonstrable intention to avail of PIA from Eircom, Eircom's Engineering, Planning and Design Rules;
  - (d) A requirement to publish information on product development;
  - (e) A requirement to publish a PI rollout plan; and
  - (f) A requirement to publish a description of the processes and systems relied upon by Eircom to provide PIA, both for its own services and those of its subsidiaries or partners and for Access Seekers.
- 6.179 Each of these categories is considered in further detail below.

## 6.6.2 Reference Offer

- 6.180 Section 51(5) of the ECC Regulations provides that where an operator is subject to obligations concerning wholesale access to network infrastructure, ComReg is required to ensure the publication of a reference offer takes utmost account of the BEREC guidelines on the minimum criteria for a reference offer issued in accordance with Article 69(4) of the Code. BEREC issued such guidelines<sup>190</sup> on 5 December 2019. The BEREC Guidelines set out four categories of information to be included in a reference offer, as follows:

---

<sup>190</sup> BEREC Guidelines on the minimum criteria for a reference offer, BoR (19) 238, 5 December 2019.

- (a) Terms and conditions for the provision of network access,
- (b) Details of operational processes,
- (c) Service supply and quality conditions,
- (d) General terms and conditions of the agreement.

6.181 The content of these categories is considered in further detail below. ComReg proposes to follow the same approach in respect of the PIA Market as has been followed in respect of other markets and require Eircom to publish a reference offer dedicated to the PIA Market, referred to below as Physical Infrastructure Access Reference Offer ('**PIARO**'). While this, in general, involves extracting from the ARO the relevant information that is specific to PI products and services, ComReg believes that any associated burden in doing so is minimal and materially outweighed by the transparency benefits of having a market specific standalone reference offer.

6.182 ComReg also proposes that Eircom notify the PIARO to ComReg within six months of the final Decision for the PIA Market arising as a result of this consultation process and publish it one month thereafter.

6.183 While the subsections below provide further detail on the information to be published by Eircom in respect of each of the categories identified in the BEREC Guidelines, in meeting the requirement to publish a PIARO, Eircom may, and is encouraged to follow, the format of the ARO (amended as appropriate) including the ARO Price List.

### **6.6.3 Terms and conditions for the provision of network access**

6.184 A reference offer contains a description of the offer of contract for access broken down into components according to market needs. This means that the PIARO should, as the ARO and other Eircom's reference offers currently do, take the form of a draft contract setting out a description of the specific contractual terms and conditions, including prices, associated with each of the network access products, services and associated facilities provided in the PIA Market, as well as the technical characteristics of the products, services and associated facilities offered in terms of PIA, and the relevant engineering or technical standards for network access (including any technical usage restrictions and other security issues).

6.185 For the avoidance of doubt this includes each of the specified products and services that Eircom is required to make available as part of its obligation of access.

- 6.186 Also required to be published is information on any relevant ancillary, supplementary and advanced services (including operational support systems, information systems or databases for pre-ordering, provisioning, ordering, maintenance and repair requests and billing), including their technical usage restrictions and procedures to access those services; the relevant charges, terms of payment and billing procedures; and applicable requirements and processes for operator accreditation and audit.
- 6.187 As regards billing, Eircom is required to ensure that invoices for PIA are sufficiently disaggregated, detailed and clearly presented so that an Access Seeker can reconcile the invoice to Eircom's PIARO and the PIARO Price List. This is to ensure that Access Seekers may monitor the wholesale charges being levied on them and facilitate an auditable means of detecting any billing anomalies and/or non-compliance with regulatory obligations.

#### **6.6.4 Requirements on engineering, planning and design rules**

- 6.188 ComReg proposes that the technical information which Eircom is required to publish as part of the PIARO includes engineering, planning and design rules, namely the rules relating to network planning, workmanship standards, physical access, management of space and physical characteristics of chambers, ducts, sub-ducts, cables, equipment and ancillary materials with respect to Eircom's PI. Access Seekers' knowledge of the engineering, planning and design rules is a necessary prerequisite to Access Seekers' ability to efficiently plan their network design and implement the deployment of their cables, sub-ducts and equipment in Eircom's ducts, sub-ducts, chambers or poles. In particular, having access to such rules will allow Access Seekers prepare their network designs in a manner that is consistent with any criteria used by Eircom in its assessment or validation of such designs, and deploy their cables, sub-ducts and equipment in a manner that will meet any requirements that Eircom may audit. The availability of such rules will therefore be to the benefit of both Access Seekers and Eircom in terms of efficiency and consistency.
- 6.189 More specifically, ComReg proposes that Eircom makes available the following information:
- (a) all rules that an Access Seeker's network design must adhere to;
  - (b) the maximum dimensions (and other relevant parameters) of:
    - (i) the sub-ducts and cables that can be installed in Eircom's ducts;
    - (ii) the cables that can be installed on Eircom's poles; and

- (iii) the equipment that can be installed on Eircom's poles and in Eircom's chambers.
- (c) the methodology used by Eircom for calculating spare capacity in ducts and chambers and space on poles;
- (d) the specification of the physical characteristics of sub-ducts, cables and equipment;
- (e) the specification of the physical characteristics of ancillary materials which may be used in relation to the deployment of sub-ducts, cables or equipment;
- (f) all rules with respect to the placement of sub-ducts, cables and equipment in Eircom's ducts, sub-ducts, chambers and on Eircom's poles;
- (g) all workmanship standards that are to be adhered to; and
- (h) all rules with respect to how ducts, sub-ducts, chambers and poles can be physically accessed including without limitation cutting into sub-ducts for Ingress and Egress and with respect to remediation of PI.

6.190 For the avoidance of doubt, the above information is required to be made available regardless of whether Eircom currently has such Engineering, Planning and Design Rules fully documented. ComReg proposes that to the extent that such Rules are yet to be fully documented, that Eircom is required to do so and have them published at the same time as the PIARO, namely within 7 months from ComReg's final Decision, having been notified one month to ComReg prior to publication. ComReg proposes further that given the Engineering, Planning and Design Rules will form part of the PIARO, the same regime as regards changes to the PIARO also applies to the Engineering, Planning and Design Rules.

### **6.6.5 Details of operational processes**

6.191 Eircom is also required to publish details of all relevant operational processes, including in terms of:

- (a) The process and requirements applicable to product development including information requirements; timelines; prioritisation and criteria; and decision making processes;
- (b) The Product Development Roadmap, namely the list of all proposed, planned and in progress developments for regulated products,

services and facilities, and related information, ensuring that such Roadmap remains up-to-date;

- (c) Pre-ordering, ordering, provisioning and service assurance;
- (d) Rules of allocation of space between the parties when co-location space is limited;
- (e) Repair and maintenance;
- (f) IT systems and changes to such systems to the extent that they impact Access Seekers and publish such changes in sufficient detail to allow Access Seekers independently perform any development that may be required to adapt to such changes;
- (g) Specification of equipment to be used on the network.

6.192 ComReg notes in particular that transparency as regards Eircom's product development process and the rules used by Eircom to prioritise product developments and meet Access requests in a fair, timely and reasonable manner is a key aspect of Access Seekers' ability to rely on Access to Eircom's PI. ComReg proposes to require that Eircom publish the process and criteria, including the input values and calculations, used by it for the purpose of prioritisation.

6.193 Access Seekers also need to be able to plan for the introduction of new products, services or facilities and therefore need information, with a reasonable degree of certainty, regarding the characteristics, timing and the availability of developed products, services or facilities.

6.194 In order that Access Seekers:

- (a) have sufficient knowledge relating to the contents of proposed product developments;
- (b) have the ability to understand the criteria and process used by Eircom for prioritising developments; and
- (c) are made aware of the proposed launch dates of any new products or changes to existing products,

ComReg proposes, that Eircom publish, and keep updated, on its publicly available wholesale website, a description of its product development process, including a description of all process steps and activities and identifying all key points in Eircom's product development process, to include the points where Eircom decides to advance, delay or terminate the development of a product, service or facility (the '**Product Development**

**Decision Points**') and any key stages in the analysis, design, development and launch, and the date on which the product, service or facility will be made available (together, '**Milestones**') from receipt of a written request for Access to the launch of a new or amended wholesale product, service or facility.

6.195 ComReg also proposes that Eircom is required to publish the list of all proposed, planned and in progress developments for regulated products, services and facilities (hereafter, the '**Product Development Roadmap**') on its publicly available wholesale website and keep such Product Development Roadmap up-to-date on an ongoing basis, including the following details for each Access request, which are to be provided as soon as possible and in any event no later than within fifteen (15) working days of receipt of the request:

- (a) the unique reference to identify the Access request;
- (b) a description of the request and copies of or links to all relevant documentation.

6.196 In addition, the Product Development Roadmap shall be kept up-to-date with the priority given by Eircom to each request.

6.197 Finally, in alignment with the proposed obligations with respect to non-discrimination, ComReg proposes that within seven (7) months of a Decision arising from this Consultation, Eircom publish and thereafter keep up-to-date, a full, true and accurate description of all systems and processes used for the provision of PIA to itself, its subsidiaries, partners and affiliates (to include for the avoidance of doubt any systems and processes relied upon by third party contractors) and Access Seekers. This includes in particular, the systems and processes used for pre-ordering, ordering, provisioning, fault reporting and repair for PIA.

## 6.6.6 Service supply and quality conditions

6.198 In line with the BEREC Guidelines, ComReg proposes that Eircom is required to publish on its wholesale website the SLAs that it negotiates and agrees as part of its obligation of access and the requirement to ensure fair, reasonable and timely access.

## 6.6.7 General terms and conditions of the agreement

6.199 Finally, the draft contract offer published as part of the PIARO should contain all applicable general terms and conditions, including (without limitation):



- (a) Eircom's Dispute resolution procedures to be used between it and Access Seekers;
- (b) Definition and limitation of liability and indemnity;
- (c) Glossary of terms relevant to wholesale inputs and other items concerned; and
- (d) Details of duration, renegotiation and causes of termination of agreements.

### **6.6.8 Form of publication**

6.200 The information to be made available by Eircom under the proposed transparency obligations is, by default, to be published on Eircom's publicly available wholesale website.

6.201 ComReg proposes that in exceptional circumstances, in respect of information that is required to be made available under the proposed transparency obligations, but is commercially sensitive such that it would not be appropriate to share such information beyond the Access Seekers availing of PIA, or with a demonstrable intention to avail of PIA from Eircom, Eircom restrict access to such information, for instance through the use of a password protected section of its publicly available wholesale website and/or subject its provision to reasonable terms and conditions such as the requirement to enter into a Non-Disclosure Agreement addressing disclosure concerns. ComReg reserves the right to intervene, as appropriate, including to require Eircom to make certain information publicly available for which Eircom cannot provide appropriate justification for not doing so.

### **6.6.9 Changes to the PIARO**

#### **Change management**

6.202 Publication or the making available of information by way of a PIARO as described above will only meet the objective of transparency if the published/available documentation remains up-to-date and Access Seekers may easily ascertain what changes have been made. The provision of clear information on what changes are made to the PIARO and when such changes are made also supports monitoring and enforcement of compliance with SMP obligations. ComReg accordingly proposes that the following is to be made available and kept up to date in searchable format on Eircom's publicly available website:

- (a) Clean (or unmarked) and tracked changes (or marked) versions of the PIARO and PIARO Price List. The tracked change version must be sufficiently clear to allow Access Seekers to clearly identify all actual and proposed amendments from the preceding version of the PIARO/PIARO Price List;
- (b) An accompanying change matrix which lists all of the amendments incorporated, or to be incorporated, in any amended PIARO/PIARO Price List (the 'PIARO/PIARO Price List Change Matrix'); and
- (c) A copy of historic versions of its PIARO, PIARO Price List, PIARO Change Matrix and PIARO Price List Change Matrix.

### Advance notification timeframes

- 6.203 In order that changes are made transparently and are clear to all, allowing Access Seekers to factor changes into their commercial decision-making activities and make any necessary adjustments or developments to systems or operational processes, as appropriate, ComReg proposes that changes to the PIARO and associated documentation are subject to prior notice to ComReg and separately, Access Seekers. Consistent with the practice adopted in other regulated markets, notification should be given to ComReg at least three months in advance of changes coming into effect, and to Access Seekers at least two months in advance. In other words, ComReg is notified one month in advance of notification to Access Seekers.
- 6.204 Insofar as advance notification to ComReg is concerned, such advance notification, before publication, facilitates compliance monitoring by ComReg and allows ComReg to ensure, in advance of publication, that the changes are sufficiently clear and readily understandable to all Access Seekers. However, this is not an approval process and publication accordingly does not imply compliance.
- 6.205 Changes which trigger an obligation to notify and publish include for instance:
- (a) Where changes are made to the terms and conditions, including prices, associated with each of the products, services and associated facilities provided in the PIA Market, or to their technical characteristics including relevant engineering or technical standards for network access;
  - (b) Where changes are made to the operational processes described in the PIARO (e.g., in the IPM);
  - (c) Where an existing product is amended or a new version introduced;

- (d) Where a new product or service is introduced;
- (e) Where changes are made to the general terms and conditions offered by Eircom to Access Seekers.

6.206 In other regulated markets, a distinction is drawn between amendments to existing products, and the introduction of new products. For example, in the WLA Market under the 2018 Decision, the requirement is for one month notification to ComReg in advance of a six month notification to industry prior to launch of a new product, service or associated facility, a total of seven months, and for one month notification to ComReg in advance of a two month notification to industry (by way of publication) prior to amendment to an existing product (a total of three months). A distinction is also drawn implicitly between non-material and material amendments with advance notification only required in respect of the latter.

6.207 It does not appear to ComReg that, with the exception discussed below, it is necessary in the PIA market to maintain these distinctions. In other regulated markets, such as the WLA Market, ComReg has in the past taken the view that the longer notification timelines applicable in respect of a new, rather than amended, product, service or associated facility are designed to mitigate the risk that Eircom's retail arm benefits from a first mover advantage when launching a new retail offering relying on new wholesale inputs. ComReg is of the view that such a problem does not arise in the context of PIA as access to passive infrastructure is unlikely to determine the features and functionalities of active products in downstream markets. There does not appear accordingly to be a requirement to differentiate notification timelines by reference to whether a product ought to be considered new or amended. In these circumstances, a requirement that all changes are notified to ComReg at least one month in advance of publication and published at least two months in advance of launch ('the 1 + 2 advance notification rule') is appropriate and proportionate.

6.208 ComReg proposes also that the 1 + 2 advance notification rule applies in respect of any changes affecting PIA, including changes affecting the product itself, its price and other terms and conditions, or the operational processes used for delivery. Amendments to the PIARO Price List relating to a new or amended product, service or associated facility is made available at the same time to Access Seekers as proposed amendments to the PIARO so that Access Seekers may assess the potential business case of investing in such a new offering from Eircom and take any necessary business decisions, including for example the sourcing and purchase of any new equipment that may be needed and any necessary adjustments or developments to systems or operational processes. For the avoidance of doubt, ComReg proposes

that the 1 + 2 advance notification rule apply to all changes (except as discussed below) including price changes, regardless whether the price is a new price, a price increase or a price decrease.

- 6.209 As an exception to the proposed 1 + 2 advance notification rule, ComReg proposes that Access Seekers must be provided with an appropriate period of notice with respect to changes to Eircom's IT systems to the extent that such changes impact Access Seekers. ComReg therefore proposes that where there are changes to Eircom's IT systems that would require Access Seekers to carry out development work without which it would not be possible for Access Seekers to continue to order existing, products, services or facilities or to be able to order new or amended products, services or facilities, then the full set of PIARO documentation (product and pricing), is to be notified to ComReg at least one month in advance of publication and published at least six months in advance of launch ('the 1 + 6 advance notification rule'). Such documentation should include the information relevant to Access Seekers with respect to the proposed IT changes. The introduction of an IT change that can impact Access Seekers, in the manner described above, should only arise in exceptional circumstances. Eircom will therefore be required to set out the objective reasons in this documentation as to why such an IT change is considered necessary. Where the 1 + 6 advance notification rule is triggered, it also applies to any accompanying change to the price/the PIARO Price List. ComReg considers such an approach is appropriate and proportionate and provides Access Seekers with the necessary information and notice relating to such changes.
- 6.210 Finally, for the avoidance of doubt, in relation to existing contracts, text changes proposed by Eircom to the general terms and conditions will not be automatically incorporated into existing contracts. Amendments of existing contracts will require agreement of the parties to the contract as changes to Access Seeker contractual obligations. Eircom can negotiate with Access Seekers regarding any such changes. In the absence of agreement, in appropriate cases, one party or both may refer their disagreement for dispute resolution by ComReg under Regulation 31 of the Framework Regulations/Regulation 67 of the ECC Regulations.

### **Timeline variation with respect to advance notification timelines**

- 6.211 While clear mandatory notification timelines are an essential aspect of transparency and ensuring certainty, it is also important to ensure a degree of flexibility so that the timeline may be amended in appropriate circumstances. It may be, for instance, that there is a case for immediate availability of an amended product, or that a two or six month publication timeline, as appropriate, is insufficient owing to the operational and/or

technical adjustments required in order to avail of an amended products or associated with a change of operational processes.

- 6.212 ComReg proposes in this regard to maintain the approach followed in other regulated markets, where notification timelines may be varied, either on Eircom's application or on ComReg's own initiative, where justified and appropriate.

### 6.6.10 PI Rollout Plan

- 6.213 In order for an Access Seeker to be able to avail of new PI routes in a timely manner, it must have the ability to plan in advance and carry out its own network design with respect to the ECN it wishes to deploy. Advance information, with respect to the new PI routes Eircom is planning to roll out, will enable an Access Seeker to efficiently plan, design and deploy its own infrastructure.
- 6.214 However, while Eircom may engage in planning network roll out on an ongoing basis, it may not always commit to building planned infrastructure, or the actual roll out may be deferred until, for example, budget to complete the roll out becomes available. Therefore, making information available before the decision to build may create expectations with Access Seekers which subsequently cannot be fulfilled by Eircom.
- 6.215 Accordingly, the timing of the release of information with respect to new infrastructure build by Eircom should correspond to the earliest decision to deploy the infrastructure (for example, the release of work order or equivalent for deployment of infrastructure might be an appropriate trigger point) in order to provide certainty to Access Seekers and thereby improve planning of infrastructure build and utilisation of PI. In order that Access Seekers have sufficient notice of a new deployment's availability, Eircom's PI roll out plans should include the Ready for Order ('**RFO**') date one month from the date on which the PI has been verified by Eircom as being complete in the field and can be ordered and utilised for the installation of cables, sub-ducts and equipment.
- 6.216 As ComReg proposes that Eircom be subject to obligations of non-discrimination, neither Eircom or Access Seekers should be able to use or reserve such PI before the RFO date. Furthermore, again with the view to ensure clarity and certainty on the part of Access Seekers, Eircom's PI roll out plan should be updated and published on Eircom's publicly available wholesale website within 3 months of the Effective Date and thereafter kept up to date and published on a monthly basis so that the PI rollout plan at all times accurately reflects any progress in PI deployment status.

- 6.217 When deploying PI, ComReg understands that Eircom may build this itself, including using its own contractors or managed service partners to build it or make an agreement with a third party to build PI on its behalf, for example a third party that is building PI for a housing estate. In such cases ComReg proposes that at least the following details are included in an Eircom PI roll out plan, in a single consolidated file:
- (a) Object IDs;
  - (b) Co-ordinate references for such objects, providing information on the location of poles and chambers and the start and end points of individual duct and sub-duct segments;
  - (c) Attribute information including the proposed number and size of ducts, and sub-ducts on each proposed route; and
  - (d) The RFO dates for proposed underground and aerial routes.
- 6.218 For the avoidance of doubt, ComReg proposes that all underground and aerial route information is added to the PI roll out plan following the earliest decision made by Eircom that the PI is to be built by it or built on its behalf. Information regarding route information is with respect to new PI routes. A new PI route includes any deployment of PI that extends or introduces PI as opposed to remediates existing PI, unless such remediation results in a change to the PI's characteristics.
- 6.219 ComReg proposes further that in light of its commercial sensitivity and potential impact of competition, Eircom limits availability of this information to Access Seekers who have signed an agreement with Eircom for Access to PI or who have a demonstrable intention to avail of PIA from Eircom and signed a suitable NDA.

### **6.6.11 Key Performance Indicators**

- 6.220 Article 69(4) of the Code/Regulation 51(5) of the ECC Regulations provides that where an undertaking has obligations concerning wholesale access to network infrastructure, NRAs shall ensure that KPIs are specified where relevant, as well as corresponding service levels, and closely monitor and ensure compliance with them.
- 6.221 While for the time being ComReg does not propose to intervene by way of setting applicable service levels and proposes to leave levels of service for negotiation between Eircom and Access Seekers, ComReg does reserve the right to intervene in accordance with the requirements of Article

69/Regulation 51 where SLAs prove inadequate in ensuring an appropriate level of service.

- 6.222 ComReg however does propose to require that Eircom monitor and measure its performance in respect of the end-to-end lifecycle of the PIA products, services, and associated facilities and to publish PIA Key Performance Indicators ('**KPIs**') on its publicly available wholesale website in respect of the following aspects:
- (a) PI orders/requests;
  - (b) PI provisioning process point intervals metrics (e.g. the mean and the standard deviation of the elapse time between provisioning process points); and
  - (c) PI fault repairs.

### **KPI monitoring and reporting processes**

- 6.223 In order that the KPI metrics published by Eircom are properly understood, ComReg proposes also that the processes used by Eircom for gathering, processing, and reporting KPI are published and maintained by Eircom on its publicly available website. ComReg proposes further to give Eircom a period of 7 months to do so from the Effective Date of ComReg's final decision arising from this consultation process.
- 6.224 Regarding the PIA KPI metrics report, ComReg proposes that a PIA KPI metrics report is published quarterly two months after the end of each reporting quarter. In order that Eircom has sufficient time to put in place monitoring and reporting processes, ComReg proposes that the first PIA KPI metrics report is published 12 months after ComReg's Decision 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, 3 months for the first data collection period, and 2 months to gather, process and publish the PI KPI metric report.
- 6.225 Performance of all new or amended products, services or facilities made available in the Relevant Market following ComReg's Decision should be monitored from launch and reported as part of the KPI Report after the first full quarter of monitoring.
- 6.226 ComReg intends to consult further in respect of a further specification of Eircom's obligation to monitor and publish KPIs including as regards the details of the relevant performance indicators and how they should be measured.

## Performance with respect to Service Level Agreements

- 6.227 ComReg also proposes that Eircom publish, on a quarterly basis, a Performance Metric Report setting out, by reference to the service levels the subject of SLAs, the actual service levels achieved in each of the three previous months in respect of all operators on an aggregate basis. This Performance Metric Report should include at a minimum the following parameters:
- (a) details of the service metrics allowing Access Seekers identify the specific activities and processes, along with associated process times, for the products being reported on; and
  - (b) the performance targets and actual performance achieved for each activity.
- 6.228 ComReg proposes further that Eircom publishes and maintains on its publicly available website, a report with respect to paragraph 6.227 above detailing the methodology applied, the source data used and explaining how the source data is processed by Eircom including worked examples as to how the processed source data relates to the actual performance achieved.

Q. 4 Do you agree with ComReg's proposed non-pricing remedies in the PIA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.



## Chapter 7

# 7 Price Control, Cost Accounting and Accounting Separation Remedies

## 7.1 Overview

7.1 In this Section ComReg discusses the following:

- (a) Price control under the 2018 WLA Market Decision;
- (b) Price control obligation for PIA;
- (c) Implementing the price control for PIA<sup>191</sup>;
- (d) Cost accounting obligation for PIA; and
- (e) Accounting separation obligation for PIA.

7.2 Each one is discussed in turn below.

## 7.2 Price Control under the 2018 WLA Market Decision

### 7.2.1 CEI Price Control in 2018 WLA Market Decision

7.3 In the 2018 WLA Market Decision, ComReg imposed a price control obligation of cost orientation on access to Eircom's ducts and poles (referred to as Civil Engineering Infrastructure ('**CEI**') access), in the national WLA Market. In addition, ComReg set the maximum prices allowed by using the Revised Copper Access Model ('**Revised CAM**'), as set out in ComReg Decision D03/16<sup>192</sup> ('**2016 Access Pricing Decision**').

7.4 In the 2016 Access Pricing Decision ComReg decided that the costs/prices for access to Eircom's ducts and poles should be based on a mix of two methodologies. The methodologies were the bottom-up long run average incremental costs plus a contribution to common corporate costs '**BU-LRAIC+**'<sup>193</sup> methodology, and the top down historic cost accounting '**TD**

---

<sup>191</sup> This includes the costing methodologies, the cost modelling approach, the cost sharing approach, the pricing approach, the one-off charges, draft PIA rental prices and pricing options for duct related access.

<sup>192</sup> ComReg Document No. 16/39, ComReg Decision D03/16, "Pricing of Eir's Wholesale Fixed Access Services: Response to Consultation Document 15/67 and Final Decision", dated 18 May 2016.

<sup>193</sup> This reflects current replacement costs.

**HCA**<sup>194</sup> methodology. This meant that for those assets that needed to be replaced and could not be reused for the provision of NGA that a BU-LRAIC+ methodology would apply. For those assets that could be reused for the provision of NGA, a TD HCA methodology would apply.

7.5 In summary, duct and pole maximum prices were set as follows:

- (a) Duct related access prices were based on a 95% reuse of Eircom's ducts using projected HCA costs i.e., Eircom's regulatory asset base ('**RAB**')<sup>195</sup> from its Historic Cost Accounts ('**HCA**s'). In addition, the duct access prices included an assumed 5% replacement of Eircom's ducts (due to NGA rollout) using a BU-LRAIC+ methodology i.e., a RAB based on Current Costs or replacement costs.
- (b) Pole Access prices were based on a 92% reuse of Eircom's poles using projected HCA costs i.e., Eircom's RAB from its HCAs. In addition, the pole access prices included an assumed 8% replacement of Eircom's poles (due to NGA rollout) using the BU-LRAIC+ methodology i.e., a RAB based on Current Costs or replacement costs.

7.6 In addition, the existing duct and pole prices were differentiated by geographic areas based on cost differences between the areas. The rental prices for access to poles were differentiated between Modified Larger Exchange Area<sup>196</sup> (the '**Modified LEA**') and outside the Modified LEA. This differentiation between Modified LEA and outside the Modified LEA reflected the cost differences that were observed on the average historic costs for poles based on Eircom's fixed asset register ('**FAR**') from its HCAs. Those differences observed on poles have been a result of the historical timing of pole investment by Eircom in different exchange areas.

7.7 For ducts, the existing annual rental prices were differentiated by surface type i.e., carriageway, footway and verge, and by Dublin and Provincial areas. Sub-contractor rates charged to Eircom differed on the basis of the surface type in which the duct was deployed. Hence, for consistency, the cost-oriented prices set for access to duct differed depending on surface type. In addition, Eircom also faced higher subcontractor rates to deploy duct in those

---

<sup>194</sup> This reflects actual historic costs from Eircom's accounting statements.

<sup>195</sup> The RAB as defined in the Non-Discrimination and Costing Methodologies Recommendation means the total capital value of the assets used to calculate the costs of the regulated services. In the 2016 Access Pricing Decision Eircom's RAB was based on the net book value of the assets from Eircom's accounts and depreciated over the remaining lifetime of the asset by applying a tilted annuity formula.

<sup>196</sup> These are exchanges in urban areas, as listed in Annex 14 of the 2016 Access Pricing Decision.

exchanges in and around the Dublin area compared to areas outside of Dublin i.e., Provincial areas. As a result, the prices for duct were set based on surface type and by 'Dublin' and 'Provincial' areas, to reflect these differences in costs.

## 7.2.2 2021 CEI Pricing Draft Decision

- 7.8 In 2020 ComReg published a consultation, in ComReg Document 20/81 ('**Consultation 20/81**')<sup>197</sup>, on the pricing of Eircom's ducts and poles, which sought to re-specify the obligation of cost orientation set out in the 2018 WLA Market Decision. Consultation 20/81 included pole and duct prices for access by NBI for the Irish Government's National Broadband Plan ('**NBP**'). As part of the 2021 CEI Pricing Draft Decision ComReg proposed to replace the Revised Copper Access Model ('**Revised CAM**') developed in the 2016 Access Pricing Decision by a Pole Access Model<sup>198</sup> ('**PAM**') and a Duct Access Model<sup>199</sup> ('**DAM**').
- 7.9 Subsequently, in 2021, ComReg notified its Response to Consultation and Draft Decision on the access prices for Eircom's ducts and poles to the EC, the details of which are set out in Information Notice 21/108<sup>200</sup> ('**2021 CEI Pricing Draft Decision**').
- 7.10 In the 2021 CEI Pricing Draft Decision ComReg proposed that because of the specific and unique nature of the NBP and NBI's role in it, differential, and consequently lower, prices would apply to NBI's access to Eircom's ducts and poles, relative to other "Generic Access" users. In addition, ComReg proposed that the prices for NBI's access to duct and poles would also be differentiated between areas. For example, NBI's access price would differ based on access in the urban areas (referred to as the "**Commercial**

<sup>197</sup> <https://www.comreg.ie/publication/pricing-of-eircoms-civil-engineering-infrastructure-cei-consultation-and-draft-decision>

<sup>198</sup> The PAM is the cost model used to calculate the costs of an efficient operator providing Pole Access in Ireland.

<sup>199</sup> The DAM is the cost model used to calculate the costs of an efficient operator providing Duct Access, Direct Duct Access and Sub-Duct Access in Ireland.

<sup>200</sup> "Pricing of Eircom's Civil engineering Infrastructure"  
<https://www.comreg.ie/publication/information-notice-pricing-of-eircoms-civil-engineering-infrastructure>

**Areas**<sup>201</sup>) and access by NBI in more rural areas (referred to as the **“Intervention Area”** or **‘NBP IA’**<sup>202</sup>).

- 7.11 The EC expressed serious doubts with ComReg’s proposals, as outlined in its Serious Doubts Letter of 25 November 2021<sup>203</sup>. Following the EC Serious Doubts Letter, ComReg engaged with the process set out in Article 33 of the EECC, as detailed in ComReg’s Information Notice 21/119.<sup>204</sup> In December 2021, ComReg decided, in line with Article 33(8) of the EECC, to withdraw its 2021 CEI Pricing Draft Decision, as set out in Information Notice 21/127.<sup>205</sup> ComReg stated that it would revisit the price control for ducts and poles (which is referred to as **“PIA”** in the rest of this section) in the PIA market review. The price control for duct and pole access to date has remained as that set out in the 2018 WLA Market Decision.

### 7.2.3 Access Network Model (ANM) Decision

- 7.12 In December 2021, ComReg adopted ComReg Decision D11/21 on Regulated Wholesale Fixed Access Charges (ComReg Document 21/130<sup>206</sup>) (**‘the ANM Decision’**). The ANM Decision replaces the Revised CAM with the Access Network Model (**‘ANM’**). The ANM sets prices for other access services on Eircom’s network e.g., Local Loop Unbundling (**‘LLU’**), Sub Loop Unbundling (**‘SLU’**), Line Share, Dark Fibre, Current Generation Standalone Broadband (**‘CG SABB’**). The ANM also provides inputs to the prices of fibre-based access services i.e., Fibre to the Cabinet (**‘FTTC’**).
- 7.13 The ANM model looks at costs in three different footprints i.e., Urban Commercial Area, Rural Commercial Area and National Broadband Plan Intervention Area (**‘NBP IA’**). The ANM model is comprised of six modules,

<sup>201</sup> The **Commercial Areas** consist of the Urban Commercial Area and the Rural Commercial Area. The **Urban Commercial Area** corresponds to the footprint where commercial operators are delivering or have indicated plans to deliver high speed broadband services. It is also the footprint where Eircom has deployed FTTC. This footprint covers approximately 1.5m premises (as at its inception in April 2017). The **Rural Commercial Area** corresponds to the footprint comprised of the premises passed by Eircom (or to be passed by Eircom) as a result of Eircom’s commitment to deliver high speed broadband on a commercial basis under its 2017 Agreement with the Minister in relation to National Broadband Plan – commercial deployment commitment.

<sup>202</sup> The **Intervention Area (IA)**, also referred to by DECC as the non-commercial ‘Intervention Area’, where there is no existing or planned commercial high speed broadband services available and corresponding to the target areas for state intervention under the NBP, for its contract with NBI. This area is based on circa 537,000 premises (delivery points).

<sup>203</sup> [Circabc \(europa.eu\)](https://www.circabc.europa.eu)

<sup>204</sup> Information Notice 21/119 “Update on Pricing of Eircom’s Civil engineering Infrastructure – Procedure under Article 33 of the EECC” <https://www.comreg.ie/publication/update-on-pricing-of-eircoms-civil-engineering-infrastructure-procedure-under-article-33-of-eecc>

<sup>205</sup> <https://www.comreg.ie/publication/information-notice-update-on-pricing-of-eircoms-civil-engineering-infrastructure>

<sup>206</sup> <https://www.comreg.ie/media/2021/12/ComReg21130.pdf>

which includes the PAM and the DAM. The ANM Decision incorporated details of the modelling of the pole and duct costs in the PAM and DAM from the 2021 CEI Pricing Draft Decision for setting the cost stacks for the services in scope in the ANM Decision.

- 7.14 The PAM and DAM cost models used in this Consultation to set the PIA prices are, in the main, consistent with the methodologies and principles used in the versions of the PAM and DAM cost models in the ANM Decision. However, ComReg has made some changes to the PAM and DAM, from that used in the ANM, for setting the PIA prices. For example, as further discussed below, the depreciation approach has been changed, the approach to the recovery of common corporate costs has been revised and the WACC has been updated. The financial / costing data used in the PAM and DAM for PIA pricing is based on the 2019 data, which is consistent with what is used in the ANM Decision. However, as discussed below it is ComReg's intention to update the costing/financial information in the PAM/DAM to more recent information before issuing its final decision. However, any data that has been modelled in the ANM and used as an input to the PAM/DAM models (e.g., the total line base used to scale the operating costs and the mark-up for common costs) will not be updated as ComReg considers that those inputs from the ANM remain appropriate for setting the PIA prices for the price control period.<sup>207</sup>
- 7.15 In the rest of this section ComReg considers the costing / pricing approach that should apply for setting the prices for PIA in this PIA market review, for the next five years. Our proposals take account of the outcome of the market analysis and the competition problems identified, including the form of the price control, the costing, valuation and allocation methodologies, the approach to depreciation and appropriate asset lives, and how to implement those principles in a cost model as well as the cost sharing/pricing methodology.
- 7.16 The proposed price control obligation for PIA is largely consistent with the existing price control for ducts and poles under the 2018 WLA Market Decision. However, there are some changes, including the way costs are shared in the context of duct and the way prices are set for Pole Access (averaged versus deaveraged). Table 7 below provides a summary of the main changes (highlighted in red) proposed by ComReg.

---

<sup>207</sup> As part of the data refresh of the PAM and DAM ComReg will consider whether the models should be realigned with Eircom's new financial reporting period i.e., January-December.

**Table 7: Summary of main price control obligations**

	Existing approach	New approach
<b>Price control</b>	Cost Orientation	Cost Orientation
<b>Cost methodology</b>	BU-LRAIC+ and TD HCA	BU-LRAIC+ and TD HCA
<b>Cost sharing approach</b>	Poles: Per operator Duct: Per metre of cable	Poles: Per operator <b>Duct: Per metre of duct access equivalents</b>
<b>Pricing approach</b>	Poles: Deaveraged prices Ducts: Deaveraged prices	<b>Poles: National averaged price</b> Ducts: Deaveraged prices

### 7.3 PIA price control obligation

7.17 A range of price control options are available to ComReg, including:

- (a) Benchmarking;
- (b) Retail minus;
- (c) Margin squeeze test; and
- (d) Cost orientation.

7.18 ComReg proposes that a price control obligation is imposed on Eircom for PIA in the form of an obligation of cost orientation.

7.19 For the reasons set out below, ComReg considers that only an obligation of cost orientation will address satisfactorily the competition problems identified in Section 5. In particular the cost orientation obligation addresses the risk of **excessive pricing** by Eircom in relation to PIA, given its presence in markets downstream from the PIA Market, including both the wholesale (WLA, WHQA and WCA) and retail broadband (and related) markets.

7.20 In this regard, PI is a bottleneck asset, without access to which, Access Seekers are less likely to build network infrastructure. PI assets are both very costly to deploy and have long life-times which means that their duplication is generally avoided and facilitating joint use of existing physical infrastructure is generally more economically efficient. Given these factors, ensuring appropriate recovery of costs is a key objective.

- 7.21 As a vertically integrated undertaking with SMP in the Relevant PIA Market and having control over infrastructure not easily duplicated, Eircom has the ability and incentive to refuse to provide PIA (including on a constructive basis by imposing excessive prices). Access to Eircom's PI is particularly important in circumstances where it enables alternative network rollout by removing unnecessary network build costs. Refusal of access to Eircom's PI could hinder or prevent the development of sustainable and effective downstream competition. Please refer to Section 5 for further discussion on the competition problems, including excessive pricing.
- 7.22 Hence, ComReg proposes to maintain Eircom's existing obligation of cost orientation.
- 7.23 In choosing the appropriate price control for deriving the PIA prices, ComReg must ensure that its approach is in line with its regulatory (or statutory) objectives.
- 7.24 ComReg is required to ensure that the obligations it imposes are based on the nature of the problem identified, proportionate and justified and only be imposed following a consultation process, in line with Regulation 8(6) of the Access Regulations/Regulation 50(5) of the ECC Regulations.
- 7.25 ComReg must also take account of Section 12 of the Communications Regulation Act 2002 (as amended), Regulation 16 of the Framework Regulations/Regulation 4 of the ECC Regulations, Regulation 6(1) of the Access Regulations/Regulation 42(1) of the EEC Regulations, Regulation 8(6) of the Access Regulations/Regulation 50(5) of the EEC Regulations and Regulation 13 of the Access Regulations/Regulation 56 of the EEC Regulations.
- 7.26 ComReg's regulatory objectives in line with Section 12 of the Communications Regulation Act 2002 (as amended) includes the promotion of competition, to encourage efficient investment and innovation, to contribute to the development of the internal market and to promote the interests of users by encouraging access to the internet at a reasonable cost to end-users.
- 7.27 Separately, Regulation 16 of the Framework Regulations/Regulation 4 of the EEC Regulations provides for the promotion of competition, the desirability of technological neutrality, development of the internal market and the application of objective, transparent, non-discriminatory and proportionate regulatory principles. This also provides for regulatory predictability, efficient investment, and due consideration for the variety of conditions relating to competition and consumers that exist in various geographic areas.

- 7.28 ComReg must also take into consideration the requirements of Regulation 13 of the Access Regulations/Regulation 56 of the EEC Regulations, when imposing a price control obligation. Regulation 13(2) of the Access Regulations/Regulation 56(2) of the EEC Regulations states that ComReg must take into account the investment made by the operator and allow the operator a reasonable rate of return on adequate capital employed. In this regard it is important to ensure when setting the prices for PIA that Eircom does not over or under recover its efficiently incurred costs. This is particularly relevant in the case of Eircom's reusable duct and pole assets, which is discussed further below.
- 7.29 In summary, having regard to its statutory objectives and the statutory requirements, for the reasons set out below, ComReg considers that a price control obligation of cost orientation is the appropriate approach for pricing Eircom's PIA in order to achieve its regulatory objectives.
- 7.30 A cost orientation obligation means that regulated prices reflect the costs for the provision of the service i.e., prices are set to reflect no more than the efficient costs plus a reasonable rate of return. The cost orientation obligation should ensure that Eircom is prevented from charging excessive prices for its wholesale inputs i.e., for access to ducts and poles and helps to ensure greater predictability and stability of access prices. With cost orientation Access Seekers know in advance what costs/prices they are expected to pay over the price control period, thereby allowing them to make investment decisions and develop business plans with a greater degree of confidence.
- 7.31 ComReg's objective in setting the prices for Eircom's PIA, is to ensure efficient reuse of Eircom's existing PIA assets by Access Seekers (or alternative infrastructure providers), rather than encouraging duplication of Eircom's duct and pole infrastructure by alternative providers. In addition, ComReg's objective is to maintain the investment incentives of Eircom by allowing it to recover its efficiently incurred costs including a reasonable rate of return on past and future investments. This is discussed further below as part of the preferred costing methodology.
- 7.32 ComReg considers that the less intrusive forms of price control, including benchmarking, retail minus or margin squeeze tests, will not be sufficient to ensure that prices for PIA are not excessive and are set in a way that supports efficient investments:



- (a) **Benchmarking**, whereby the regulated price is set with reference to the prices of comparable competitive markets (which can include prices in other countries)<sup>208</sup>, will not ensure that prices reflect efficient costs and allow adequate cost recovery including an adequate rate of return. In addition, benchmarking is not required in this case as ComReg has modelled the costs and network data associated with access to poles and ducts in Ireland.
- (b) A **retail-minus** price control, whereby the margin is set between the wholesale price and the related downstream retail price, requires that there are direct equivalent upstream and downstream products, so that the price of the upstream product can be set by subtracting the regulated margin from the downstream product's price. Not only are there no such downstream products that are directly relatable to PIA, but a retail minus price control does not provide for control on the actual level of prices, only on the margin between the two prices, and therefore does not ensure that prices reflect (only the) efficient costs and allow adequate cost recovery including an adequate rate of return.
- (c) For the same reasons as that above at (b), **margin squeeze tests** are designed to calculate the maximum upstream prices that may be charged by reference to the replicability of downstream offers taking account of the applicable downstream prices, provide no control on the actual level of prices, only the margin, and therefore do not ensure that prices reflect (only the) efficient costs and allow adequate cost recovery including an adequate rate of return.

Q. 5 Do you agree with ComReg's view that a cost orientation price control is appropriate for deriving the prices for Eircom's PIA? Please provide reasons for your response.

## 7.4 Implementing the price control for PIA

### 7.4.1 Costing methodology

- 7.33 In the section below ComReg sets out the costing/pricing methodology that should apply to determine the costs and prices for PIA including Pole Access, Duct Access, Direct Duct Access and Sub-Duct Access<sup>209</sup>.

---

<sup>208</sup> Benchmarking is provided for in Regulation 13(3) of the Access Regulations.

<sup>209</sup> Sub-Duct Self-Install (SDSI) product is a form of 'Duct Access'. Hence, the pricing approach for SDSI is covered by the pricing approach for Duct Access.

- 7.34 The costing methodology used for setting the cost oriented prices is based on:
- (a) The relevant cost model;
  - (b) The assessment/valuation of the cost items;
  - (c) The approach to arrive at the unit cost.

### Types of costs:

- 7.35 Certain assets and resources are linked entirely to specific services and their costs may be recovered solely from those services. However, in the case of assets and resources that can be used by many different services, rules are needed to inform the allocation of those costs to the particular services that the assets / resources support:
- (a) *Joint costs*: these are costs incurred by some but not all services e.g., a voice platform that is used by call transit, call origination, call termination, but not by broadband services or leased lines services;
  - (b) *Shared (or common) network costs*: these are costs used by all services e.g., common network costs of ducts and trenching are consumed by all fixed line services. These costs are referred to as '**shared network costs**' in this document; and
  - (c) *Common corporate (overhead) costs*: these are costs that cannot be allocated to services using a specific allocation method e.g., the costs of the Chief Executive's office. These costs cannot be associated with one single service or a single set of services and so are allocated to all services and are referred to as '**common corporate costs**' in this document.<sup>210</sup>
- 7.36 Table 8 below describes the cost standards that may be used for allocating costs to the underlying services.

---

<sup>210</sup> Common corporate costs generally relate to general overheads which typically include general IT system costs, office accommodation and transport management as well as corporate costs such as finance, legal, HR and senior management.

**Table 8: Cost standard descriptions**

<b>Concept</b>	<b>Description</b>
<b>(Pure) Long Run Incremental Cost ('LRIC')</b>	LRIC includes the direct fixed and variable costs relevant to the increment of providing the service over the long-run (or often referred to as ' <b>Pure LRIC</b> '). As a result, this 'Pure LRIC' approach does not include joint (or shared) network costs or common corporate costs, from other divisions of the operator's business.
<b>Long Run Average Incremental Cost ('LRAIC')</b>	LRAIC includes all of the average efficiently incurred variable and fixed costs that are directly attributable to the activity concerned over the long-run. The main difference between LRAIC and LRIC, is that the increment that is considered under LRAIC tends to cover a wider range of services compared to the LRIC approach, e.g. LRAIC could consider all voice services while LRIC would focus on a sub-set of voice services such as wholesale call termination. LRAIC also includes an attribution of joint (or shared) network costs but excludes common corporate costs.
<b>Long Run Average Incremental Cost plus an allocation for corporate overhead costs ('LRAIC+')</b>	LRAIC+ is calculated in the same way as LRAIC, except LRAIC+ includes a mark-up to allow for the recovery of common corporate costs typically using an equi-proportionate mark-up (' <b>EPMU</b> '). Hence, LRAIC+ includes all of the average efficiently incurred variable and fixed costs that are directly attributable to the activity concerned over the long-run, plus a mark-up for common corporate costs.
<b>Fully Allocated Cost ('FAC')</b>	<p>FAC includes all of the costs efficiently incurred by the regulated operator, including sunk costs, which are typically allocated to products following allocation rules determined by the direct or indirect causality of costs with products. This approach includes all fixed costs, joint (or shared) network costs and common corporate costs. The FAC approach results in a price signal which has the advantage of being relatively consistent with the recorded investments incurred by the SMP operator.</p> <p>The FAC approach is similar to LRAIC+ to the extent that it attributes common corporate costs between the various services offered by the operator. However, the LRAIC+ and FAC outcomes can differ due to the different efficiency levels that are inherent to both approaches. The concept of LRAIC+ cost is generally applied in the context of an efficient operator building a modern network, whereas the FAC concept is usually applied to an existing operator and so runs the risk of including legacy inefficiencies.</p>

### Historic costs or current costs:

- 7.37 The next consideration is how costs should be assessed. There are two options in terms of considering the appropriate cost base to adopt:

- (a) Current cost; or
- (b) Historic cost.

- 7.38 The current cost (**'Current Cost'**) approach values the assets at the current market value and allows one to reflect the changes in asset prices. The Current Cost approach can be implemented either based on the operator's accounting system in which case it is called Current Cost Accounting or (**'CCA'**) on a bottom-up (**'BU'**) model basis. It should be noted that Eircom does not produce accounts on a CCA basis. A BU model may be used to reflect the costs that a hypothetical entrant would incur when investing at any particular point in a modern equivalent asset (**'MEA'**).
- 7.39 Using a Current Cost approach in a BU model links the value of the assets to a newly deployed network and so it promotes efficient investment incentives, while it allows the SMP operator to recover its estimated future costs, and so it encourages it to make efficient infrastructure investment decisions.
- 7.40 On the other hand, the historic cost (**'Historic Cost'**) (also referred to as the Historic Cost Accounting **'HCA'** approach), uses the SMP operator's costs. The Historic Cost approach reduces the chance of over or under recovery of costs as the value is linked to the actual investment made in existing assets as opposed to the Current Cost approach, which assumes the investment is in new infrastructure. Some of the SMP operator's assets may be fully depreciated but still in use. The HCA approach should ensure that Eircom is not over recovering the costs of these assets.

### Appropriate cost model:

- 7.41 In terms of the appropriate cost model, there are generally two options:
- (a) A top down (**'TD'**) model; or
  - (b) A bottom up (**'BU'**) model.
- 7.42 A **TD cost model** relies on the SMP operator's accounting information to derive the relevant costs and to calculate the per unit cost for a service.
- 7.43 The TD approach is better suited to achieving exact cost-recovery as it is linked to the actual investments made by the SMP operator and recognises the extent to which the relevant asset base has already been depreciated. However, the accounting information may include inefficient costs incurred by the SMP operator. This approach does not provide the appropriate build-or-buy signal i.e., no incentive for operators to replicate assets, when compared to the BU model approach.

- 7.44 TD models can be constructed on a HCA or CCA basis. For a TD model based on HCA, the net book values ('**NBV**') of relevant assets are derived from the operator's FAR<sup>211</sup> and depreciated over their remaining useful life<sup>212</sup>.
- 7.45 A **BU model** reflects the choices of a hypothetical, forward-looking efficient operator from both a technical and an operational point of view. A BU model is generally a data intensive process of dimensioning the network assets as if the network was being built (either as it stands, or with improvements to the topology). This approach is associated with models that are aimed at promoting efficient entry, since the cost model can consider how a network would be built today, rather than modelling the actual network built. As the valuation process is based on current asset prices, a BU model determines the cost today of building a hypothetical efficient network capable of delivering the assumed level of demand.
- 7.46 The main reason to use a BU model is the need to send a build-or-buy signal to alternative operators who may want to replicate the asset and to send the right signal to Eircom when existing network infrastructure needs to be renewed. It is also more efficient to make forward-looking estimations based on expected levels of demand rather than relying on historical data.
- 7.47 A BU model calculates the level of network costs on the basis of the quantity of equipment and infrastructure that an operator using efficient engineering rules would deploy to support an assumed level of demand. BU models tend to lend themselves to some form of the LRIC approach. The combination of LRIC(+) with a BU model is one of the most commonly encountered practices in regulatory cost models.
- 7.48 A TD LRIC model does not fully incorporate the engineering model and network redesign aspects of a BU LRIC model. A TD cost model uses the accounting information of the operator as a starting point and so the model is based on an existing network, which may not represent the most efficient network deployment. As a result, adjustments for possible inefficiencies in the top-down costs have to be considered.
- 7.49 In addition, because TD models are constrained by the level of costing and operational data contained in the operator's information systems, they often lack the level of granularity required to adequately identify incremental costs or to identify inefficient expenditure. Even when operational and costing information is available at a regional and local level there can still be practical issues in attempting to incorporate and maintain the required level of detail in

---

<sup>211</sup> Fixed Asset Register.

<sup>212</sup> The regulatory asset lives of assets are intended to reflect the economic asset life and may differ from the statutory asset lives of assets.

a TD model. For this reason, the FAC approach is most frequently applied to TD models.

## 7.4.2 Costing methodology for PIA

- 7.50 Taking account of the Non-Discrimination and Costing Methodologies Recommendation, ComReg proposes to further specify the obligation of cost orientation by continuing to use the existing costing methodology in place for pricing Eircom's ducts and poles, namely a mix of **BU-LRAIC+ and TD HCA costs** depending on whether the assets are re-usable or not.
- 7.51 PIA (ducts and poles) is generally not replicable given the high fixed costs involved. Hence, where capacity is not exhausted, it makes sense to share the use of PIA rather than building parallel infrastructure. In some cases, there may be costs associated with upgrading or modifying PIA to allow for sharing but where this is cheaper than building parallel PIA then it would not be considered efficient to replicate the PIA asset(s).
- 7.52 Separately, it is important that the right build-or-buy incentives are in place to encourage competing downstream networks, such as broadband networks, to be replicated. If there is actual investment taking place, the SMP operator should be allowed to recover the cost of the asset, but if there is no investment and assets are "sweated" to get the maximum value from them then the SMP operator should not be compensated over and above the initial gross book value ('**GBV**') of those assets. This should ensure that efficient market entry is not inhibited by over-charging for reusable assets.
- 7.53 On the other hand, the valuation of PIA assets which require further investment in terms of replacement or remediation to facilitate the rollout of NGA services i.e., non-reusable assets, should be set by reference to replacement or Current Costs. This approach should send the appropriate signals to Eircom to continue investing and maintaining its PIA to allow for NGA deployment.
- 7.54 In setting cost-oriented PIA prices, ComReg recognises that the reuse of existing PIA is an essential aspect of encouraging efficient investment.
- 7.55 Recital 187 of the EECC states that:
- "Civil engineering assets that can host an electronic communications network are crucial for the successful roll-out of new networks because of the high cost of duplicating them and the significant savings that can be made when they can be reused..."*

- 7.56 This concept of reuse of civil infrastructure is also consistent with Paragraph 34 of the European Commission’s 2013 Recommendation on Non-Discrimination and Costing Methodologies.<sup>213</sup> Reusable civil engineering assets should be valued on the basis of a regulatory asset base (**‘RAB’**) approach derived from the SMP operator’s accounts, as set out in the Non-Discrimination and Costing Methodologies Recommendation and which is discussed further below at paragraph 7.73.
- 7.57 Using a BU model in combination with LRAIC+ costing methodology where the asset(s) concerned is non-reusable for the rollout of NGA will send the right signal to Eircom when the existing PIA network needs to be renewed; using a TD model in combination with actual costs recorded in Eircom’s HCAs (but adjusted for efficiencies) where the PIA asset(s) concerned are reusable for the rollout of NGA will ensure that there is no over or under recovery of costs by Eircom for those ducts and poles that are reusable.
- 7.58 This reflects the approach recommended in the Non-Discrimination and Costing Methodologies Recommendation which states as follows:<sup>214</sup>
- “31 NRAs should adopt a BU LRIC+ costing methodology that estimates the current cost that a hypothetical efficient operator would incur to build a modern efficient network...”*
- 32 When modelling an NGA network... NRAs should include any existing civil engineering assets that are generally also capable of hosting an NGA network as well as civil engineering assets that will have to be newly constructed to host an NGA network. Therefore, when building the BU LRIC+ model, NRAs should not assume the construction of an entirely new civil infrastructure network for deploying an NGA network.*
- 33 ...NRAs should value all assets constituting the RAB of the modelled network on the basis of replacement costs, except for reusable legacy civil engineering assets.”*
- 7.59 PIA costs are such that duct and poles are unlikely to be replicated by other Access Seekers. Hence, the “build” option for PIA is not economically feasible, nationally. Instead, PIA should be priced in such a way so as to encourage efficient entry by providing other alternative network providers

---

<sup>213</sup> *“Unlike assets such as the technical equipment and the transmission medium (for example fibre), civil engineering assets (for example ducts, trenches and poles) are assets that are unlikely to be replicated. Technological change and the level of competition and retail demand are not expected to allow alternative operators to deploy a parallel civil engineering infrastructure, at least where the legacy civil engineering infrastructure assets can be reused for deploying an NGA network.”*

<sup>214</sup> Recital 187 of the EECC is also relevant and this is discussed further later in this section.

with access to “buy” or reuse Eircom’s existing ducts and poles. This allows other operators to extend their networks to compete directly with Eircom in downstream wholesale and retail markets. In addition, it is important that the costing methodology maintains the investment incentives of the owner of that infrastructure (Eircom) by allowing it to recover its efficiently incurred costs plus a reasonable rate of return on its capital employed, across the Relevant PIA Market.

7.60 Hence, there is a need to balance on the one hand cost recovery for Eircom of investments made, and on the other hand, promoting continued investment by Eircom in its existing access network when assets need to be replaced for rolling out NGA services. This approach also allows other Access Seekers to use that infrastructure to rollout their alternative networks. The cost recovery mechanism serves to promote efficiency and sustainable competition and to maximise consumer benefits, as set out in Regulation 13(3) of the Access Regulations/Regulation 56(5) of the EEC Regulations.

7.61 ComReg proposes that the costs for PIA should be calculated based on a combination of:

- (a) a BU-LRAIC+ for ducts and poles that need to be replaced for making the network “NGA ready”; and
- (b) a TD HCA, based on Eircom’s HCAs, for the costing of poles or ducts that can be reused for the provision of NGA.

### 7.4.3 Recovery of common corporate costs

7.62 The BU-LRAIC+ methodology for non-reusable ducts and poles means that Eircom is entitled to recover all the relevant costs i.e., incremental, shared network costs and a mark-up for common corporate costs, for providing access to its PIA.

7.63 In 2018, ComReg specified that **common corporate costs**<sup>215</sup> should only be recovered from services sold in commercial areas, and not from services sold outside commercial areas i.e., the NBP IA, in ComReg Decision D11/18<sup>216</sup> (the ‘**2018 Pricing Decision**’). This was based on the premise that the

---

<sup>215</sup> Common corporate costs include general IT system costs, office accommodation, transport management and network rates as well as corporate costs such as finance, legal, HR and senior management.

<sup>216</sup> ComReg Document No.18/95: Response to Consultation Document 17/26 and Final Decision, Pricing of wholesale broadband services, Wholesale Local Access (WLA) market and the Wholesale Central Access (WCA) markets, dated 19 November 2018.



provision of fixed line access services outside commercial areas was largely uneconomic.

- 7.64 ComReg has given further consideration to the extent that common corporate costs might vary (or scale) in the PAM and DAM for an operator providing PIA services, compared with an operator providing services in downstream wholesale markets. This is because Eircom is expected to become a significant provider of PIA in the NBP IA and this will continue after it has stopped being a provider of downstream wholesale services in this area. In this context, some activities within the common cost categories that have previously been defined by ComReg will likely scale as a result of the level of PIA provided by Eircom to NBI in the NBP IA (and similarly costs for some common cost categories will scale back as a consequence of Eircom's withdrawal of fixed access services).
- 7.65 For example, Eircom is not expected to require the same level of staff resources to support PIA in the NBP IA as would be required to maintain and operate a copper access network in the NBP IA. In particular, the maintenance staff required to fix cable faults will no longer be required when Eircom retires its copper access network. As a result, the level of common costs such as personnel or transport management is not expected to be as material in the case of PIA activities as they currently are for other access services like PSTN-WLR.
- 7.66 There are also common cost categories that are more relevant to the PIA business than they are to fixed access services like PSTN-WLR in the NBP IA. For example, Network Rates<sup>217</sup> are likely to increase as PIA services in the NBP IA will increase Eircom's profitability, when compared with the downstream copper based services that are provided in the NBP IA at negative margins. Also, corporate finance costs will be increasingly relevant to PIA services because, as part of its cost accounting and regulatory reporting obligations, Eircom will be expected to revise its network studies and cost accounting reports to take account of the significant use of poles and ducts by NBI.
- 7.67 Given the above, ComReg considers that costs that scale with the provision of PIA services should be recovered from the prices of PIA services and so these costs have been included in the PAM and DAM.

---

<sup>217</sup> Network rates are rates that Eircom pay to local authorities based on a global valuation of Eircom's fixed line network. The fact that network rates are based on the global valuation of Eircom's fixed network undertaken by the Valuation Office means that it is not possible to either directly or indirectly associate the network rates charge with specific assets in Eircom's network and so network rates can be considered as a common corporate cost.

- 7.68 In addition to this, the PAM and DAM used to set the PIA prices includes an attribution of costs from those common cost categories that are unavoidable with changes in the level of downstream services in the NBP IA, to take account of the proposal that all Access Seekers should make a contribution towards all of Eircom's common corporate costs.<sup>218</sup> These costs include finance, legal, HR and senior management costs of Eircom. This represents a change to the approach taken in the context of the ANM Decision for setting other fixed line access services, where in this Consultation all PI Access Seekers will make a contribution to all of Eircom's common corporate costs.<sup>219</sup>
- 7.69 Based on the above, the attribution of common costs is implemented in the PAM and DAM used to set the PIA prices in the form of a mark-up based on the annualised capital cost of all relevant network assets (including PIA assets) in the Commercial Areas and PIA assets in the NBP IA. The equi-proportional mark-up ('EPMU') method for allocating common corporate costs to the relevant PIA services is discussed further in the cost modelling approach below.

Q. 6 Do you agree with ComReg's view that a combination of BU-LRAIC+ and TD HCA costs should continue to be used as the costing methodology for determining the prices for Eircom's PIA? Please provide reasons for your response.

#### 7.4.4 Costing principles for reusable PIA assets and non-reusable PIA assets

- 7.70 In this section ComReg discusses how the reusable and non-reusable PIA assets should be valued to determine the appropriate costs for Eircom's PIA network.

##### Reusable PIA Assets:

- 7.71 In the Non-Discrimination and Costing Methodologies Recommendation the EC defines reusable civil engineering assets as:

<sup>218</sup> This takes account of the comments made by the EC in its Serious Doubts letter (referred to at paragraph 7.11). It is also consistent with Paragraph 31 of the EC Non-Discrimination and Costing Methodologies Recommendation which provides for the BU-LRIC+ costing methodology (which includes a contribution towards common overhead costs).

<sup>219</sup> ComReg recognises that this change to the recovery of common corporate costs should not impact materially on the prices of other fixed line services, as noted in paragraph 5.217 of the ANM Decision (D11/21).

*“...those legacy civil engineering assets that are used for the copper network and can be reused to accommodate an NGA network.”*

7.72 Reusable civil engineering assets include duct, trenches, poles and chambers (the ‘**Reusable Assets**’), which can be reused for the rollout of NGA services.

7.73 Paragraph 34 of the Non-Discrimination and Costing Methodologies Recommendation states that Reusable Assets should be valued based on a RAB approach derived from the SMP operator’s accounts as follows:

*“NRAs should value reusable legacy civil engineering assets and their corresponding RAB on the basis of the indexation method. Specifically, NRAs should set the RAB for this type of assets at the regulatory accounting value net of the accumulated depreciation at the time of calculation, indexed by an appropriate price index, such as the retail price index. NRAs should examine the accounts of the SMP operator where available in order to determine whether they are sufficiently reliable as a basis to reconstruct the regulatory accounting value. They should otherwise conduct a valuation on the basis of a benchmark of best practices in comparable Member States. NRAs should not include reusable legacy civil engineering assets that are fully depreciated but still in use.”*

7.74 Those principles established in the Non-Discrimination and Costing Methodologies Recommendation for Reusable Assets, are also provided for in Recital 187 of the new EECC, which states that:

*“...National regulatory authorities should value reusable legacy civil engineering assets on the basis of the regulatory accounting value net of the accumulated depreciation at the time of calculation, indexed by an appropriate price index, such as the retail price index, and excluding those assets which are fully depreciated, over a period of not less than 40 years, but still in use.”*

7.75 To date, ComReg has based the valuation of Eircom’s Reusable Assets on Eircom’s HCA Accounts. This was done by taking the accounting Net Book Value (‘**NBV**’) directly from Eircom’s HCA Accounts and projecting the NBV forward by including an allowance for future investment in related network assets over the price control period.

7.76 Furthermore, the Reusable Assets (valued previously in the 2016 Access Pricing Decision) were based on the NBV from Eircom’s HCAs and depreciated over the remaining lifetime of the asset by applying a tilted annuity formula. This approach ensures cost recovery, in that Eircom

recovers the money that it invested in the asset plus a rate of return. The accounting value of these assets has not been indexed for an asset price index, as recommended in the Non-Discrimination and Costing Methodologies Recommendation. ComReg considers that applying an index is not necessary to ensure the recovery of efficient costs by Eircom and it may result in Eircom over recovering its costs. This is because applying a RPI (or CPI) to assets bought many years ago inflates/increases the asset value (given that the CPI has been positive over the long-term) above the price that Eircom paid for these assets at the time of purchase. ComReg also considers that for assets which can be reused for NGA services it is important that the prices set encourage efficient reuse by all operators. Therefore, it is inappropriate to set the price above efficient costs as it is preferable to “buy” access to these assets rather than “build” the assets.

- 7.77 Also, ComReg considers that an indexation of Eircom historic accounting values would require Eircom to implement a CCA-FCM valuation for pole and duct assets to allow for future monitoring through Eircom’s cost accounting/accounting separation obligations. The decision not to apply an index to the historic asset values is also consistent with our 2016 Access Pricing Decision and more recently with the valuation of poles and ducts for setting downstream fixed line services in the ANM Decision.<sup>220</sup>
- 7.78 To set PIA prices, ComReg proposes to carry forward the RAB approach used in the 2016 Access Pricing Decision, but with some refinements. The RAB used in the PAM and DAM is based on a more informed measurement of the projected level of PIA investment by Eircom, as discussed further below in the cost modelling approach. This RAB approach is also consistent with the approach used in the PAM and DAM in the ANM Decision.
- 7.79 By using the RAB approach based on Eircom’s HCAs for Reusable Assets, the more duct and poles that Eircom replace the greater the increase in the actual costs recorded for PIA in Eircom’s HCAs. Furthermore, it is also the case that the more Eircom replaces in terms of PIA (either by way of replacing older poles or clearing duct blockages), the greater is the proportion of its PIA network which becomes reusable for NGA purposes.
- 7.80 The RAB approach for Reusable Assets, as outlined above, ensures that Eircom is not recovering more than it has invested in reusable infrastructure assets while allowing other operators to access this PIA at an efficient price level. ComReg considers that this approach should facilitate strict cost recovery for those Reusable Assets while taking utmost account of

---

<sup>220</sup> Please see paragraph 4.119 of ComReg Consultation Document 15/67 for further details.

Paragraph 34 of the Non-Discrimination and Costing Methodologies Recommendation.

- 7.81 ComReg notes the report from Visionary Analytics<sup>221</sup>, on behalf of the European Commission, which looks at the two existing EC access recommendations i.e., the 2010 NGA Recommendation<sup>222</sup> and the Non-Discrimination and Costing Methodologies Recommendation. Visionary Analytics, in its report, analyses how the EC guidance can be adapted and updated because of the EECC and the deployment of VHCNs. Visionary Analytics does not recommend any changes to the general guidance on the costing methodology for Reusable Assets. It states in its report i.e., Recommendation 13, that:

*“The guidance on costing methodology for reusable SMP CEIs that appears in the current Access Recommendations... continues to be broadly fit for purpose overall... The adjustments to the value in the regulatory accounting base that are called for in Recital 187 EECC to deal with (1) the average accumulated depreciation of SMP CEI, (2) the fraction of SMP CEI that is fully depreciated, and (3) the fraction of SMP CEI that is reusable, as well as (4) an adjustment based on a relevant price index continue to be appropriate and fully relevant for reusable SMP CEI.”*

- 7.82 ComReg is of the view that the Reusable Assets should continue to be valued based on a RAB and set by reference to Eircom’s HCAs.

### Non-Reusable PIA Assets:

- 7.83 In the Non-Discrimination and Costing Methodologies Recommendation at Paragraph 6(o) the EC defines non-reusable civil engineering assets as:

*“... those legacy civil engineering assets that are used for the copper network but cannot be reused to accommodate a NGA network.”*

- 7.84 Non-reusable civil engineering assets include duct, trenches, poles and chambers which cannot be reused for NGA (the ‘**Non-reusable Assets**’) without further investment by Eircom. The nature and scale of this upfront investment will tend to be dependent on the condition of the existing assets. For poles, this investment mostly relates to the replacement of existing poles that are considered unsafe or otherwise unfit for the deployment of new cables. For ducts, investment in underground ducts can be required to repair

---

<sup>221</sup> [Study by VA Published](#)

<sup>222</sup> European Commission’s Recommendation of 20 September 2010 on regulated access to Next Generation Access Networks (NGA) (2010/572/EU).

faulty infrastructure or clear congested sections and blockages so that subducts can be deployed to accommodate new fibre cables.

7.85 The Non-Discrimination and Costing Methodologies Recommendation specifies (at Paragraph 33) that the calculation of wholesale access prices should be based on a RAB approach using replacement costs, except for Reusable Assets. Furthermore, the Non-Discrimination and Costing Methodologies Recommendation specifies (at Paragraph 31) that a BU-LRIC+ costing methodology should be used to determine the replacement / Current Costs.

7.86 ComReg notes that the report from Visionary Analytics, on behalf of the European Commission, states that:

*“Recommendation 12. The guidance on costing methodology in Points 25 through 42 of the NDCM Recommendation continues to be relevant for new SMP CEI. This implies valuation based on the use of BU-LRIC modelling and current costs.”*

7.87 Hence, the recommendation from Visionary Analytics is that the costing methodology of BU-LRIC and Current Costs for Non-reusable Assets (or new PIA assets) continues to be relevant. This is consistent with ComReg’s approach.

7.88 As already set out above at paragraph 7.5, for the existing pole and duct access prices, the basis for the valuation of Eircom’s RAB was as follows:

- (a) Duct prices were determined based on a 95% reuse of Eircom’s ducts using projected TD HCA costs i.e., Eircom’s RAB from its HCAs<sup>223</sup>. In addition, the duct prices included an assumed 5% replacement of Eircom’s ducts using a BU-LRAIC+ methodology i.e., RAB based on replacement costs.
- (b) Pole Access prices were determined based on a 92% reuse of Eircom’s poles using projected HCA costs i.e., Eircom’s RAB from its HCAs. In addition, the pole access prices included an assumed 8% replacement of Eircom’s poles (due to NGA rollout) using the BU-LRAIC+ methodology i.e., a RAB based on Current Costs or replacement costs.

7.89 Since 2016, however, the following relevant developments have taken place. Eircom has gained significant experience and data from the deployment of

---

<sup>223</sup> Eircom’s RAB was based on the net book value from Eircom’s accounts and depreciated over the remaining lifetime of the asset by applying a tilted annuity formula.

its 300k FTTH Rural Network in the Rural Commercial Area. In addition, Eircom plans to overlay FTTH to pass another 1.6m<sup>224</sup> premises in the Urban Commercial Area, over the next few years, and where it has already reached circa 850k of these premises. Another key development is the fact that Eircom's PIA network is being used by NBI to serve circa 560k premises (delivery points) over the course of the next number of years in the Intervention Area.

- 7.90 In the case of the Rural Commercial Area Eircom has had to undertake a significant programme of pole replacement and duct clearance in advance of deploying new fibre cables to support its 300k FTTH Rural Network. As a result, all PIA routes where Eircom has deployed FTTH can now be classified as 100% reusable for NGA. ComReg is of the view that the full costs of Eircom's RAB on these routes can be determined by the value of these assets as derived by a full (100%) TD valuation of these assets as recorded in Eircom HCAs for year ended 30 June 2019<sup>225</sup>. It should be noted, as discussed in the cost modelling section below, that the PAM has allowed for future capital costs for ongoing business as usual ('BAU') pole replacement in the Rural Commercial Area. Hence, in the case of Pole Access in the PAM the future capital costs in the Rural Commercial Area take into account the ongoing pole replacement as a result of pole testing programmes by Eircom and pole replacement as a result of storm damage or other incidents.
- 7.91 ComReg also expects the recorded investment in PIA in other parts of Eircom's network to increase. This is likely as Eircom actively replaces / upgrades PIA either to facilitate its own overlay of FTTH in the Urban Commercial Area or to upgrade its PIA network in the Intervention Area so as to facilitate the deployment of NBI's FTTH network over the next number of years.
- 7.92 As a result of the developments set out above, ComReg considers that it is better placed to project the level of investment in PIA that Eircom is expected to undertake each year as FTTH networks are extended to pass every premises in Ireland. Furthermore, the cost estimates for future investment in PIA can be informed by Eircom's experience in the Rural Commercial Area for its 300k FTTH Rural Network and its ongoing roll-out elsewhere. This data can be updated to reflect the latest available information on equipment and

---

<sup>224</sup> <https://www.eir.ie/pressroom/eir-launches-0.5-billion-fixed-network-investment-programme/> and <https://www.eir.ie/pressroom/eirs-Gigabit-Fibre-network-expands-further-to-79-towns-and-villages-across-Ireland/>

<sup>225</sup> The Non-Discrimination and Costing Methodologies Recommendation defines the 'Regulatory accounting value' as "the value of an asset as recorded in the audited regulatory accounts of an undertaking which considers actual utilisation and lifetimes of the assets, which are typically longer than those recorded in statutory accounts and which are more in line with technical lifetimes".

contractor costs associated with PIA deployment in Ireland. The availability of this information should ensure that the value of assets that cannot be reused to support NGA i.e., Non-reusable Assets, will be based on the Current Cost of replacing / upgrading such assets each year to make the network 100% NGA ready<sup>226</sup> over the expected timeframe of the NGA deployment. This was not possible at the time of the 2016 Access Pricing Decision as there was a lack of information available in relation to actual and planned NGA deployments in Ireland.

- 7.93 For Reusable Assets, the TD HCA cost modelling approach can now capture Eircom's actual investment in PIA to support Eircom's 300k FTTH Rural Network in the Rural Commercial Areas since 2016. For Non-reusable Assets, the BU-LRAIC+ cost modelling approach can also better align with the planned FTTH deployments announced by both Eircom and NBI. As a result, the estimated percentages used in the 2016 Access Pricing Decision for the assumed replacement rates for assets i.e., 8% for poles and 5% for duct based on BU-LRAIC+ costs, can now be replaced with the estimated level of PIA investments that Eircom is expected to undertake each year to support its FTTH rollout as well as NBI's expected fibre deployment plans in the Intervention Area.

Q. 7 Do you agree with ComReg's view that PIA Reusable Assets should be valued based on a RAB which is set by reference to Eircom's HCAs and PIA Non-Reusable Assets should be valued on the basis of a RAB which is set based on replacement costs of non-reusable duct and poles assets to make them 100% NGA ready? Please provide reasons for your response.

#### 7.4.5 Depreciation methodology for PIA assets

- 7.94 The telecommunications industry is a capital-intensive industry which can require significant investments. An operator investing in a given network asset bears an upfront cost and expects that this asset should generate revenues over its useful life. Therefore, throughout its useful life, the value of this asset should naturally decrease as it ages and its revenues potentially decline. This loss of asset value throughout its useful life is reflected in the operator's profit and loss account as depreciation charges, to which is added the weighted average cost of capital ('**WACC**') to set regulated prices.
- 7.95 Firstly, in terms of the WACC, ComReg has applied Eircom's fixed line WACC rate (currently set at 5.29%), based on the WACC methodology set in

<sup>226</sup> A network is 100% NGA Ready when all of the duct and poles in the network can be used to deploy new cables.



ComReg Decision D10/20<sup>227</sup> (**'2020 WACC Decision'**)<sup>228</sup> in deriving the cost-oriented prices for PIA.

7.96 The fixed line telecoms WACC is subject to an annual update. Please see Information Notice 22/47<sup>229</sup> on the latest fixed line WACC annual update at 28 June 2022. This also includes advice from Europe Economics in ComReg Document 22/47a<sup>230</sup> that no changes are necessary at this time to the methodology and the underlying comparators used to set Eircom's fixed line WACC as a result of NBI's access to Eircom's PIA. Europe Economics has explained as follows:

- (a) *"Other things being equal, in the absence of government intervention, the higher the proportion of non-commercial households the higher the asset beta and debt premium.*
- (b) *Government intervention will tend to offset that increase in the asset beta and cost of debt, and in respect of the specific assets associated with the provision of services to non-commercial households, may more-than-offset it. The net effect is likely to be that where there are similar levels of non-commercial households with similar natures of government intervention, the WACC is likely to be similar, but even where the levels of non-commercial households differ only modestly, the WACC is still likely to be similar.*
- (c) *There are no qualitative differences in intervention type worth exploring in detail, so the impact on the WACC is limited to the differences in the observed proportions of non-commercial households.*
- (d) *The proportion of non-commercial households in Ireland appears to be fairly middle-of-the-pack amongst European comparator countries. Some have higher proportions than Ireland and some lower. Even where those proportions differ from the proportions in Ireland, they do so only modestly.*

---

<sup>227</sup> ComReg Document No 20/96, ComReg Decision D10/20: Review of Weighted Average Cost of Capital (WACC) – Response to Consultation and Final Decision, dated 14 October 2020.

<sup>228</sup> Under the 2020 WACC Decision, ComReg is to update the WACC annually and use the most up-to-date WACC rate in its subsequent pricing decisions. In addition, subsequent to the adoption or publication of a new WACC rate, ComReg may intervene, in exceptional circumstances or where there is a material impact on prices.

<sup>229</sup> The latest fixed line WACC rate in effect at the time of this Consultation is set out in ComReg Document 22/47 Information Notice, dated 28 June 2022 at [ComReg-2247.pdf](#)

<sup>230</sup> [ComReg-Document-2247a.pdf](#)

- (e) *Even if there were some modest differences between Ireland and comparator countries in WACCs associated with the issues giving rise to the NBP or in the impacts of policies used to address such issues, the current impact of such differences would be mitigated further by the fact that revenues associated with non-commercial broadband interventions are currently low and will only rise over time.”*

7.97 For these reasons, ComReg concluded that the Fixed Line WACC comparators and the WACC methodology remain valid and do not need to be amended as a result of NBI’s access to Eircom’s PIA.

### Depreciation approach:

7.98 When making an investment, an operator will support financial costs related to the dividends requested by its shareholders or the interest paid to the banks that are lending money to the operator. This financial cost must be considered to make sure that the operator is fully recovering its costs. The sum of the two items (depreciation charge and cost of capital) is called the annuity.

7.99 The depreciation methods available include the following:

- (a) Straight-line (or HCA) approach;
- (b) Standard annuity<sup>231</sup>;
- (c) Tilted annuity;
- (d) Economic depreciation;
- (e) CCA - Operating Capital Maintenance (**‘OCM’**) or CCA-OCM;
- (f) CCA - Financial Capital Maintenance (**‘FCM’**) or CCA-FCM.

7.100 For calculating the cost oriented prices for PIA, ComReg has applied a straight line depreciation approach, except for Sub-Duct Access where a tilted annuity approach has been used. The ANM uses, insofar as poles and ducts costs are concerned, a tilted annuity depreciation method for the cost stack used to derive the cost-oriented FTTC prices and a straight line depreciation method for CG SABB.

7.101 The **straight-line depreciation** approach is based on the accounting book values of the relevant assets derived from the SMP operator’s FAR and on a

---

<sup>231</sup> The standard annuity is a flat annuity based on the depreciation charge and the cost of capital i.e.,  $\text{annuity} = \text{depreciation} + \text{cost of capital}$ . As standard annuities give rise to constant costs each year it is a valid approach when asset prices and service demands are stable.

constant (straight-line) depreciation charge per year. This method is widely used by companies in its statutory accounts and it is also used by Eircom in its regulated HCAs. The fact that the straight-line approach uses the SMP operator's costs reduces the chance of under or over recovery of costs as the value is linked to the actual investment made.

- 7.102 ComReg considers that the straight-line approach may be a pragmatic and proportionate approach to adopt where there are limited prospects of investment by alternative infrastructure providers and where demand for PIA is likely to be stable. The straight-line depreciation approach also allows for a comparison with Eircom's HCAs and can be useful to reflect annual changes in the level of investment incurred.
- 7.103 PIA (ducts and poles) is deployed to support other assets (copper and fibre cables) that are required to deliver services in downstream markets. Hence, the PIA costs are considered a shared network cost that is common to a number of access services. In this regard, NRAs often have to balance two linked objectives when determining cost-oriented prices; ensuring efficient cost recovery and informing build-or-buy decisions.
- 7.104 In the 2016 Access Pricing Decision, ComReg determined that the prices for ducts and poles should follow the same price trend as the downstream services to which the ducts and poles are used as an input to. ComReg set the access prices for ducts and poles on the basis that these assets would primarily be used by rival operators seeking to build and extend their fibre networks to compete directly with Eircom in downstream wholesale markets. As a result, the access prices for ducts and poles needed to inform investors build-or-buy decisions for fibre rollout so as to be consistent with the objective of encouraging infrastructure-based competition. Hence, the tilted annuity approach was adopted for the existing access prices for ducts and poles as it was considered to best meet this objective.
- 7.105 As already set out above, ComReg recognises that the duct and pole network is unlikely to be replicated by other Access Seekers. In proposing to use a straight line depreciation method, ComReg notes in particular that where the "build" option for ducts and poles is not considered to be economically feasible by Access Seekers, the main objective is to ensure that Eircom can recover its efficiently incurred investment. In addition, demand for PIA is likely to be stable as result of Eircom continuing to use its PIA to provide downstream services and where it is ceasing to provide downstream services it is expected to become a PIA access provider. Taking account of these considerations ComReg believes that a straight line depreciation approach for PIA seems appropriate.

- 7.106 In contrast, there is little justification in respect of poles and ducts for which demand is likely to be stable, to use an **Economic Depreciation** approach. For example, there will still be a demand for all of Eircom's pole network going forward, even if the use of those poles is changing over time as the fibre cable networks being deployed by Eircom and other network operators are expected to replace the existing copper cable network. This is also the reason why ComReg does not consider that an Economic Depreciation approach would yield any additional benefits given the additional complexity that would be involved in implementing such an approach. The economic depreciation approach aims to recover all incurred costs (operating and capital costs) by ensuring that the total of the revenues generated by the cost oriented prices across the lifetime of the business are equal to the efficiently incurred costs, including cost of capital, in present value terms. This is achieved by applying a discount factor on future cash-flows, which is equal to the WACC.
- 7.107 ComReg is also of the view that a straight line depreciation approach is more appropriate than a **tilted annuity** approach. A tilt is applied to an annuity to reflect the expected changes in the prices of assets and is intended to provide economic signals to market players, giving market players incentives to invest now if prices are expected to increase or delay investment if prices are expected to decline.
- 7.108 While a tilted annuity approach may provide a smoother evolution of prices over time (while still achieving the cost recovery objective), the impact of fluctuations in the replacement cost of poles and ducts on future PIA prices is mitigated by the fact that only a sub-set of the asset base needs to be replaced over the price control period. In addition, to ensure cost recovery, an annuity approach based on tilted annuities requires that the RAB (the residual NBV) of the asset is reset for future price controls. This is to allow for the impact that historic WACC rates had on cost recovery in the previous price controls, which for assets with long lives such as poles and ducts is complex and onerous to implement.
- 7.109 In addition, the straight-line depreciation approach should ensure ease of reconciliation of costs to Eircom's HCAs. This is also consistent with ComReg's proposal to use Eircom's HCAs to monitor the cost oriented PIA prices over the price control period, as discussed later in this section. Therefore, the straight line depreciation approach should provide greater transparency and price certainty and stability to Eircom and other Access Seekers over the price control period.
- 7.110 While the straight-line depreciation approach should provide Eircom with certainty regarding recovery of its efficient costs, ComReg recognises that changing from a tilted annuity approach to a straight-line depreciation

approach, does impact on the PIA prices charged over the price control period. Under a straight-line depreciation approach, the capital amortisation is front loaded in the period after the asset is first deployed. The residual NBV is highest, relative to an annuity approach when the price trend of the underlying asset is positive, and so the straight-line approach gives rise to higher prices (on average), initially.

- 7.111 ComReg estimates that the price for Pole Access is higher by an average of circa €3 over the period from 2022 to 2026, compared to using the tilted annuity approach, all other things being equal. However, there are other changes to the underlying costs and the model assumptions in the PAM which reduces this impact.<sup>232</sup>
- 7.112 The **CCA-OCM** approach seeks to maintain the operating or output capacity of the asset but does not ensure cost recovery i.e., the sum of discounted annuities is not equal to the initial investment. Therefore, this approach is generally not used in setting regulatory prices. The **CCA-FCM** method seeks to maintain the value of the originally invested capital and requires the revaluation of assets. This can be done in several ways, including the use of indexation. While the CCA-FCM can be implemented using an index, the annuities calculated with this approach do not increase with the index. ComReg considers that while it ensures strict cost recovery since they are calculated based on the levels of asset depreciation, derived from Eircom's accounts, as PIA prices are set at a level that allows Eircom to recover the costs it incurs for its duct and pole networks, demonstration of compliance with cost oriented prices for PIA would be best monitored with reference to the costs recorded in Eircom's cost accounting systems. Eircom no longer produces CCA based accounts, so requiring the production of CCA accounts just to monitor PIA prices would be an additional burden on Eircom. Hence, ComReg is of the view that the CCA FCM is not appropriate for setting Eircom's PIA prices.
- 7.113 The one exception to the straight-line depreciation approach for PIA is in the case of sub-duct. For sub-duct, Access Seekers have the choice to rent (or buy) it from Eircom or build their own, and so unlike Pole Access and Duct Access (including Direct Duct Access) where it is important to encourage reuse of existing ducts and poles, this is not the case for Sub-Duct Access. Hence, for Sub-Duct Access it is important that the regulated price provides Access Seekers with the appropriate investment incentives i.e., the "buy or build" signal. For Sub-Duct Access, the tilted annuity approach is consistent

---

<sup>232</sup> In addition, the existing Pole Access prices (of €27.79 in the Modified LEA and a price of €22.50 Outside the Modified LEA) set under the 2018 WLA Market Decision include the cost of process related activities while the draft Pole Access rental prices in this Consultation do not include these (as it is proposed that Eircom should recover those costs upfront).

with the objective of providing the appropriate build/buy investment incentives. The use of a tilted annuity reflects the expected changes in the prices of assets and is intended to provide economic signals to market players, giving market players incentives to invest now if prices are expected to increase or delay investment if prices are expected to decline. ComReg's view is that the tilted annuity approach in the context of sub-duct should provide Access Seekers with the appropriate investment signals.

Q. 8 Do you agree with ComReg's view that a straight-line depreciation approach should be applied in the context of Pole Access and Duct Access (including Direct Duct Access) while a tilted annuity depreciation approach should be used for sub-duct? Please provide reasons for your response.

#### 7.4.6 Asset lives for ducts and poles

7.114 In this section ComReg considers whether any changes should be considered to the length of the regulatory asset lives for ducts (including sub-ducts) and poles.

7.115 In ComReg Decision D03/09<sup>233</sup> (the '**2009 Asset Lives Decision**') ComReg revised the regulatory asset life for poles from 15 years to 30 years to more closely align with the average economic life of poles. For ducts, ComReg revised the asset life from 20 years to 40 years to more closely align with the average economic life of ducts. The Non-Discrimination and Costing Methodologies Recommendation states in paragraph 6(p) that regulatory asset lives are: "...typically longer than those recorded in statutory accounts and which are more in line with technical lifetimes."

7.116 In addition, paragraph (35) of the Non-Discrimination and Costing Methodologies Recommendation states that:

*"NRAs should set the lifetime of the civil engineering assets at a duration corresponding to the expected period of time during which the asset is useful and to the demand profile."* (emphasis added)

7.117 ComReg considers that the existing asset lives for poles of 30 years reflects their average economic useful lives, as determined in the 2009 Asset Lives Decision.

7.118 In the 2009 Asset Lives Decision ComReg assessed information from a number of sources. These sources included Eircom's fixed asset register, suppliers of telecoms assets, asset lives applied in other jurisdictions, the

<sup>233</sup> ComReg Document No 09/65 - Response to Consultation Document No. 09/11: Review of the regulatory asset lives of Eircom Limited ('**Regulatory Asset Lives Decision**').

impact of climate conditions and how severe weather conditions can impact on how long assets last. ComReg recognised in that decision that while Eircom's poles can have a lifespan in excess of 30 years with some even lasting up to 40 or 50 years, there may also be cases of poles lasting less than 30 years (e.g., in the case of storm damage). ComReg decided that 30 years strikes an appropriate balance for the asset lives of poles in Ireland.

- 7.119 Implementing the change in asset life for poles resulted in a significant reduction in the annual depreciation charge for poles in Eircom's HCAs as the residual NBV of the assets is now depreciated over an extended time frame.<sup>234</sup>
- 7.120 The asset life of 30 years for poles in the 2009 Asset Lives Decision was set at a time when Eircom's network was based entirely on copper. However, with the deployment of a fibre access network the asset life for poles in the future could potentially be longer as fibre cables tend to have lower weight and cross-sectional area when compared with copper cables. This would reduce the load that the pole is expected to carry and could justify a longer asset life.
- 7.121 Paragraph 41 of the Non-Discrimination and Costing Methodologies Recommendation provides that:
- "...When setting the economic life time of the assets in a modelled FttC network NRAs should take into account the expected technological and network developments of the different network components."*
- 7.122 ComReg reviewed Eircom's data on pole replacements over a number of years from its internal pole database, although it was acknowledged by Eircom that the data is not complete. Based on this data, ComReg observed that the average age of a pole when it is replaced is longer than 30 years. However, this could reflect the fact that to date the majority of poles have mainly carried copper cables. Hence, it may be that on a forward-looking basis, as FTTH is rolled out more widely, the updated data could show an increase in the expected life of a pole as fibre cables tend to be smaller and lighter than copper cables.
- 7.123 Alternatively, the reason for the average age of pole replacement being in excess of 30 years could be a result of Eircom 'sweating' assets and

---

<sup>234</sup> For example, with a 15 year life, an asset would incur an annual depreciation charge equivalent to 6.67% ( $100\% \div 15$ ) of the GBV with the result that an asset that is ten years old would have been depreciated by 66.7% in those 10 years. However, if after 10 years the asset life is extended from 15 to 30 years, the revised depreciation charge should be calculated based on the residual NBV divided by the 20 years ( $30-10$ ) (33.3% of GBV). As a result, the annual depreciation charge is reduced from 6.67% of GBV to 1.67% ( $33.3\% \div 20$  years).

tolerating sub-standard poles in the network longer than would be deemed appropriate from an efficiency perspective. Therefore, ComReg does not consider that sufficient evidence exists at this time to require a change to the existing asset lives for either poles or ducts.

- 7.124 ComReg considers that the fact that the regulated asset life of poles in the Irish electricity market has been set at 45 years does not necessarily imply that a similar asset life is appropriate for telecom poles. Electricity distribution networks are unlikely to be subject to the same rate of technology change as telecoms. In the case of telecoms, it is possible that, in 30 years, advances in technologies such as mobile, satellite or FWA could reduce the telecom network's reliance on poles and ducts. There is even a possibility that electricity distribution networks could be adapted in the future to support telecoms, whereas the prospect of a telecoms network being used to distribute power is very remote. As a result, even if the physical asset life of a telecom pole is similar to that of an electricity pole, their economic life could be very different.
- 7.125 Hence, the asset lives for determining the costs for Pole Access and Duct Access (including Direct Duct Access) should continue to be based on 30 years and 40 years, respectively, for the reasons set out above. This is also consistent with the asset lives used in the PAM and DAM in the ANM Decision.
- 7.126 However, in the case of **sub-ducts**, consistent with ComReg's objective of promoting competition and encouraging investment, ComReg considers that a shorter asset life of 30 years may be more appropriate. Underground cable, which is installed within the sub-duct, has an asset life of 20 years consistent with the 2009 Asset Lives Decision. ComReg considers that it may not always be possible to reuse a sub-duct when the cable it originally accommodates is no longer in use. In addition, it may not always be possible to reuse a sub-duct when, during a network upgrade, an Access Seeker opts to deploy its own sub-duct using Duct Access rather than continue using Eircom's Sub-Duct Access.
- 7.127 As an Access Seeker has the choice to use (or buy) Eircom's sub-duct or install (or build) its own by availing of Duct Access, ComReg considers that the investment incentives might be more appropriately based on a shorter asset life than 40 years.
- 7.128 Therefore, ComReg considers that a sub-duct may have a shorter economic life than the duct asset but still have a longer asset life on average than the fibre cable it accommodates. As a result, a 30 year asset life for sub-duct appears to be more proportionate and reflective of the typical period that a



sub-duct is actively in use. This should ensure cost recovery by Eircom and better inform the investment decisions for both the Access Seeker and the incumbent.

Q. 9 Do you agree with ComReg's view that the existing regulatory asset lives for Eircom's poles and ducts should be maintained at 30 years and 40 years respectively, while the asset life for sub-duct should be set at 30 years? Please provide reasons for your response.

## 7.5 Implementing the price control for PIA

### 7.5.1 Cost Modelling

- 7.129 The PAM and DAM cost models used to set PIA prices are based, in the main, on the same costing methodologies and principles as the PAM and DAM used in the ANM Decision to set regulated prices for other fixed line access services on Eircom's network. Notwithstanding that, ComReg has made some changes to the PAM and DAM, from those used in the ANM, for setting the PIA prices. For example, the depreciation approach has been amended (discussed at paragraphs 7.100-7.113) and the approach to the recovery of common corporate costs has been revised (discussed at paragraphs 7.62-7.69).
- 7.130 Cartesian consultants have supported ComReg in developing the PAM and DAM. Access to the draft non-confidential versions of the PAM and the DAM, as well as the related documentation, is available to interested parties likely to be affected by the outcome of the decision that ComReg may take as a result of this Consultation. For access to the non-confidential PAM and DAM and the documentation, please contact ComReg's regulatory pricing team by email.<sup>235</sup>
- 7.131 The PAM and DAM include information gathered from Eircom, pursuant to ComReg's information gathering powers set out in Section 13D(1) of the Communications Regulation Act 2002 (as amended).
- 7.132 The information requested from Eircom included the type, the scale and the cost of network replacement (or renewal) activities undertaken by Eircom to make its poles and ducts 'NGA-ready'<sup>236</sup> and is largely based on its financial

<sup>235</sup> Email [Pedro.fontes@comreg.ie](mailto:Pedro.fontes@comreg.ie) and [caroline.jordan@comreg.ie](mailto:caroline.jordan@comreg.ie) with the subject matter of the email stating "Access to PAM and DAM".

<sup>236</sup> In March 2019 ComReg issued an initial information request to Eircom, seeking information regarding Eircom's Civil Engineering Infrastructure both in terms of financial data and network specific data. Subsequently, in September 2019, ComReg collected additional and updated duct and pole data as part of the information request to Eircom on the Access Network Model.

year ending 30 June 2019. The PAM and DAM also rely on information from Eircom and NBI on their detailed rollout plans, as this is considered to be a key driver for future duct and pole investment by Eircom. This information has also been considered in the PAM and DAM cost models.

7.133 Before issuing a final decision, ComReg intends to update the financial / costing information in the PAM and DAM to the most recently available financial and volume data at that time, as outlined at paragraph 7.14.<sup>237</sup>

## 7.5.2 Cost model structure

7.134 The PAM and DAM, similar to the model structure in the ANM as outlined at paragraphs 7.12-7.14, are built based on three geographic footprints, as follows:

- (a) **The Urban Commercial Area:** corresponding to the footprint where commercial operators are delivering or have indicated plans to deliver high speed broadband services. It is also the footprint where Eircom has deployed FTTC. This footprint covers approximately 1.5m premises (as at its inception in April 2017). This footprint is referred to throughout this Consultation as the '**Urban Commercial Area**'.
- (b) **The Rural Commercial Area:** corresponding to the footprint comprised of the premises passed by Eircom (or to be passed by Eircom) as a result of Eircom's commitment to deliver high speed broadband on a commercial basis under its 2017 Agreement with the Minister in relation to National Broadband Plan – commercial deployment commitment.<sup>238</sup> This footprint is referred to throughout this Consultation as the '**Rural Commercial Area**'.
- (c) **The National Broadband Plan Intervention Area (NBP IA):** corresponding to the area where there is no existing or planned commercial high speed broadband services available and corresponding to the target areas for state intervention under the NBP, for the purpose of its contract with NBI.<sup>239</sup> This area includes

---

<sup>237</sup> As part of this update, ComReg will consider whether the models should be realigned with Eircom's new financial reporting period i.e., January-December.

<sup>238</sup> The PAM/DAM models reflect that Eircom rolled out high speed broadband to 340,000 premises rather than the 300,000 agreed to with the DECC.

<sup>239</sup> In the EC State Aid Decision, the area requiring intervention is called the "white" NGA areas.

circa 537,000<sup>240</sup> premises (delivery points). It is referred to throughout this Consultation as the '**Intervention Area**' or '**NBP IA**'.

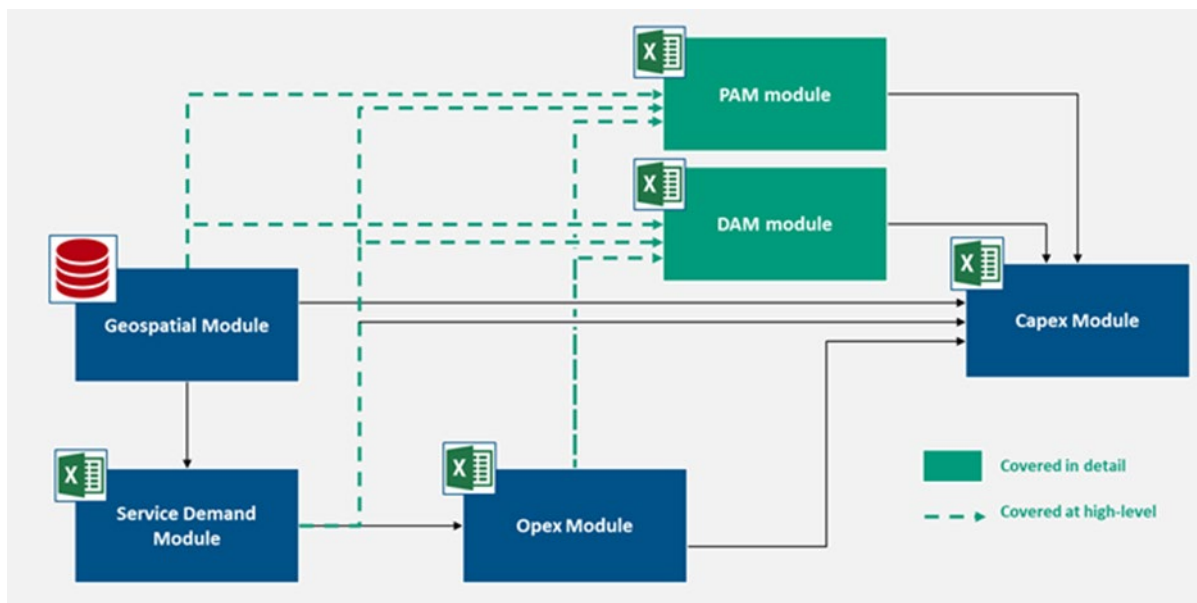
- 7.135 Together the Urban Commercial Area and the Rural Commercial Area form the '**Commercial Areas**'.
- 7.136 In deriving the PIA (ducts and pole) costs in the PAM and DAM ComReg has incorporated the relevant inputs from the ANM in ComReg Decision D11/21 as follows:
- (a) **Geospatial Module:** This module in the ANM provides the number of poles by exchange and by footprint for the PAM.<sup>241</sup> For the DAM, this module in the ANM provides the total length (in kilometres) of trenches by size (and by exchange and by footprint), the number of chambers and the estimated trench occupancy in terms of copper and fibre cable.
  - (b) **Service Demand Module:** This module in the ANM provides the yearly rollout of FTTH by exchange used in the PAM and the DAM.
  - (c) **OPEX Module:** This module in the ANM provides the direct repair and preventative maintenance costs for poles and ducts by year and the total common corporate costs used to derive the common costs mark-up, which are used in the PAM and the DAM.
- 7.137 Figure 13 below illustrates the structure of the various modules in the ANM.

---

<sup>240</sup> At the time of this Consultation the NBP IA includes circa 562k premises. However, we do not intend to redefine the geographic footprints for the purposes of the PAM and DAM models used to set the PIA prices, as such a revision is not likely to be material to the overall PIA prices.

<sup>241</sup> The total number of poles per footprint was provided by Eircom.

Figure 13: Overview of structure of various modules in the ANM



Source: Cartesian Consultants

### 7.5.3 Cost modelling approach

#### Determining the RAB

7.138 As already set out in section 7.4.4, ComReg is of the view that the RAB value of Reusable Assets should be set by reference to Eircom's HCAs and the RAB value of Non-reusable Assets should be based on current replacement costs. To allow for widespread use of Eircom's PIA network for NGA purposes, in addition to its existing copper-based services, the PAM and DAM model a level of capital costs for PIA to reflect a full 'NGA ready' network capable of providing copper and fibre based NGA services. In addition, the PAM and DAM models the capital in each of the three geographic footprints and the capital required to maintain this network thereafter so that it is 'NGA ready'.

7.139 As a first step, the current value for Reusable Assets is calculated with reference to Eircom's HCAs (for the financial year ending 30 June 2019<sup>242</sup>). As a second step, the level of capital costs is calculated for each of the subsequent years based on replacing Non-reusable Assets at current replacement costs to allow the continued provision of copper-based services and ultimately FTTH services. Each one of these steps is discussed below.

<sup>242</sup> Before issuing a final decision ComReg plans to update the financial and volume information in the PAM and DAM to the most recently available information at the time of the decision.

## Reusable Assets

- 7.140 The valuation of Eircom's Reusable ducts and poles is based on Eircom's recorded capital expenditure directly taken from its HCAs. This is consistent with the approach taken in the 2016 Access Pricing Decision and more recently in the ANM Decision.
- 7.141 Eircom's capital expenditure in poles and ducts is recorded in specific asset classes in its FAR, as part of its HCAs. The NBVs for pole and duct assets were calculated based on a straight-line depreciation method over the relevant regulatory asset lives (already discussed at section 7.4.5) up until 2014. However, in the period from 2014 to 2019 the cost recovery of PIA services was largely based on a tilted annuity method. Hence, to ensure a degree of consistency in the path of cost recovery, in line with our objectives, the NBVs were calculated based on the previous tilted annuity depreciation method using the WACC of 8.18%, in place during that period.
- 7.142 The PAM and DAM uses Eircom's FAR (currently based on financial year ending 30 June 2019) but with the following adjustments to the NBVs of the FAR so as to derive the capital value of Reusable Assets:
- (a) For poles in the PAM, the material costs (non-labour costs) related to Eircom furniture to provide drops to its customers and other items are excluded on the basis that they are incremental to the copper network and hence provide no benefit to an Access Seeker.<sup>243</sup> The external labour costs of pole replacement excludes the incremental labour associated with replacing poles with furniture, which are modelled separately as an incremental service (see details later in this section). ComReg implemented these adjustments following an analysis of the capital expenditure for Eircom's 300k FTTH Rural Network programme in the Rural Commercial Area.
  - (b) For ducts in the DAM, the costs incurred by Eircom in self-providing unstructured duct<sup>244</sup> to resolve conflicts on its aerial cable network<sup>245</sup> are excluded as are the costs of street cabinet assets, on the basis that they are not relevant to a wholesale duct related service.<sup>246</sup> In the absence of a detailed disaggregation of the duct asset class, the

---

<sup>243</sup> These costs are then included in the ANM Capex Module and recovered across all Eircom's other services e.g. SB-WLR. Please refer to ComReg Decision D11/21.

<sup>244</sup> Unstructured duct refers to underground transitions within overhead routes, which are not generally engineered to the same standard as those ducts within underground distribution routes.

<sup>245</sup> The costs of unstructured duct are included in the ANM Capex Module and recovered across all Eircom's other services e.g. SB-WLR. Please see ComReg Decision D11/21.

<sup>246</sup> ComReg has used the details of the capital expenditure of Eircom's 300k FTTH Rural Network programme in the Rural Commercial Area to estimate these costs.

bottom-up cost valuation of the inventory<sup>247</sup> (derived from the geospatial module in the ANM) is mapped to the duct asset class and the relative share of these non-relevant assets calculated and applied this to the historic NBVs.<sup>248</sup>

- (c) While information on the capital expenditure related to Eircom's 300k FTTH Rural Network programme in the Rural Commercial Area was available and allocated in full to the Rural Commercial Area, as Eircom's FAR records capital expenditure only to exchange areas, where no information was available to allow a direct attribution to footprints, the remaining FAR capital costs (including historic capital costs recorded in the FAR), were apportioned to the three geographic footprints using the following assumptions:
- (i) For poles in the PAM, the allocated capital costs are based on the relative number of poles in each of the footprints, as provided by Eircom. While certain areas might have seen a more recent refresh of the poles network compared to other areas, pole testing is in the main a planned activity, so it is reasonable to expect the age profile of the pole network not to vary significantly by geographic footprint.
  - (ii) For ducts in the DAM, the capital costs are only allocated to the Commercial Areas, with the split to the Urban Commercial Area and the Rural Commercial Area based on the access trench lengths (derived from the geospatial module in the ANM). These are then weighted by the average trench capital cost per meter in each of these footprints reflecting relative differences in trench size and surface types<sup>249</sup>. This approach reflects the fact that duct renewal is not typically a recurring activity. Duct networks would have originally been installed when the legacy copper network was being deployed. Any subsequent intervention is likely to have occurred as a one-off to make ducts ready for new cables, or to provide access to ducts or chambers for business users or as part of Eircom's network upgrades to support FTTC. Until the 2009 Asset Lives Decision, all ducts had a 20 year asset life on Eircom's FAR, so any duct deployed before 1989 would have been fully depreciated and absent any evidence to the contrary, the residual NBV observed in the FAR is assumed to be related

---

<sup>247</sup> Trenches, ducts, chambers, street cabinets, line terminations, etc.

<sup>248</sup> ComReg used a similar approach in the Revised CAM.

<sup>249</sup> By surface type we mean carriageway, footway and verge.

to duct build or renewal in Commercial Areas (and not in the Intervention Area).

### Non-Reusable Assets

7.143 As already outlined above, the RAB for Non-reusable Assets is based on valuing replacement costs for NGA purposes at current replacement costs and so the approach proposed should be used to calculate pole replacement costs and duct remediation costs.

### Pole replacement costs

7.144 Pole replacement capital costs by footprint are calculated in the PAM by multiplying the volumes of poles replaced each year in each of the geographic footprints multiplied by the replacement capital costs per pole. The PAM models the average level of pole replacement across the entire population of poles in each of the three geographic footprints, using an average across the entire set of poles replaced, across all pole sizes. This is consistent with the approach taken in the PAM in the ANM Decision.

7.145 ComReg considers that the replacement of Eircom's poles generally happens because poles have come to the end of their useful lives or because they require immediate replacement as a result of unforeseen events such as severe storms or accidents. In the PAM, the costs of pole replacement are calculated based on the 'business as usual' ('**BAU**') level of replacement and on the level of replacement required due to a FTTH rollout programme.

7.146 The BAU pole replacement is generally carried out as a result of a regular pole testing cycle. This allows for the safe operation of the aerial network and to ensure the quality of service levels for existing services, including the performance targets imposed on Eircom under the USO.

7.147 For each year and in each of the three footprints, the PAM calculates the following pole related capital cost categories.

- (a) The capital costs incurred as BAU pole replacement;
- (b) The capital costs incurred as BAU pole replacement during a FTTH rollout;
- (c) The capital costs incurred as accelerated pole replacement during a FTTH rollout.

7.148 The PAM calculates the **estimated level of BAU pole replacement** while taking into consideration the following:

- (a) The average level of pole replacement in the combined Urban Commercial Area and in the Intervention Area (i.e., where FTTH networks have not yet been deployed), in the five years to 2019 is based on the historic breakdown of the number of poles replaced and the pole population in each of the footprints. This information was provided by Eircom. As the level of pole replacement observed in these footprints is below the average BAU replacement set in the Revised CAM<sup>250</sup>, the cumulative difference provides a notional delay in the level of BAU replacement from 2016 which is now reflected as an increase in BAU pole replacement levels over the FTTH rollout period (2020-2024).
- (b) In all three geographic footprints, the planned pole test failure rate is calibrated to a rate of 10% over a full testing cycle, based on a 12-year testing cycle, allowing, in addition, for a proportion of pole replacement outside the planned testing cycle due to weather storms or other damages. This results in an average rate of [redacted] poles being replaced every year (in all three footprints) and is consistent with the level of pole replacement observed in the combined Urban Commercial Area and Intervention Area footprints. This level of BAU replacement represents circa [redacted] poles being replaced nationally per year and a level of capital investment of circa [redacted] per year of which circa [redacted] would relate to the Intervention Area footprint.

7.149 In addition to the BAU pole replacement, in the PAM ComReg has also assumed an accelerated pole replacement, i.e., the difference between the BAU and the rate of replacement during a FTTH rollout.

7.150 For a certain set of poles while they may be operationally fit to support existing cables it may often be more efficient to replace those poles in advance of new cable deployment, with the result that their replacement is brought forward. These efficiencies can arise for several reasons. For example, scheduling pole replacement to happen in parallel with other route preparation activities such as tree trimming can generate efficiencies. Also, it may be more efficient to bring forward the replacement of deficient poles in advance of new cable deployment to avoid having to transfer those cables between poles at a future date and risk damaging the cables in the process.

7.151 In addition, in normal operations when testing has identified some poles as needing replacement in the near future, Eircom could schedule that

---

<sup>250</sup> This may have been caused by Eircom's operational focus being diverted to its 300k FTTH Rural Network.



replacement to take over a number of years. However, when new cables are to be deployed along the route it may be more efficient to expedite the replacement of such poles to ensure they are replaced before the new cables are deployed. Therefore, to allow a FTTH rollout to be completed within a limited number of years, this may typically require an acceleration both of pole testing and pole replacement resulting in a level of pole replacement significantly above the BAU level.

7.152 The **level of accelerated pole replacement** is calculated in the PAM taking into account the following:

- (a) The average level of pole replacement in the Rural Commercial Area, i.e., where the rollout of FTTH was completed in 2019, is based on data provided by Eircom. Over the four years of this rollout (from 2016 – 2019), ComReg has calculated in the PAM that a total of [§< ██████████ §>] of poles in this footprint were replaced. This corresponds to circa [§< ██████████ §>] poles being replaced in this period and a total capital investment of circa € [§< ██████████ §>].
- (b) In the Intervention Area footprint, NBI is assumed to roll out fibre broadband over a seven year period starting in 2020, using a very significant share of Eircom’s poles in this footprint. To make way for NBI’s rollout, ComReg has assumed a total level of pole replacement of 20% (over the entire seven-year period) similar to that observed in the Rural Commercial Area over the NBI rollout period. ComReg is of the view that this is a reasonable assumption, on the basis that the Rural Commercial Area (being equally made up of largely rural areas) would be expected to face a physical obsolescence of its pole network not dissimilar to that of the Intervention Area. In addition, it would be expected to have a similar pole age profile resulting from pole testing being regularly performed.
- (c) For the Urban Commercial Area, ComReg has assumed in the PAM a level of pole replacement of [§< ██████████ §>] i.e., less than 20%. This is based on Ireland Fibre Network (‘IFN’) data provided by Eircom<sup>251</sup>, regarding Eircom’s Urban FTTH deployment or IFN now being rolled out by it<sup>252</sup>, over a five-year FTTH rollout period (2020-2024). Based on Eircom’s IFN data, the number of poles that Eircom expects to replace in the Urban Commercial Area is [§< ██████████ ██████████ §>]. In addition, to this value of planned pole replacement,

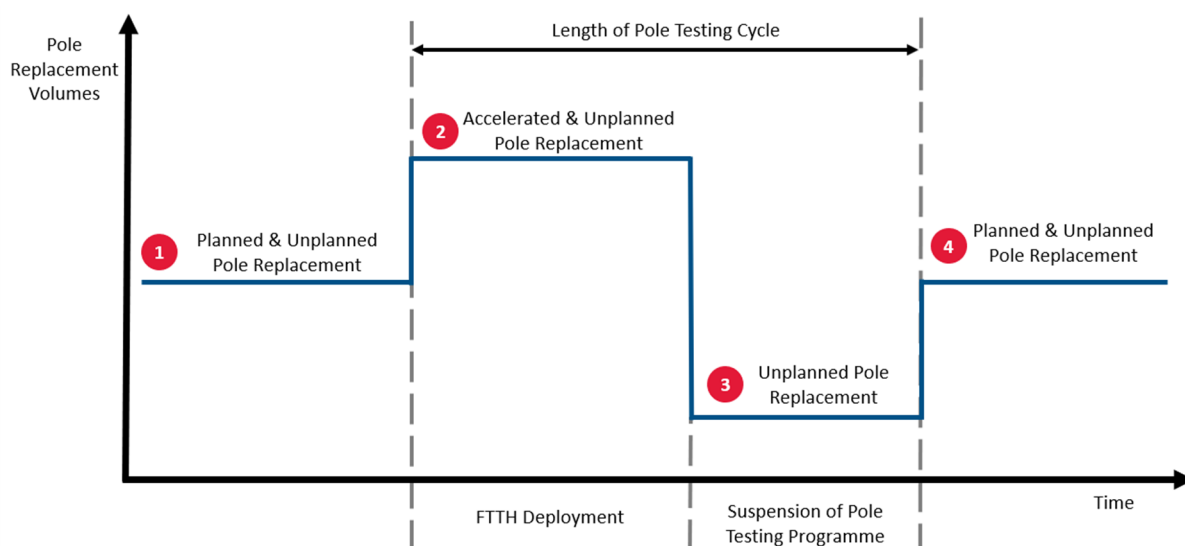
<sup>251</sup> In the Urban Commercial Area Eircom is also upgrading its ducts and poles to facilitate its own Urban FTTH deployment or IFN.

<sup>252</sup> This data was provided by Eircom in the context of the 2021 CEI Pricing Draft Decision.

ComReg has also allowed for a proportion of unplanned pole replacement.

- 7.153 To estimate the level of pole replacement in each year of a FTTH rollout, ComReg has used the pole base derived from the ANM geospatial analysis, based on the exchanges which in any given year become FTTH enabled. This has been carried out for each of the geographic footprints in the PAM.
- 7.154 ComReg also considers that in advance of a FTTH rollout, all poles in the footprint are assumed to be tested. Hence, upon completion of a FTTH rollout and for the remaining duration of a pole testing cycle, ComReg assumes no further planned testing activity. Nevertheless, in the PAM ComReg allowed for a residual level of unplanned pole replacement, based on information provided by Eircom, as a result of unexpected pole failure caused by weather storms or other damages. This approach is illustrated in Figure 14 below.

**Figure 14: Forecast pole replacement volumes**



Source: Cartesian Consultants

- 7.155 The **capital costs of pole replacement** is calculated in the PAM by taking into account the costs incurred by Eircom during its 300k FTTH Rural Network deployment as well as cost information provided by Eircom under Section 13D(1)<sup>253</sup> of the Communication Regulation Act 2002 (as amended). The capital costs include materials (of which the pole timber is the main element),<sup>254</sup> Eircom labour and sub-contractor labour. In addition, ComReg

<sup>253</sup> Based on information collected from Eircom during 2019.

<sup>254</sup> Other materials include for instance pole stays or anchors, pole steps or pole labels.

has observed from Eircom's IFN data that the material costs for poles in the Urban Commercial Area are on average lighter compared to those in Eircom's 300k FTTH Rural Network. Hence, in the PAM the material costs for poles in the Urban Commercial Area reflects this.

- 7.156 Sub-contractor labour is a significant cost component and ComReg has used the rates (as of 2020) that Eircom agreed with the sub-contractors to inform the cost modelling exercise. The sub-contractor rates do not differentiate between different areas and include different rates for pole replacement depending on a targeted pole replacement programme and a non-targeted pole replacement programme. ComReg applied the rate for the targeted programme to those poles replaced during a FTTH rollout and the non-targeted rate to the poles replaced as BAU. For materials and Eircom labour ComReg calculated an average for these costs over the four-year period (2016-2019) of Eircom's 300k FTTH Rural Network deployment in the Rural Commercial Area.
- 7.157 ComReg has given consideration to whether the capital costs for pole replacement should be indexed by a price trend to reflect changes in costs. In the 2021 CEI Pricing Draft Decision ComReg submitted that, absent information from Eircom, it had assumed a price trend of 0% in the PAM. ComReg was of the view that the risk of wage inflation on the costs of PIA provision by Eircom over the price control period was hedged by the sub-contractor rates that Eircom had agreed in its plan to extend its FTTH network to pass 1.9M homes by 2026.
- 7.158 ComReg considered that this should insulate Eircom's PIA costs from the effect of wage inflation as the work required to upgrade Eircom's duct and pole network during this period will be performed mainly by contractors rather than Eircom's own staff. This means that the risk of wage inflation for a significant cost component of PIA costs is borne by the contractor rather than Eircom. ComReg also considered that efficiency gains arising from a renewed PIA network would also be an offsetting factor to wage inflation.
- 7.159 As noted at paragraph 7.14, ComReg plans to update the financial/costing data in the PAM (and DAM) before it makes its final decision and so the draft prices presented in this Consultation are expected to change. As part of the update, ComReg intends to update the price trend assumption. However, ComReg considers that the current macroeconomic conditions, and in particular the emerging strong inflationary pressures<sup>255</sup>, are indicative that an assumption of a 0% price trend is unlikely to remain appropriate for the final decision. As part of the final update to the PAM, ComReg will reassess the

---

<sup>255</sup> <https://www.imf.org/en/Countries/IRL>

price trend assumption to ensure Eircom recovers its efficiently incurred pole replacement (and duct remediation) costs. In this regard, ComReg considers that a price trend based on the consumer price index ('CPI') for Ireland, derived from an internationally accredited source such as the International Monetary Fund,<sup>256</sup> is an appropriate inflationary factor to apply to reflect the cost conditions present at that time.

7.160 For the purposes of this Consultation, ComReg has carried out a sensitivity analysis to estimate the possible impact of inflation on the draft Pole Access prices. ComReg has taken Eircom's subcontractor rates from May 2020, as discussed at paragraph 7.156, and we have extrapolated those rates forward with an inflationary factor based on data from the IMF<sup>257</sup> for the price control period. This sensitivity analysis shows that pole rental prices over the five year price control period would on average be higher by circa 4%.

7.161 ComReg has also included in the capital costs of pole replacement the costs for the Asset Retirement Obligation. The Asset Retirement Obligation applies to all the poles that Eircom has installed since 2004 and recognises the cost that Eircom must incur to ensure the appropriate disposal of those poles when they are eventually retired from the network. While ComReg understands that the Asset Retirement Obligation does not apply to the disposal of those poles that are replaced during the initial phase of FTTH deployment, as it can be assumed that those poles would have pre-dated 2004, it will be incurred when the new replacement pole is ultimately retired at the end of its useful life. Therefore, the cost modelling exercise has recognised the fair value of the expected future cost of the Asset Retirement Obligation in the capital employed calculations.

7.162 In the PAM ComReg has modelled the average level of pole replacement across the entire population of poles in each of the three geographic footprints. Eircom's poles exist in various sizes but ComReg has used an average across the entire set of poles replaced. ComReg considers that a disaggregation of pole replacement costs by pole size is not justified.

### Duct renewal costs

7.163 In contrast to pole replacement, Duct renewal is not typically a recurring activity. Ducts have long asset lives and are expensive to deploy, so any intervention is likely to occur as a 'once-off' event when new cables are being deployed or there is a failure to the ducts that compromises the cables it contains. This 'once-off' event could therefore be the result of unexpected damages such as those resulting from soil subsiding, silt or water ingress or

---

<sup>256</sup> [World Economic Outlook \(April 2022\) - Inflation rate, average consumer prices \(imf.org\)](#)

<sup>257</sup> [World Economic Outlook \(April 2022\) - Inflation rate, end of period consumer prices \(imf.org\)](#)

to make ducts ready for new cables capable of supporting high-speed broadband or for leased lines.

- 7.164 ComReg has reviewed the costs incurred by Eircom in its 300k FTTH Rural Network deployment. ComReg has observed that only a small share of the costs incurred in ducts is related to the deployment of new trench or new ducts, with most of the costs being incurred to clear blockages in existing ducts to allow sub-duct to be deployed. As a result, the DAM does not include costs in respect to a BAU level of duct replacement or renewal, only duct replacement or renewal costs during a FTTH rollout programme, with the cost driver the length in kilometres of the underground route subject to intervention in advance of deploying FTTH.
- 7.165 The DAM assumes that the driver for duct replacement or renewal is the length in kilometres of underground route being intervened in advance of deploying FTTH. In advance of fibre cable being laid in the duct, duct blockages must be cleared to allow sub-duct to be installed. Trenches or chambers may also need to be remediated, and footpaths and road surfaces then may need reinstating. On the basis of the costs incurred by Eircom in its 300k FTTH Rural Network programme, duct remediation involves the following activities:
- (a) Duct blockage clearances;
  - (b) Chamber remediation or rebuilding;
  - (c) Footpath and carriageway reinstatement;
  - (d) New trench/duct;
  - (e) Other remediation.
- 7.166 A significant activity when remediating duct, as observed above, is the **clearing (or unblocking) of duct blockages**, which allows the installation of sub-duct in Eircom's ducts either by Eircom itself or potentially by an Access Seeker. Unblocking may be limited to de-silting work or duct repair. The clearance of blockages, while undertaken as a result of, and in most cases in parallel with, the installation of sub-duct, is inherently associated with the remediation of the duct network. ComReg proposes that the associated costs incurred by Eircom should be attributed to the duct asset

and are recovered as part of the rental charges for Duct Access and Sub-Duct Access, set out later in this section.<sup>258</sup>

- 7.167 The DAM assumes an average number of **three duct clearances** per kilometre of underground route, in all three footprints, based on the analysis of data from Eircom's 300k FTTH Rural Network programme. ComReg proposes, however, that this may be updated in the final decision on foot of the information available at that time.
- 7.168 ComReg notes that the Duct Access / Direct Duct Access rental prices being calculated as an average level of costs or expenditures in respect of duct remediation across the entire national network, based on available data from Eircom's fibre programmes<sup>259</sup>, means that there may be the risk that costs incurred on certain specific routes may be significantly exceeded. For example, on certain routes, Eircom may be required to clear significantly more duct blockages than the average of three duct blockages clearances per metre of duct that is modelled in the DAM or because the average level of expenditure on other duct remediation activities (e.g., desilting, box repair, surface reinstatement, etc.), which could also be exceeded to a material degree on some routes.<sup>260</sup> In order to mitigate any risk that Eircom will not be able to recover its efficiently incurred costs<sup>261</sup>, ComReg proposes that **a threshold of a cost per kilometre apply in respect of duct remediation for Duct Access / Direct Duct Access beyond which the costs are considered to not be recovered in the rental charge and are to be borne separately by the Access Seeker.**
- 7.169 ComReg has given consideration to the following factors in determining the appropriate level of the threshold for duct remediation:
- (a) The threshold should be sufficiently high to avoid any risk of over-recovery (or double recovery) of costs by Eircom. Hence, the threshold should be set above the average level of expenditure that is already reflected in the recurring duct rental prices.

---

<sup>258</sup> This is also, as ComReg understands it, how Eircom records blockage clearance costs, which are recorded against the duct asset class and amortised over the associated regulated asset life of 40 years.

<sup>259</sup> Eircom's FTTH 300k Rural Deployment and Eircom's IFN deployment.

<sup>260</sup> The duct remediation costs are relevant to the Duct Access/Direct Duct Access prices and the duct costs in the Sub-Duct Access price.

<sup>261</sup> Regulation 13(2) provides that: "*To encourage investments by the operator, including in next generation networks, the Regulator shall, when considering the imposition of obligations under paragraph (1), take into account the investment made by the operator which the Regulator considers relevant and allow the operator a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project.*"

- (b) At the same time, the threshold should be sufficiently low to minimise any risk that Eircom would not fully recover its costs in the long run. This may be particularly pertinent in those more extreme cases where duct remediation costs on exceptional routes are outside the normal expected range of costs.
- (c) The threshold should also be sufficiently low to provide Access Seekers with an appropriate signal as to whether to rent access to duct from Eircom and incur the access charges or to explore alternatives to duct rental from Eircom, such as renting dark fibre or building its own duct infrastructure along that section of route.

7.170 ComReg proposes that the DAM includes a capital cost per kilometre for duct remediation of circa €7,800 per kilometre to be recovered in the Duct Access / Direct Duct Access rental prices.<sup>262</sup> This reflects an average level of remediation costs across the combined Urban Commercial Area and Intervention Area footprints between the years of 2020 and 2026 (subject to updating by the final decision). In the absence of data on the distribution of duct remediation expenditure by route e.g., the variance in the number of duct blockage clearances that is experienced on different routes, ComReg proposes to set the limit/threshold at **€11,000 per kilometre of duct** to include capital expenditure on all associated duct remediation activities, namely duct blockage clearances (including de-silting<sup>263</sup>), chamber remediation/rebuilding, footpath/carriage reinstatements, new trench/duct and ancillary duct remediation activities, including related capitalizable local authority/traffic management costs. Updates to the financial/costing data in the DAM before making its final decision impacting on the average duct remediation cost per metre above (of €7,800) will have a knock on impact on the proposed threshold of €11,000 per kilometre and so the threshold may change as a result of the model refresh.

7.171 ComReg considers that setting a financial limit that is somewhere in the range of 30%-50% above the average duct remediation cost of €7,800 per kilometre i.e., a monetary threshold that is between €10,140 - €11,700 per kilometre of duct route, should provide Eircom with a reasonable level of certainty that it will be able to recover its efficient costs. In addition, a threshold set at this level should also avoid the risk of any potential double-recovery of costs between the additional costs that are recovered from the Access Seeker for

<sup>262</sup> ComReg plans to update the costing/financial data in the DAM in advance of a final decision.

<sup>263</sup> Currently, in accordance with the SDSI Direction in ComReg Document 21/99 in the case where the Access Seeker installs Sub-Duct into Eircom's Duct and for that purpose it needs to unblock the duct i.e., remove silt from the duct (also referred to as 'de-silting') the Access Seeker is reimbursed for the reasonable costs incurred, by Eircom. Please refer to Sections 2.1.1 and 2.1.5 of the Decision Instrument at Annex 1 of ComReg Document 21/99.

expenditure that is above this threshold and the average expenditure that is already factored into the duct recurring rental prices.

- 7.172 For the avoidance of doubt, expenditure above the threshold borne directly by an Access Seeker should not be capitalised by Eircom and included in its Fixed Asset Register. This is to ensure that, in future price control reviews, the RAB for reusable ducts does not include any costs that have been directly charged to Access Seekers in the form of excess threshold costs. Hence, this should prevent any risk that those Access Seekers would also be charged for these costs through future PIA rental prices.
- 7.173 Furthermore, to maintain equivalence and to ensure non-discrimination between PIA requests from external Access Seekers and Eircom's internal use of duct<sup>264</sup>, ComReg considers that the same threshold should apply to Eircom when it is remediating routes. To this end, any expenditure on route remediation to facilitate Eircom's cable deployments that is above the threshold should not be capitalised under the duct asset class but instead should be capitalised against the cable asset that is being deployed by Eircom.
- 7.174 ComReg is aware that the introduction of a threshold may require Eircom to enhance its network systems and financial/accounting systems to be able to record and report on the incidence and costs of duct remediation activities. However, detailed information will be required on the various duct remediation activities (and the related expenditure) undertaken by Eircom to facilitate both its own cables deployments and to provide duct access to others. This is to allow ComReg to review, as appropriate, the reasonableness of the threshold level because of its regulatory objectives. Please see section 7.9 on the accounting separation obligation.<sup>265</sup>
- 7.175 For the remaining remediation activities, the DAM assumes an average occurrence per meter over the rural commercial underground route length during a FTTH rollout taking into consideration the following:
- (a) The level of occurrence for each underground route remediation activity in the Rural Commercial Area, i.e., Eircom's 300k FTTH Rural Network programme in the Rural Commercial Area. Available data shows that most of the duct cost being incurred is to clear blockages

---

<sup>264</sup> For providing services in downstream markets.

<sup>265</sup> ComReg intends to request from Eircom information on the incidence and cost of duct remediation activities, as part of the data refresh of the DAM, planned in advance of the final decision.



in existing ducts to allow sub-duct to be deployed and only limited cost is related to the deployment of new trench.

- (b) In the absence of detailed network remediation plans by Eircom, the same per meter levels of route remediation activities is assumed for the Intervention Area and the Urban Commercial Area as those calculated for the Rural Commercial Area.
- (c) The level of duct replacement or renewal in each year of a FTTH rollout in each footprint is calculated using the trench length from the ANM geospatial module in the exchanges which become FTTH enabled by either Eircom or NBI in any given year, meaning that over the course of the FTTH deployment, the total route length in each footprint is assumed to have been renewed. No further duct remediation activity is assumed beyond a FTTH rollout.

7.176 The capital costs in the DAM, are based on the costs incurred by Eircom during its 300k FTTH Rural Network deployment in the Rural Commercial Area, while taking into account information provided by Eircom under Section 13D(1) of the Communications Regulation Act 2002 (as amended), to establish the capital costs for replacing or renewing a segment of underground duct route. The DAM calculates an average capital cost per meter for each of the duct remediation activities identified at paragraph 7.165, for Eircom's 300k FTTH Rural Network deployment in the Rural Commercial Area.

7.177 The capital costs for duct in the DAM include materials, Eircom labour and sub-contractor labour. With the exception of sub-duct, ComReg has had to retain the estimates of the costs of materials for each of the duct remediation activities at paragraph 7.165 based on the Revised CAM, as Eircom did not provide any updated information in this regard. The one exception to this is the use of the IFN data from Eircom. The IFN data resulted in the average material cost of chambers being relatively smaller in size than that observed in Eircom's 300k FTTH Rural Network costs, based on the planned material costs to complete the duct and pole construction phase.

7.178 ComReg considers that this is a reasonable approach considering that sub-contractor labour costs represent most of the costs incurred under each of the remaining duct remediation activities and these have been updated based on data from Eircom. In addition, Eircom has also provided estimates on payments to local authorities or the National Road Authority relating to the presence (or disturbance) of Eircom's network on public spaces. ComReg has reflected these in the capital costs in the DAM.

- 7.179 Similar to the approach used when calculating the pole replacement costs above, in the DAM ComReg has used the latest available contractor rates from Eircom to estimate an average contract labour cost during a FTTH rollout programme. These rates do not differentiate between work carried out in Dublin or in Provincial areas. As already noted above, ComReg assumes no BAU duct remediation activity.
- 7.180 In terms of applying price trends and inflation, ComReg intends to adopt a similar approach to that set out for poles at paragraphs 7.159-7.160. The outcome of the sensitivity analysis for the estimated impact of inflation on the draft Pole Access prices at paragraph 7.160 is also relevant for duct rental prices.
- 7.181 Finally, the duct replacement or renewal capital costs by footprint are calculated in the DAM by multiplying the total underground route lengths renewed in each year of the FTTH rollout by the relevant per meter cost. This was done for each of the duct remediation activities outlined above at paragraph 7.165. For each year and in each of the three geographic footprints the DAM has calculated the following duct related capital cost categories:
- (a) The capital costs incurred in clearing duct blockages.
  - (b) The capital costs incurred in other duct remediation.

#### Sub-Duct Access specific costs:

- 7.182 ComReg has based the costs of Sub-Duct Access on accessing an Eircom-owned sub-duct to reflect the mix of sub-ducts deployed by Eircom for its own consumption in the IFN. This approach assumes the deployment of a new sub-duct to meet the Access Seekers needs. Subject to capacity constraints, the Access Seeker has the option to deploy its own sub-duct and ComReg is of the view that using a BU approach to cost the sub-duct better informs the build-or-buy investment decision for the Access Seeker.
- 7.183 It also means that the charge faced by the Access Seeker will only depend on the length of sub-duct section it is actually using. The Access Seeker can request access to Eircom's existing spare sub-duct even where this is within a multi-way sub-duct. The Access Seeker should not pay for additional length of sub-duct it did not request and so no additional charges are required for such sub-duct "sterilisation". In any event, Eircom can gain access to any unused section of a multi-way sub-duct by installing additional sub-duct to connect to that section.
- 7.184 The costs of sub-duct include installation labour costs (including rod, rope and test) but, for the avoidance of doubt, exclude any costs of duct

remediation such as duct blockage clearance and/or surface reinstatement. These duct remediation costs are included in the duct asset and recovered through the rental prices for Duct Access (including Direct Duct Access), as discussed above. In other words the costs for Sub-Duct Access in the DAM are calculated by adding the cost per metre of Duct and the incremental cost per metre of Sub-Duct.

### Operating costs

7.185 The operating costs for access to Eircom's poles and ducts network are considered under three main cost categories:

- (a) **Direct operating costs:** These are repair and preventive maintenance costs for Eircom's aerial and underground networks.
- (b) **Common corporate costs:** These are costs relating to general and corporate overheads, as discussed earlier at paragraphs 7.62-7.69.
- (c) **Process costs:** These are costs relating to the processing of PIA access requests. These are discussed under one-off costs at section 7.7.3 below.

7.186 The operating cost information used to derive the draft PIA prices is taken from Eircom's HCAs based on an average of the two financial years ending 2018 and 2019 as a typical year. As noted earlier at paragraph 7.14, in advance of publication of a final decision it is our intention to update the financial and volume data in the PAM and DAM with the most recently available information at the time of the decision.

### Direct operating costs:

7.187 For determining the direct operating costs of repair and preventative maintenance, ComReg uses Eircom's HCAs (see paragraph 7.186), and Eircom's activity-based cost model, to identify the relevant costs for these two cost categories. Eircom's HCAs only identify repair and preventive maintenance costs for the aerial or the underground network in its entirety, which mainly includes poles, ducts and the aerial and underground cable.

7.188 The PAM and DAM rely on the following assumptions:

- (a) For **repair costs**, a share of the total direct costs<sup>266</sup> derived from Eircom's HCAs (see paragraph 7.186) was attributed to the physical repair of poles and ducts, based on analysis of faults provided by Eircom from its fault handling system. Eircom has noted that where

---

<sup>266</sup> The direct costs are the pay and non-pay costs of Eircom's service assurance field force.

a fault damages both cable and the underlying civil infrastructure, Eircom's fault handling system records the fault against cable. However, for poles, ComReg considers that where a customer's service is reported as being faulty (for instance as a result of a weather storm event), this is more often related to the aerial cable than to failure of the pole. Only in limited situations for example, where the straightening of the pole is sufficient to restore service, is the related cost expensed. Similarly, for ducts ComReg would expect that only a limited number of faults should be expensed.

- (b) For **preventive maintenance for poles**, the PAM reflects an estimate of [§< ██████████ §<] of the total costs attributed to preventive maintenance of the aerial network in Eircom's HCAs, which relates mainly to the pole testing programme. This is based on a breakdown of preventive maintenance by programme provided by Eircom and includes a small percentage [§< ██████████ §<] of Eircom's overall tree trimming costs, on the basis that tree trimming is primarily an aerial activity.<sup>267</sup>
- (c) For **preventive maintenance for ducts**, the DAM reflects an estimate of [§< ██████████ §<]<sup>268</sup> of the total costs attributed to preventive maintenance of the underground network in Eircom's HCAs (see paragraph 7.186), relating mainly to the retrieval of redundant copper cables to free up duct space (including the retrieval of redundant equipment to free up chamber/pole space).
- (d) Operating costs are allocated to the three geographic footprints based on relative volumes by year, namely, on the basis of the relative number of poles in each footprint, and on the basis of the trench lengths by footprint for duct.

#### Common corporate costs:

- 7.189 The approach for the recovery of common corporate costs has been described earlier in section 7.4.3.
- 7.190 In the PAM and the DAM these costs have been extracted from Eircom's HCAs (see paragraph 7.186), and Eircom's activity-based cost model. These costs are calculated as a mark-up of 23% on the capital annuities. The

<sup>267</sup> The recovery of tree trimming costs associated with preparing aerial cable routes is discussed later in this section as part of one-off charges.

<sup>268</sup> Eircom noted that majority of costs recorded against underground preventive maintenance in recent years is related to retrieval of large redundant copper cables to free up duct space and additionally to recondition copper cabinets (e.g. repairing and resealing doors) but have not provided a breakdown of the costs.

percentage mark-up is calculated in the ANM by dividing the total common costs by total capex modelled in the ANM (but excluding the specific copper cable capex in associated services in the Intervention Area).<sup>269</sup>

- 7.191 The mark-up for common corporate costs (and which includes network rates) is applied to all PI Access Seekers, and so in the PAM and DAM the mark-up of 23% is applied to the capital annuities of poles and ducts, respectively, in all footprints, i.e., in Commercial Areas and in the Intervention Area.

Q. 10 Do you agree with ComReg's proposed cost modelling approach in the PAM and DAM to determine the per unit costs for pole and duct related access, as described in section 7.5? Please provide reasons for your response.

Q. 11 Do you agree with the proposed financial threshold for duct remediation costs of [€11,000] per kilometre of duct? Please provide reasons for your response.

## 7.6 Cost sharing approach / pricing methodology

- 7.192 In the sections above ComReg has set out the costing methodologies and how those methodologies should be implemented in the cost models (PAM and DAM) to determine the total relevant costs that should be recovered by Eircom. How those costs should be allocated between Access Seekers – which cost sharing methodology should be used – is the subject of this section.

- 7.193 In the price control under the 2018 WLA Market Decision, pole costs are allocated on a 'per operator' approach whereby the total Pole costs are divided by the number of operators using the pole, and duct costs allocated on a 'per metre of cable' basis. For the reasons set out below, ComReg is maintaining the cost sharing approach used in respect of poles but amending that used for ducts.

### 7.6.1 Cost sharing approach for Pole Access:

- 7.194 ComReg has considered two options for cost sharing for Pole Access, as follows:
- (a) Per operator approach; or
  - (b) Per cable approach.

<sup>269</sup> This is consistent with the approach taken by ComReg in the ANM Decision D11/21, see paragraphs 5.460 to 5.479 of ComReg Decision D11/21.

- 7.195 ComReg proposes to continue to use the **'per operator'** approach whereby the total Pole Access costs are divided by the number of operators using the pole. As a result, the Pole Access rental price will vary depending on the number of operators on the pole (rather than cables), including Eircom itself.
- 7.196 For example, if Eircom and one other operator have access to a pole (i.e., have cables on the pole) then all of the pole costs are split 50:50 between Eircom and the other operator.
- 7.197 A 'per operator' approach is relatively simple to implement i.e., the total Pole Access costs are spread across the number of operators sharing the pole. It also gives appropriate migration incentives to Eircom for copper retirement and withdrawal of copper cable, particularly in the Intervention Area. In this case, the 'per operator' approach shifts all of the Pole Access costs to the other pole user(s), once Eircom removes its cables from the pole.
- 7.198 For example, with the 'per operator' approach an Access Seeker will pay 50% of the Pole Access costs (assuming Eircom is also present on the pole) once it gains access to the pole and this charge would continue until Eircom removes its cables from the pole. Once Eircom removes its cable from the pole the charge for the remaining Access Seeker, as the sole user, should recover all (100%) of the costs. This approach should provide Eircom with reasonable incentives to migrate services from its copper network to NBI's fibre network in the Intervention Area, as appropriate.
- 7.199 The main disadvantage of the 'per operator' approach is that it requires Eircom to contribute a fixed amount to Pole Access costs that might become unsustainable over time as demand for copper services reduces.
- 7.200 ComReg does not consider that a **'per cable'** approach, that is, a capacity-based approach to share the Pole Access costs, based on the number of cables on the pole, is warranted. This approach involves dividing the total Pole Access costs by the number of cables carried on the pole. As a result, the Pole Access prices for those operators sharing a pole would reflect each operator's share of the total number of cables carried on that pole.
- 7.201 A price 'per cable' deployed is justified and appropriate in situations where deploying an additional cable is considered to be a significant cost driver regarding the cost of poles; it incentivises operators to avoid deploying too many cables on a pole thereby promoting more efficient use of the pole. However, cable capacity does not appear to be in fact a significant constraint in the context of Pole Access as in practice, additional cables can be

accommodated on an existing pole without significantly impacting on the costs of poles.<sup>270</sup>

- 7.202 Adopting a 'per cable' approach would lead to more significant changes in the prices faced by operators over time. Prices would need to respond to each change in the number of cables deployed on each pole. For example, if Eircom and another Access Seeker shared access to a pole the price paid by each would change if Eircom were to retire one of its existing copper cables or deploy an additional fibre cable. It would also be more difficult to administer as it requires knowledge of the number of cables deployed by each operator at a particular moment in time. It may also lead to debates as to what constitutes a cable, for example would a drop wire be considered as being equivalent to a cable for pricing purposes.
- 7.203 Having considered the two cost sharing options for Pole Access, ComReg's view is that the 'per operator' cost sharing approach continues to be a reasonable and appropriate way to share the Pole Access costs among the Pole Access Seekers.

Q. 12 Do you agree with ComReg's view that the 'per operator' approach should continue to be used to allocate / share the relevant Pole Access costs among all of the Pole Access Seekers, including Eircom? Please provide reasons for your response.

## 7.6.2 Cost sharing approach for Duct Access / Direct Duct Access / Sub-Duct Access:

- 7.204 ComReg has considered the following cost sharing options for duct related access<sup>271</sup>:
- (a) Per metre of cable;
  - (b) Price per metre cm<sup>2</sup>;
  - (c) Per metre of duct access equivalents.
- 7.205 In summary, ComReg is amending the approach used under the 2018 WLA Market Decision in respect of the cost sharing of ducts to the 'per metre of duct access equivalents' cost sharing approach as described below.

<sup>270</sup> Paragraphs 8.32-8.33 of the 2016 Access Pricing Decision.

<sup>271</sup> Duct costs include the cost of trenches, ducts and chambers but exclude the costs of sub-ducts. For sub-ducts, ComReg has modelled the costs on the basis that the Access Seeker will avail of newly deployed sub-duct. Hence, cost sharing only applies to the costs of ducts, which are common to Duct Access / Direct Duct Access and Sub-Duct Access.

- 7.206 Under the 2018 WLA Market Decision, Access Seekers are charged for duct on a **per metre of cable** basis with the average per metre duct cost divided by the average number of copper and fibre (or sub-duct) cables hosted on the Eircom network. The average number of cables is calculated by dividing the total kilometre length of underground copper and fibre cables by the total length of trench (or duct).
- 7.207 This is simple to implement, as Access Seekers only need to submit the length of cable they require, and industry is already familiar with it.
- 7.208 However, this approach assumes that fibre cables (or sub-ducts) are of a similar size to copper cables in terms of diameter. Where this is not the case, this approach may not reflect actual duct usage or provide Access Seekers with the incentive to maximise efficiency by limiting the size of cables or sub-ducts deployed to their actual needs. As a result, it does not recognise the need to encourage efficient reuse of duct capacity – noting that the volume of cables is the main driver of underground civil costs – and does not give Access Seekers the incentive to limit the amount of cables to their specific needs and as such, may be a deterrent to promoting competition and encouraging alternative investment from other Access Seekers.
- 7.209 Alternatively, the **per metre cm<sup>2</sup>** approach calculates a unit cost for duct related access by dividing the total costs of duct by the total volume (in cm<sup>2</sup>) of cables to derive a cost per meter.cm<sup>2</sup>. Hence, the resulting per metre price is related to the volume of cable or sub-duct consumed by the duct Access Seeker (either deployed by Eircom or self-supplied) and so the volume (in cm<sup>2</sup>) and length of the cable are the determining factors in deriving the duct related prices incurred by the Access Seeker.
- 7.210 This approach better reflects the cost causation principle compared to the per metre of cable approach above. Whereas cable volumes are not considered to be a significant factor when dimensioning the pole network, the volume of duct bores is dimensioned to accommodate the volume of cables or sub-ducts, which, as noted above, is a driver of underground civil costs.
- 7.211 While this approach provides better incentives to Access Seekers to minimise the volume of cables it deploys in Eircom's ducts, there is no minimum capacity assigned in terms of cable diameter, which could undermine Eircom's cost recovery given the modularity of duct installation. In addition, this approach is comparatively more complex to implement compared to the per metre of cable approach.<sup>272</sup>

---

<sup>272</sup> In addition to length of cable or sub-duct, the Access Seeker would also be required to provide Eircom with information on the diameter (or cross-sectional area) of the cable required.



- 7.212 The '**per metre of duct access equivalents**' cost sharing approach addresses the issues noted above by charging Access Seekers on a per metre basis by taking into account the fact that copper cables, fibre cables and sub-ducts can be of different sizes, and their share of the duct space differs. This is achieved by assigning a minimum cross-sectional area to the duct access service, which is then used to derive the share of the average per metre duct cost that should be attributed to the duct access service, based on the estimated duct occupancy. For example, if the minimum cross-sectional area of the duct access service is 490mm<sup>2</sup> (equivalent to a sub-duct with diameter of 25mm) and the combined cross-sectional area of existing cables in a duct track is estimated to be 2,500mm<sup>2</sup>, then the duct access service would be assigned 20% (490/2,500) of the average per metre duct cost.
- 7.213 With respect to the **minimum cross-sectional area**, ComReg considers that setting a minimum charge for duct related access based on assigning a cross sectional area in a duct, equivalent to a sub-duct with a **diameter of 25mm**, should be sufficient to meet the needs of the majority of duct related access requests. This should also encourage efficient reuse of available duct space and ensure certainty for Eircom in terms of the recovery of its efficiently incurred costs.
- 7.214 With regards to duct occupancy, it is expected that occupancy will increase over the next few years as fibre cables are deployed in ducts next to the existing active copper cables, and large-scale retrieval of redundant copper cables is not anticipated in the short-run. While ComReg recognises that there will be some variation in duct occupancy during the price control period, ComReg does not propose to reflect the expected variations in duct occupancy but instead proposes to set the duct occupancy based on a forward-looking fibre-only access network. ComReg considers that providing a duct cost sharing rule that will last beyond the expected short-term variability in duct occupancy should provide the appropriate benefits in terms of price stability to Access Seekers and cost recovery to Eircom, during the price control period.
- 7.215 As a result, based on the modelling undertaken in the DAM and taking into account the assumptions on the timing and reach of FTTH rollout as well as copper switch-off, ComReg estimates that a cross-sectional area that is equivalent to a 25mm sub-duct should apply, which is approximately one third ( $\frac{1}{3}$ ) of the estimated occupied duct space in a fibre-only access network.
- 7.216 This approach makes it easier for the Access Seeker to understand the maximum size of cables and sub-ducts it can deploy for the standard duct access related price. A minimum cross-sectional area for duct access means

that if an Access Seeker chooses to deploy multiple cables (or sub-ducts), but the combined cross-sectional area of those cables does not exceed the minimum cross-sectional area, the Access Seeker is not liable for multiple charges. In other words, if the Access Seeker installs cables or sub-ducts within the minimum cross-sectional area (of 25mm) in a duct and pays the standard Duct Access / Direct Duct Access rental charge then any subsequent orders by that same Access Seeker to install more cables or subducts in that same cross sectional area of duct should not be subject to an additional standard rental charge if they do not consume space above the allowed 25mm.

- 7.217 However, if cable deployment results in a duct occupancy above the minimum cross-sectional area allowed (e.g. a sub-duct with diameter greater than 25mm), ComReg proposes this will result in the Access Seeker facing a higher duct access related price. The higher charge will be proportionate to the relative increase in cable/sub-duct size above the standard allowance. For example, if the minimum allowance is 490mm<sup>2</sup> and the Access Seeker deploys a sub-duct with a cross-sectional area that is 10% larger than this, the share of the average per metre duct access price will also increase by 10%.
- 7.218 ComReg proposes to use a “linear” approach to charge for excess usage that is above the minimum allowance (of a sub-duct of 25mm) which should also ensure greater equivalence between the prices charged to Access Seekers for duct related access and the residual duct costs that are attributed to Eircom for its internal use of ducts. Hence, this approach should better ensure a level playing field exists between Access Seekers and Eircom, while ensuring that Eircom has the opportunity to recover its efficiently incurred costs.
- 7.219 In assuming a 25mm diameter sub-duct as the basis for the minimal charge, ComReg recognises that Eircom may, and does, provide access to a smaller sized sub-duct (a 14mm (diameter) single bore sub-duct) as part of its Sub-Duct Access product. Rather than using this as the basis for the minimum charge and the attribution of costs, which may inhibit the effectiveness of these services by limiting the scale economies that Access Seekers can achieve, applying a minimum capacity equivalent to a 25mm diameter sub-duct provides a more balanced build-or-buy investment signal for Access Seekers for deploying their own sub-duct or using an Eircom sub-duct. This is because the costs are more uniformly attributed to the different types of duct related access services i.e., Duct Access, Direct Duct Access and Sub-Duct Access (as the same level of duct costs should be attributed to Sub-

Duct Access irrespective of Eircom providing a smaller sized sub-duct with this product<sup>273</sup>).

- 7.220 For the reasons set out above, duct costs should be shared/allocated among Access Seekers, including Eircom, based on the 'per metre of duct access equivalents' approach.

Q. 13 Do you agree with ComReg's view that the 'per metre of duct access equivalents' approach should be used to allocate / share duct related access costs among all Access Seekers, including Eircom, and that the minimum threshold in terms of the diameter space should be set at 25mm? Please provide reasons for your response.

## 7.7 PIA prices and pricing options

### 7.7.1 Differentiation of PIA rental prices

- 7.221 In determining the Pole Access, Duct Access (including Direct Duct Access) and Sub-Duct Access rental prices, ComReg has considered whether the differences in costs in ducts and poles in the different geographic footprints, set out at paragraph 7.134, requires different geographic prices. ComReg considers that the differences in cost profiles between different geographic areas may provide justification for access prices to be tailored to reflect these factors, despite the fact of a national PIA Market.
- 7.222 Under the 2018 WLA Market Decision, Pole prices differ depending on whether the pole is located in a geographic area known as the Modified LEA or an area known as Outside the Modified LEA, in order to reflect the historic investment costs for Pole Access in those particular geographic footprints. Price for ducts differ depending on whether the duct is located in the Dublin area or in Provincial areas, to reflect contractor rates for the provision of duct access in those specific geographic areas, as well as by surface type.
- 7.223 ComReg has considered a number of options below for setting the wholesale regulated prices for Pole Access and for Duct Access (including Direct Duct Access) and Sub-Duct Access, as follows:
- (a) Set a single national rental price for poles and for ducts based on the national averaged cost of providing the relevant service; or

---

<sup>273</sup> All things being equal, this may result in lower incentives for the Access Seeker to avail of the Sub-Duct Access service and that Eircom retains flexibility to re-balance these incentives by offering more space in its Sub-Duct Access offer.

- (b) Set de-averaged rental prices for poles and for ducts that vary depending on the costs of providing duct or pole access in different geographic footprints.

7.224 In summary, and for the reasons set out below, ComReg proposes to remove any differentiation of rental prices in respect of poles (i.e., set a national price), but to maintain the differentiation of prices for ducts.

### Pole Access:

7.225 In terms of the pole network, since 2016, the historic cost differential between the Modified LEA and outside the Modified LEA for Pole Access has become less relevant. This is because any prospective cost differences in terms of investments in poles by Eircom are more likely to be between the costs in each of the geographic footprints discussed earlier i.e., Commercial Areas and Intervention Area.

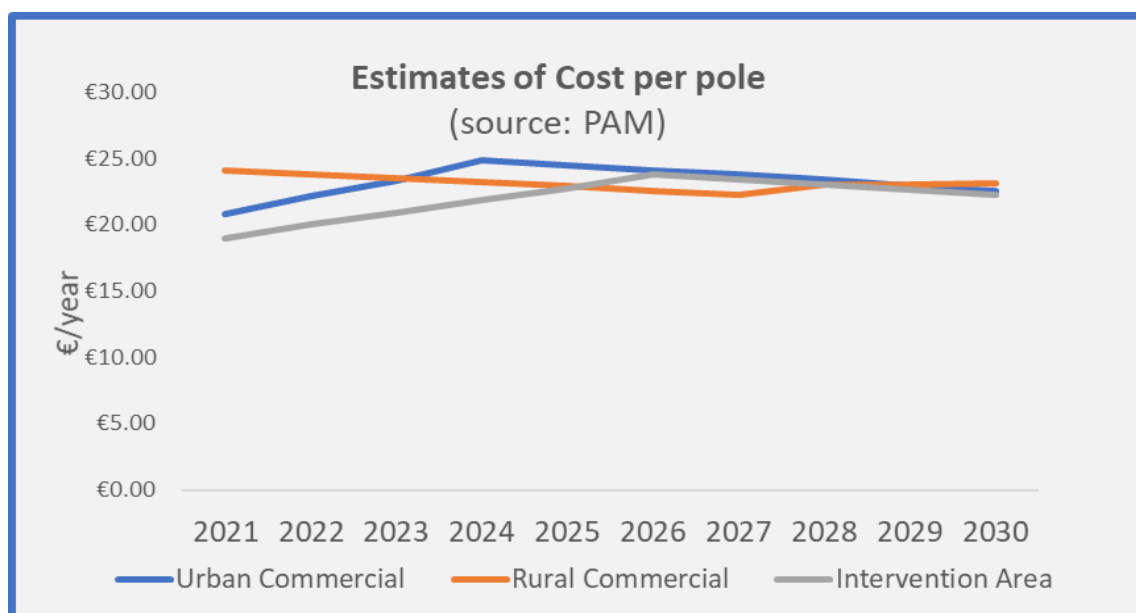
7.226 Eircom will be required to invest in its pole network in the Intervention Area over the next number of years to replace older and unsafe poles so that it can provide access to NBI for the NBP. In addition, in the Urban Commercial Area, Eircom will invest in poles in these areas as part of its IFN rollout over the next few years. In the Rural Commercial Area, Eircom has already carried out significant investment in its duct and pole network for the rollout of its 300k FTTH Rural Network.

7.227 In the case of Pole Access and the option of **geographically differentiated rental prices**, cost differences across geographic areas (of Commercial Areas and Intervention Area) are more to do with the timing differences of when the pole investments take place, rather than differences in costs associated with the characteristics of Pole Access in the different geographic areas. These timing differences will smooth out over the long run, as, in the years after FTTH deployment, Eircom is expected to continue to replace poles across its network in cyclical pole replacement programmes.<sup>274</sup> Figure 15 below illustrates how the cost per Pole in the different geographic areas converge over time, based on the draft PAM.

---

<sup>274</sup> Eircom tested all poles across its network as part of 12-year pole testing programmes and replaced those that were identified as being damaged or unsafe. As a result of such cyclical pole replacement programmes, the average age and cost of poles would be expected to converge over time.

Figure 15: Pole access prices over long-run



- 7.228 In addition, ComReg recognises that in the Urban Commercial Area there may be greater demand or use for final drop poles to the customer premises, which tend to be lighter and therefore have a lower cost than poles that are used to support the main cable network i.e., carrier poles. However, these cost differences<sup>275</sup> are not significant enough to require differentiation by use or one by footprint, which, as ComReg understands it, would be complex and administratively burdensome to implement by Eircom.
- 7.229 Hence, ComReg does not believe that a differentiation of prices for Pole Access across geographies is necessary.
- 7.230 The option of a **national price** based on the national average cost of providing Pole Access across all three geography footprints (Urban Commercial Area, Rural Commercial Area and Intervention Area) smooths out the pole investment timing differences referred to above and provides a simpler pricing structure while allowing full cost recovery for Eircom over time.
- 7.231 It also gives greater price stability and certainty to Access Seekers, compared to the deaveraged pricing approach. The national averaged price for Pole Access supports cost recovery by Eircom and therefore maintains Eircom's investment incentives, by allowing it to recover its efficiently incurred costs plus a reasonable rate of return on its capital employed across the national PIA Market. It should also support efficient entry in downstream markets like the WLA Market by encouraging other alternative infrastructure players to

<sup>275</sup> Based on the data reviewed by ComReg, cost differences could only be observable in cost of materials (timber), which broadly represent one third of the cost of pole replacement.

reuse Eircom's existing poles at prices that reflect the age, cost and condition of Eircom's pole network regardless of the area in the country that Pole Access is sought.

7.232 For the reasons set out above, a single national price should apply for Pole Access.

Q. 14 Do you agree with ComReg's view that Pole Access rental prices should be set as a single national price based on a national average cost of providing Pole Access in all three geographic footprints (Urban Commercial Area, Rural Commercial Area and Intervention Area)? Please provide reasons for your response.

### Duct related access:

7.233 Since 2016, the regulated prices for access to Eircom's ducts (and sub-ducts) have been differentiated between geographic area (Dublin and Provincial), and by surface type in which the duct is deployed. This was to reflect how the rates for duct related activities were agreed between Eircom and its subcontractor.

7.234 Surface types lead to different costs of trench excavation and surface reinstatement. For example, laying duct by the road side is the least expensive, as it involves the excavation of typically soft surfaces, with no need to reinstate road surfaces or footways.

7.235 Hence, ComReg observed that Eircom's contractors, who effectively undertake the deployment and remediation of ducts, have to date differentiated their rate cards based on three surface types, namely:

- (a) **Carriageway:** this refers to duct that is laid beneath the road surface;
- (b) **Footway:** this refers to duct that is laid beneath the footpath;
- (c) **Verge:** this refers to duct that is laid by the road-side.

7.236 Given this, and the continued cost differential between surface types, ComReg considers that it is proportionate and justified to differentiate prices for access to the duct network based on surface types i.e., carriageway, footway and verge. This should ensure certainty regarding the recovery of costs for Eircom while also providing Access Seekers with the appropriate build-or-buy signals.

ComReg understands that Eircom's surface type costs have not, to date, been recorded in its costing accounting systems to a level of granularity that would allow for differentiation of duct prices. As a result, ComReg has applied

a price gradient to the average per metre duct costs for surface types that are modelled in the DAM. The implementation of this gradient is however limited to the cost components which are surface-type sensitive, such as the installation / renewal of duct and blockage clearances. The price gradient combines the differential on the contractor rates and the information gathered from Eircom on the split of underground routes by surface-type (as set out in Table 9 below).

7.237 Table 9 shows the estimates of distribution of surface types by footprint,<sup>276</sup> based on data collected from Eircom, which is included in the draft DAM.

**Table 9: Estimates of surface types in the draft DAM**

Surface Type =>	Carriageway	Footway	Verge
<b>Urban Commercial Area</b>	25%	50%	25%
<b>Rural Commercial Area</b>	25%	10%	65%
<b>Intervention Area</b>	25%	10%	65%

7.238 ComReg considers that differentiation of duct access prices by surface type is justified in the context of the cost orientation obligation as the level of investment per duct track metre is dependent on the surface type at the time the duct is deployed. Duct has an asset life of 40 years, which means that a significant proportion of the costs of the RAB for duct assets that inform the duct related access charges relates to historic investments undertaken by Eircom over many years. For example, Eircom would have had to invest more money to deploy a duct under a carriageway surface type than under verge.

7.239 In deriving the charge per metre of surface type, ComReg relies on estimates from Eircom (as set out above) on the proportion of surface types it has recorded in respect to its duct network to calculate an average per metre cost

<sup>276</sup>Estimates for the Urban Commercial Area are based on very dense geo types, based on data collected for the Revised CAM. For the Intervention Area ComReg assumed the same distribution as the Rural Commercial Area, which was provided by Eircom in the context of its 300k FTTH Rural Network deployment.

for each surface type. Given that Eircom's duct is long established and most of the investment has already occurred, ComReg's approach in the DAM assumes that the distribution of historic costs by surface type is reasonably stable between the time when the ducts were first installed and the time when duct remediation is subsequently undertaken. As a result, to the extent that the duct access related charges are intended to recover Eircom's historical investments, cost orientation means that the duct related charge is based on the surface type that existed when the duct was originally deployed notwithstanding the possibility that subsequent developments may have resulted in the original surface type being overlaid, e.g., verge being overlaid with footway or carriageway. Hence, only the current costs that are incurred in remediating the duct to deploy new sub duct/cables will be dependent on the surface type that exists at present.

- 7.240 ComReg is of the view that this is particularly relevant in those instances where the Access Seeker may opt to pay upfront for the duct remediation costs (which is discussed later in this section) as, in such cases, cost orientation requires that the subsequent duct access rental charge is set at a level that allows Eircom to recover the residual value of the historical investments that have not been recovered to date. In those areas where Eircom's duct remediation costs are recovered through upfront payments by the Access Seeker, it is possible that the historic element of the RAB for ducts will decline as depreciation continues to erode the residual NBV of the ducts, until such time as Eircom has fully recovered its historic investments. In such circumstances, the onus remains with Eircom to ensure that its duct related access charges remain cost oriented and the costs that it recovers are consistent with the residual value of the RAB. Therefore, where it can be reasonably determined that the current observed surface does not correspond to the original surface, Eircom's cost orientation obligation requires that the historic cost element of the duct access rental charge is based on the costs pertaining to the original surface type.
- 7.241 Eircom should ensure that, in those instances where Eircom undertakes the duct remediation work and the Access Seeker pays Eircom for these costs upfront or where the Access Seeker undertakes the work and is reimbursed by Eircom, the payments should only correspond to the capital cost incurred (i.e., the expenditure that would otherwise be capitalised by Eircom) with an allowance for any specific administration costs, which Eircom should not capitalise to its RAB.
- 7.242 In terms of **geography**, ComReg understands, the agreed contractor rates between Eircom and its contractor for duct related works are no longer differentiated by Dublin and Provincial areas and instead are based on a single rate. Hence, continuing to differentiate duct prices to align with



differentiated contractor rates for Dublin and Provincial areas is no longer required. Nonetheless, the fact that ducts have an asset life of 40 years means that historic differences in contractor rates can still affect the geographic profile of legacy costs that are recorded on Eircom's asset register. Such differences can be relevant to the prices of ducts going forward as a significant element of the RAB that informs the prices for duct related access is intended to allow Eircom recover the residual NBV of its duct network. In addition, legacy duct assets tend to be older and more heavily depreciated in rural exchanges than is the case in larger urban exchanges.<sup>277</sup>

- 7.243 More generally, it appears to ComReg that any prospective geographical differences in the cost of Eircom's ducts are more likely to be linked to geographic footprints where Eircom has undertaken significant duct remediation, related to its NGA capital programmes in the Commercial Areas and in the Intervention Area for NBI.
- 7.244 Eircom is currently remediating its duct network in the Intervention Area to provide PIA to NBI for the NBP where the historic investments in the pre-existing duct network in the Intervention Area would appear to be heavily depreciated. This means that no material allowance for the recovery of historic NBVs in respect of the share of duct network in the Intervention Area is required.
- 7.245 In contrast, in the Urban Commercial Area Eircom has upgraded its duct network to enable the deployment of FTTC. Eircom is currently investing in its duct network (in its IFN) to continue to provide fixed line services over FTTH to other operators and to self-supply its own retail arm. Eircom has invested in its duct network in the Rural Commercial Area for its 300k FTTH Rural Network rollout that was deployed between 2015 and 2019. Therefore, the need to recover the residual NBV of past investments remains a relevant consideration for those exchange areas where the Urban Commercial Area and Rural Commercial Area dominate.
- 7.246 ComReg considers that the duct cost differences, as a result of differences in the timing of duct investments, are not expected to be eroded over time by ongoing maintenance and remediation programmes for ducts, to the same extent as that of poles. Duct investments tend to coincide with cable deployments as Eircom does not operate cyclical duct remediation programmes, similar to the pole testing/replacement programme. Therefore,

---

<sup>277</sup> Up to 2009 the asset life of duct was 20 years, so all duct installed prior to 1989 would be fully depreciated.

observed differences in the average costs across geographic areas are likely to continue for ducts.

- 7.247 Also, there are stable technical characteristics which impact on the costs of the duct infrastructure and which can vary by geographic area. For example, duct dimensioning differs between urban and rural areas; 9-12 way ducts are typically found in urban areas where local exchanges are located while 1-2 way ducts are more predominant in rural areas. Remediation works in urban areas require a greater level of traffic management and it is often the case this type of work has to be carried out outside of normal business hours to minimise traffic disruption.
- 7.248 Hence, for the reasons set out above, ComReg considers that a **single national duct rental price** is not appropriate given the enduring cost differences for duct related access. While in the case of poles the price is expected to converge towards a national average over time as a result of the systematic pole testing/replacement programmes, this does not seem to be case for ducts, where remediation tends to coincide either with major network upgrades or incidental cable deployments and replacements. As a result, the observed differences in duct costs between geographic areas at a point in time are more likely to persist across multiple price control periods.
- 7.249 In light of the considerations above, ComReg proposes that the prices for the duct related access services should be set as **deaveraged (or differentiated) prices** to reflect the cost differentials across the Urban Commercial Area, Rural Commercial Area and Intervention Area, and differentiated by surface type.
- 7.250 However, to avoid implementation issues arising from the fact that Eircom does not record its duct asset infrastructure to the geographic footprints set in the DAM i.e., Urban Commercial Area, Rural Commercial Area and Intervention Area, ComReg proposes that the **deaveraged geographic rental prices** would be determined by converting, based on the duct lengths by exchange and by footprint, the three footprints into urban and rural exchange areas. Urban exchange areas, as was the case in the Revised CAM, include all exchanges with over 3,000 lines (**'Urban exchange area'**) and the balance of exchanges with less than 3,000 lines constitutes the **'Non-Urban exchange area'**. The two geographic area types would remain static throughout the price control period so as to provide price stability and certainty to all Access Seekers. The full list of the 'Urban exchange area' and the 'Non-Urban exchange area' is scheduled to the Decision Instrument (Annex 1) at Schedule 1 and Schedule 2, respectively. It should be noted that ComReg may revisit the geographic area types for setting the prices for Direct Access / Direct Duct Access based on our assessment of the distinction of

PIA assets used by FNI and Non-FNI (Eircom), which is discussed in Section 7.9. As a result, ComReg may require Eircom to revise its duct related prices depending on the materiality of any such differences.

7.251 The approach (of using Urban exchange area and Non-Urban exchange area) facilitates implementation as Eircom already records its duct infrastructure based on these exchange areas. It also reflects the cost differences associated with providing duct related access in different parts of the country and so is consistent with the cost causation principle.

7.252 An estimate of the prices for Duct Access based on the different options described above are set out in Table 10 below, for illustration purposes.

**Table 10: Estimates of draft Duct Access prices by surface type**

<b>Draft Duct Access prices per metre cable 2022/23</b>	<b>National €</b>	<b>Commercial Areas €</b>	<b>Intervention Area €</b>	<b>Urban exchange area €</b>	<b>Non- Urban exchange area €</b>
<b>Carriageway</b>	0.85	0.91	0.35	0.92	0.79
<b>Footway</b>	0.71	0.73	0.30	0.71	0.61
<b>Verge</b>	0.39	0.42	0.21	0.44	0.38

Q. 15 Do you agree with ComReg's view that Duct related access rental prices should be set as deaveraged (geographic) prices to reflect the geographic costs in the DAM and converted into the geographic footprints of the Urban exchange area and the Non-Urban exchange area scheduled to the Decision Instrument at Schedule 1 and Schedule 2, respectively? Please provide reasons for your response.

## 7.7.2 PIA Prices

- 7.253 ComReg proposes that the maximum rental prices for PIA, calculated based on the PAM and DAM, are fixed per year for a period of five years at the date of ComReg's final decision, consistent with the market review period. ComReg also proposes that Eircom should be allowed time to update its billing systems and so the new PIA prices should apply from the first day of the third month following the Effective Date of ComReg's final decision.
- 7.254 ComReg is mindful that stability and predictability of prices is an important aspect of creating the right environment for all Access Seekers to make investment decisions. As a result, ComReg will generally avoid intervening during a price control period where it has mandated specific prices. However, there are some exceptions to this where circumstances may be materially different from those envisaged at the time of the pricing decision or exceptional circumstances have arisen, which require further consideration.
- 7.255 This means that a subsequent change in input costs and/or the WACC will not automatically lead to any change in those prices. ComReg however may nevertheless intervene to change prices when it considers it justified. ComReg intends in this regard to use, on an annual basis, the financial information obtained from Eircom through its HCAs and AFIs, as discussed at Section 7.9, to enable it to monitor Eircom's obligation of cost orientation for PIA.<sup>278</sup>
- 7.256 Intervention may be required in particular if there is evidence of a sufficiently material change in modelled costs as a result of changes to the model or changes to inputs such as costs and/or volumes or the WACC itself or other exceptional circumstances. In such cases, ComReg may embark on a fresh pricing consultation. Alternatively, ComReg may, in accordance with Regulation 13(4) of the Access Regulations/Regulation 56(6) of the ECC Regulations, require Eircom, subject to its cost-orientation price control, to review the basis for the existing prices and determine whether any changes to the prices are required. (This applies equally to circumstances that could lead to an increase in wholesale prices as to circumstances that could lead to a decrease).

---

<sup>278</sup> As part of the refresh of the financial data in the PAM and DAM models. ComReg will consider whether the data should be realigned (from Eircom's existing financial period July-June) to coincide with Eircom's new financial reporting period i.e., January-December, which may be appropriate in light of the fact that the HCAs will be used as a means to monitoring the obligation of cost orientation for PIA.

Q. 16 Do you agree with ComReg's view that PIA prices, should be fixed per year for a period of five years, but monitored annually with reference to Eircom's HCAs and AFIs? Please provide reasons for your response.

### 7.7.3 Rental and other charges

7.257 The price control for CEI as set out in the 2018 WLA Market Decision provides for the recovery of costs by way of an all-inclusive rental charge, which includes for example an allowance for the recovery of process related costs. ComReg proposes to amend this approach and require that the rental charge excludes recovery of certain specific costs, including process costs, pole furniture costs and certain tree trimming costs, which are to be recovered separately by way of one-off or upfront charges.

7.258 ComReg proposes further to introduce an element of flexibility to the manner in which costs are recovered and that it should be open to an Access Seeker to agree to pay upfront in a lump-sum payment certain costs otherwise recovered through the recurring PIA rental charge(s). There are pricing options available to PI Access Seekers which are discussed later in this section.

#### Process costs

7.259 Process costs include the costs of Eircom's staff that are engaged in planning, processing / ordering and managing the provision of PIA. These costs typically relate to the one-off labour costs of end-to-end processing of duct or pole access requests such as order administration, field surveying and generate billing records. For the avoidance of doubt wholesaling costs incurred over the duration of the access (such as product management, billing or account management) are included in the PIA rental prices.

7.260 The price control under the 2018 WLA Market Decision provides for the recovery of process costs by way of the rental charge.

7.261 ComReg proposes that Eircom recover the PIA process costs by means of an upfront payment, going forward. In particular, ComReg proposes that the incremental costs of Eircom resources assigned to process and manage the delivery of the requirements for pole and duct related access associated with an access request are separately identified by Eircom and recovered in its entirety from the Access Seeker requesting access, rather than treated as a general cost that is recovered across all services using Eircom's pole and duct network.

7.262 While this approach is consistent with the principle of cost causation (i.e., users pay the costs they cause), ComReg also considers that process costs

are unique to each Access Seeker depending on the scale and route of access sought and no one, other than the specific Access Seeker, benefits from these costs. ComReg also notes that this approach reflects the fact that PIA process costs may vary quite significantly depending on the scale and access routes requested by an Access Seeker and there may be some efficiency gains in this regard. Hence, ComReg proposes that each Access Seeker should be liable to pay the process costs it causes to Eircom regarding its specific access request, as an upfront payment.

7.263 In order to ensure that all operators (including Access Seekers and Eircom) are treated equally and transparently as regards the identification and calculation of process costs, ComReg proposes that Eircom is required to make available to Access Seekers, having first notified ComReg one month in advance of such publication, a Process Costs List detailing how the upfront process costs are derived together with a standard template (or spreadsheet) which sets out the following details:

- (a) The various steps (or processes) involved in processing/managing the PIA orders;
- (b) The unit costs for each step and their basis (i.e., the cost drivers, man-hours, hourly pay rates and details of any overheads).

7.264 ComReg further proposes to require that Eircom on notifying ComReg of the Process Costs List provide ComReg with the rationale for each of the costs/charges included in the List. Any changes to the Process Cost Price List would require to be notified and published in accordance with standard transparency requirements discussed in Section 6 as part of the transparency obligation.

Q. 17 Do you agree with ComReg's proposal that the process related costs for PIA should be recovered by Eircom as an upfront payment, which should be calculated and pre-notified in advance by Eircom based on the template described at 7.267-7.268? Please provide reasons for your response.

### Pole furniture costs

7.265 Pole furniture includes the equipment for distribution points for overhead drop wires, cable management systems or closures for splices.

7.266 ComReg has considered two options to recover the costs of replacing an Eircom pole where an Access Seeker's furniture is placed on it, as follows:

- (a) **Option 1:** Pole furniture costs are recovered in the recurring pole rental price; or

(b) **Option 2:** Pole furniture costs are recovered in an upfront or one-off pole furniture price.

7.267 ComReg proposes that Eircom recover the costs associated with another Access Seeker's furniture / equipment being placed on Eircom's poles by means of a one-off charge levied at the time the pole is replaced.

7.268 ComReg notes in this regard that recovering **Eircom's pole furniture costs in a recurring pole rental price** may not ensure that Eircom can recover its efficient level of costs plus a reasonable rate of return. This is because deriving a cost oriented rental price for pole furniture and avoiding any over-or-under recovery of costs requires to take into account a number of factors that are difficult to ascertain. These include the probability of pole replacement occurring when the furniture is in-situ, the timing of that replacement and the period over which the estimated costs are to be annualised, which makes it difficult to set an accurate recurring pole rental price, which would include these costs.

7.269 Where the Access Seeker locates its furniture on an Eircom pole for less than the asset life of the pole and removes that furniture before the pole needs to be replaced, no additional furniture related cost will be incurred whenever the pole is eventually replaced and including such costs within a rental price may lead to Eircom over recovering its costs. Recovering the additional costs of replacing poles with furniture in the rental price could also penalise those Access Seekers that rent poles for shorter durations.

7.270 In addition, a recurring rental price for pole furniture may also need to take account of the period over which the incremental cost of replacing a pole which has pole furniture should be depreciated. One option is to use the asset life of the pole to annualise (depreciate over time) these costs. Another option to consider is the average number of years that various operators on the network are expected to have their furniture on Eircom's poles, which will tend to be longer for those Access Seekers with long term commitments to access Eircom's ducts and poles. Other factors that require consideration to determine a recurring rental price for pole furniture include an NPV assessment as well as consideration of the appropriate WACC rate and any cost trends that would impact on future costs.

7.271 Against this background, and rather than averaging such uncertain costs and providing for their recovery by way of the rental charge, it is more appropriate to require that Eircom recover **pole furniture costs by way of an upfront / one-off charge**. This ensures that Eircom may recover any additional (or higher) cost to Eircom for replacing a pole with furniture compared to the cost of replacing a pole without furniture but only where such costs are incurred.

ComReg notes that there may be increased effort and complexity involved when a pole with furniture is replaced, as Access Seeker's furniture will need to be removed from the old pole and then relocated onto the new pole without compromising the service that the furniture supports.

- 7.272 Such an approach also reflects general pricing principles including cost causation, distribution of benefits and encouraging efficiency. ComReg notes in particular that requiring an Access Seeker to bear the cost associated with deploying its pole furniture on a pole would enhance efficiencies. The fact that an Access Seeker incurs an additional charge for deploying pole furniture on a pole should incentivise the Access Seeker to deploy its furniture in the most efficient way ('productive efficiency') thereby reducing the level of cost (or pole furniture charge) it incurred. In particular, Access Seekers would be incentivised to deploy their furniture on newer poles or poles in relatively good condition, as the incidence of pole replacement increases depending on the age and condition of the pole, and also to remove redundant furniture from the pole in advance of pole replacement so the additional costs of replacing the furniture on the pole can be avoided. This incentive does not exist if the Access Seeker has already paid for the costs of replacing the furniture through an ongoing rental price.
- 7.273 In addition, as the Access Seeker deploying the furniture is the only Access Seeker to benefit from its deployment then, it is appropriate that the pole furniture charge for any additional costs to Eircom should be recovered solely from the Access Seeker with the furniture on the pole.
- 7.274 A one-off charge levied on the Access Seeker deploying its pole furniture on a pole at the time the pole is actually replaced, based on the additional incremental costs as they are incurred, would achieve recovery of costs from the Access Seeker deploying pole furniture on a pole. A one-off charge would make the uncertainty on the probability of pole replacement occurring when the furniture is in-situ, the timing of that replacement and the period over which estimated costs are to be annualised, irrelevant.
- 7.275 Therefore, the additional costs of replacing a pole with pole furniture located on it should be recovered by Eircom by means of a one-off charge levied on the specific network operator that owns the furniture at the time the pole is replaced. To this end, ComReg considers that the additional capital cost i.e., subcontractor labour of pole replacement related to pole furniture e.g., DP enclosures, aerial cable joints, fibre splitters, etc., is an incremental cost that is specific to the network operator's furniture rather than to the cost of the pole asset. For example, most existing furniture is associated with Eircom's copper and fibre cable networks and the cost of moving this furniture during



a pole replacement should ultimately be charged to services that use those cable networks.

7.276 ComReg proposes further that Eircom is required not to capitalise the additional cost of pole furniture removal and replacement against a pole asset. Instead, Eircom should capitalise it against the asset that the furniture is associated with, e.g., against a copper cable asset if it is related to copper cables or a fibre cable asset if it is associated with fibre cables, in its cost accounting systems. This is to ensure that the cost is not treated as a pole related cost that could be included in a future Pole Access price. In those instances where the furniture belongs to an Access Seeker, the costs should not be capitalised by Eircom, but instead should be treated as an operating cost in a similar way to the Repayable Works Order process used to capture the costs associated with moving poles and infrastructure for third parties such as local authorities.

7.277 Similar to the approach on upfront process charges, ComReg proposes that Eircom make available to Access Seekers a Pole Furniture Charge List setting how charges are derived. Please refer to the process outlined at paragraphs 7.263-7.264, which Eircom should follow in relation to one-off pole furniture charges.

Q. 18 Do you agree with ComReg's view that Eircom should recover any additional costs of replacing a pole with pole furniture located on it by means of a one-off charge levied at the time the pole is replaced, and calculated and pre-notified in advance by Eircom based on the template described at paragraphs 7.263-7.264? Do you agree that the cost of pole furniture removal and replacement should be capitalised against the asset that the furniture is associated with, in its cost accounting systems? Please provide reasons for your response.

### Tree trimming costs

7.278 Tree trimming is generally undertaken by Eircom in a preventative maintenance programme to reduce the potential for damage to aerial cables from overhanging tree branches along a pole route. This may be undertaken as part of an ongoing pole replacement programme but as ComReg understands it, the majority of tree trimming is actually undertaken when cables are first deployed. It also does not appear that Eircom carries out tree trimming on a systematic basis and the costs of tree trimming undertaken in preventative maintenance programmes appear to vary significantly year on year. Eircom tends to capitalise the costs it incurs (to aerial cable assets) during its own cable deployment as part of the cable investment and ComReg

is of the view that tree trimming costs should be regarded primarily as cable related costs.

- 7.279 In light of this, ComReg has drawn a distinction between the following:
- (a) Tree trimming costs associated with ongoing pole replacement; and
  - (b) Tree trimming costs to prepare aerial cable routes in advance of cable deployment.
- 7.280 Where tree trimming is undertaken by Eircom as part of a dedicated preventive maintenance programme, all Access Seekers who have cables along the route will benefit from it and it is appropriate in that case that those tree trimming costs, associated with pole replacement, are recovered in the recurring rental charges.
- 7.281 As noted at paragraph 7.188(b), the PAM assumes a small percentage of cost for tree trimming associated with pole replacement, as part of the pole access rental price.
- 7.282 In contrast, where tree trimming costs are incurred by Eircom to facilitate the deployment of an Access Seeker's cables along an Eircom pole route, ComReg proposes to consider that such tree trimming costs are incremental to a specific Access Seeker's request. Such tree trimming costs to prepare aerial cable routes in advance of cable deployment, or more generally any tree trimming costs incurred by Eircom following a specific request from an Access Seeker to tree trim specific pole routes outside of Eircom's preventative maintenance programme, should be recovered from Access Seekers as a one-off charge.
- 7.283 This may be particularly relevant in the case of NBI's access in the Intervention Area where the prospect of other Access Seekers benefiting from that same investment in tree trimming in the future is limited.
- 7.284 NBI is likely to become the sole operator in the Intervention Area providing access services to end-users in this area. Hence, NBI may be the only Access Seeker with cables deployed along a route in the Intervention Area. It is reasonable to consider that Eircom should not be maintaining aerial cable routes, where it no longer has cables deployed. Indeed, greater efficiency may be achieved in the future if NBI streamlines its activities such as tree trimming to coincide with other cable maintenance activities that it undertakes on its network. If this were to be the case, ComReg would expect that the costs would be a direct cost to NBI and so they would not form part of a related or one-off PIA charge.

7.285 ComReg proposes that similar to the approach for upfront process charges and one-off pole furniture charges, Eircom is required to make available to Access Seekers a Tree Trimming Charge List setting how tree trimming charges are derived when facilitating the deployment of an Access Seeker's cables along an Eircom pole route. Please refer to the process outlined at paragraphs 7.263-7.264, which Eircom should follow in relation to one-off tree trimming charges.

Q. 19 Do you agree that (i) tree trimming costs associated with ongoing pole replacement should be recovered in the recurring pole rental price and (ii) tree trimming costs to prepare aerial cable routes in advance of cable deployment should be recovered by means of a one-off charge (calculated and pre-notified in advance based on the template referred to at paragraphs 7.263-7.264)? Please provide reasons for your response.

#### 7.7.4 Draft rental prices for Pole Access

7.286 The draft maximum rental prices for Pole Access are set out in Table 11 below. These are calculated on the basis that these prices should recover all the national average costs of an operator obtaining access to Eircom's poles. As noted at paragraph 7.14, ComReg plans to update the financial/costing data in the PAM (and DAM) before it makes its final decision and so the draft prices presented below are expected to change.

7.287 In accordance with the 'per operator' approach, when the pole is shared with another access user then the cost/price below is shared based on the number of users on the pole (i.e., that have cables on the pole), including Eircom itself.

7.288 The draft maximum annual rental prices include a rate of return based on Eircom's latest fixed line telecoms WACC rate (currently set at 5.29%).

**Table 11: Maximum annual national rental prices for Pole Access**

Pole Access	1 July 2022 – 30 June 2023	1 July 2023 – 30 June 2024	1 July 2024 – 30 June 2025	1 July 2025 – 30 June 2026	1 July 2026 – 30 June 2027
	€	€	€	€	
<b>National pole price*</b>	21.23	21.89	22.36	22.91	22.60

\*This is the total price of a pole and so the annual rental price may vary depending on the number of users seeking access to the pole.

### 7.7.5 Draft rental prices for duct related access

- 7.289 For duct related access, ComReg has set the draft maximum rental prices for Duct Access / Direct Duct Access in Table 12. Table 13 sets out the incremental annual cost per metre for Sub-Duct Access, which is added to the cost per metre of Duct in Table 12 to derive the annual rental charge for Sub-Duct Access.
- 7.290 The draft prices and costs for duct related services set out in Table 12 and in Table 13 are calculated on the basis that these recover all costs associated with an Access Seeker obtaining access to Eircom's ducts. The one exception is where the Access Seeker is also liable to pay for duct remediation costs for Duct Access / Direct Duct Access above the threshold of [€11,000] per kilometre of duct. As noted at paragraph 7.14, ComReg plans to update the financial/costing data in the DAM (and PAM) before it makes its final decision and so the draft prices presented below are expected to change.
- 7.291 As noted earlier in Section 6, paragraphs 6.69-6.71, where an Access Seeker is allocated a spare sub-duct within a multi-core sub-duct, the Access Seeker should only pay the duct rental price applicable to the length of the single sub-duct which will be occupied by the Access Seeker's fibre. This requirement is necessary to ensure that an Access Seeker only pays an annual sub-duct rental based on the length of sub-duct used. This is consistent with the principle of cost causation i.e., users pay the costs they cause.
- 7.292 The draft maximum duct prices include a rate of return based on Eircom's latest fixed line telecoms WACC (currently set at 5.29%).

**Table 12: Maximum annual prices for Duct Access / Direct Duct Access by geographic area and surface types**

Duct Access / Direct Duct Access prices*  <i>Per metre</i>	1 July 2022 – 30 June 2023		1 July 2023 – 30 June 2024		1 July 2024 – 30 June 2025		1 July 2025 – 30 June 2026		1 July 2026 – 30 June 2027	
	€	€	€	€	€	€	€	€	€	€
	<u>Urban</u>	<u>Non-Urban</u>	<u>Urban</u>	<u>Non-Urban</u>	<u>Urban</u>	<u>Non-Urban</u>	<u>Urban</u>	<u>Non-Urban</u>	<u>Urban</u>	<u>Non-Urban</u>
<b>Carriageway</b>	0.92	0.79	0.92	0.79	0.90	0.78	0.88	0.76	0.86	0.74
<b>Footway</b>	0.71	0.61	0.71	0.61	0.70	0.61	0.69	0.59	0.67	0.58
<b>Verge</b>	0.44	0.38	0.44	0.38	0.43	0.38	0.42	0.37	0.41	0.36

*\*These prices assume the assignment of a minimum cross-sectional area in a duct equivalent to a sub-duct of 25mm. Larger or additional sub-ducts / cables with a combined cross-sectional area above the minimum cross-sectional area will be subject to higher prices. Access Seekers will also be liable for to pay for duct remediation costs above the threshold of [€11k] per kilometre.*

**Table 13: Incremental annual cost per metre for Sub-Duct Access\***

<i>Per metre</i>	1 July 2022 – 30 June 2023		1 July 2023 – 30 June 2024		1 July 2024 – 30 June 2025		1 July 2025 – 30 June 2026		1 July 2026 – 30 June 2027	
	€	€	€	€	€	€	€	€	€	€
<b>Sub-Duct Access costs*</b>	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08

*\*The incremental cost per metre for Sub-Duct Access is added to the price for Duct Access (in the table above) to determine the Sub-Duct Access price.*

## 7.7.6 Pricing options for Duct Access Seekers

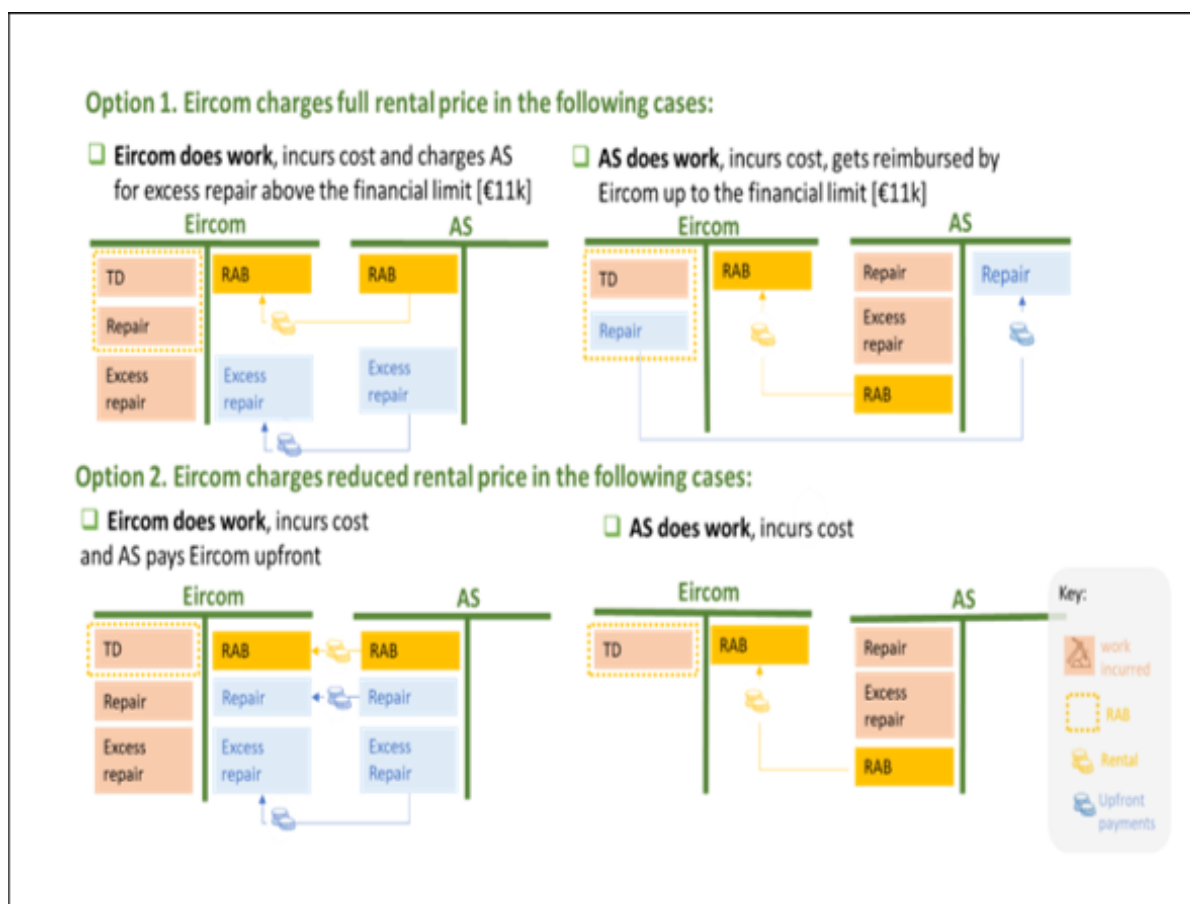
7.293 ComReg proposes that Eircom introduce pricing options for Access Seekers with respect to PIA, with the view to allowing Access Seekers the choice of undertaking or not the remediation work themselves and to pay either a full rental price or a discounted rental price.

### Pricing options for Duct Access/Direct Duct Access

7.294 For Duct Access/Direct Duct Access ComReg proposes that Eircom should make available the pricing options set out below to all PI Access Seekers, so that the Access Seeker can select the option(s) it wishes to use depending on the particular order at hand.

7.295 Figure 16 below illustrates the proposed pricing options, which are discussed below.

**Figure 16: Pricing options for Duct Access / Direct Duct Access**



### Option 1: Eircom charges the Duct Access / Direct Duct Access rental price subject to a financial limit

7.296 ComReg proposes that under Option 1, Eircom charge the Access Seeker the **full Duct Access / Direct Duct Access rental price** as follows:

- (a) Where the Access Seeker opts for **Eircom to undertake the duct remediation work**<sup>279</sup>, Eircom incurs the cost of such remediation up to a financial limit of **[€11,000] per kilometre**<sup>280</sup> of duct as discussed earlier at paragraphs 7.168-7.174. In other words, the Access Seeker pays Eircom the full rental price and the duct remediation costs to Eircom that are above the financial limit/threshold.
- (b) Where the **Access Seeker opts to undertake the duct remediation work**, as set out in Section 6 (paragraphs 6.67-6.68)<sup>281</sup>, and **Eircom reimburses the Access Seeker** for the reasonable efficient costs incurred, **up to the financial limit of [€11,000] per kilometre of duct** as discussed earlier at paragraphs 7.168-7.174.<sup>282</sup>

7.297 The full Duct Access / Direct Duct Access rental prices are based on the mix of TD HCA for Reusable Assets and the BU-LRAIC+ costs for those duct assets that need to be replaced for NGA, which have been calculated in the DAM model discussed earlier in this section. In the case of (b) above, i.e., where Access Seeker undertakes the duct remediation work and is reimbursed by Eircom, the reimbursement payment from Eircom should only correspond to the capital cost incurred i.e., the expenditure that would otherwise be capitalised by Eircom, and any administration costs (which Eircom should not capitalise to its RAB) incurred by it.

7.298 In both cases above ((a) and (b)), the risk associated with recovery of the capital costs of duct remediation is re-distributed between Eircom and the Access Seeker while at the same time, providing a signal to Access Seekers on the level of investment above which alternatives to the option of duct rental from Eircom could be considered more economically efficient.

---

<sup>279</sup> Duct remediation work in the context of this Consultation includes repair of the duct and desilting of the duct.

<sup>280</sup> This includes expenditure on all associated duct remediation activities, namely duct blockage clearances (including de-silting), chamber remediation/rebuilding, footpath/carriage reinstatements, new trench/duct and ancillary duct remediation activities, including related capitalizable local authority/traffic management costs.

<sup>281</sup> ComReg is imposing under the Access obligations that Eircom is to offer, in addition to Sub-Duct Self-Install Duct Access, a Duct Access product whereby all remediation (i.e., repair and removal of silt) is undertaken by the Access Seeker.

<sup>282</sup> This is similar to the approach in place in ComReg Document 21/99 (SDSI Direction), where the Access Seeker installs Sub-Duct into Eircom's Duct and for that purpose it needs to unblock that duct i.e., remove silt from the duct, the Access Seeker is reimbursed for the reasonable costs incurred, by Eircom. Please refer to Sections 2.1.1 and 2.1.5 of the Decision Instrument at Annex 1 of ComReg Document 21/99.

7.299 A draft of the Duct Access / Direct Duct Access rental prices is set out in Table 12 above.

**Option 2: Eircom charges a discounted Duct Access / Direct Duct Access rental price**

7.300 ComReg proposes that under Option 2, Eircom charge the Access Seeker a **discounted Duct Access/ Direct Duct Access rental price** in the following two cases: <sup>283</sup>

- (a) Where the Access Seeker opts for **Eircom to undertake the duct remediation work**, in which case Eircom incurs the cost, and the **Access Seeker pays Eircom the duct remediation costs upfront**.
- (b) Where the **Access Seeker opts to undertake the remediation work**, as per Section 6 paragraphs 6.67-6.68, in which case the Access Seeker would incur the cost.

7.301 The discounted Duct Access / Direct Duct Access rental prices would reflect the RAB consisting of TD HCA costs only, from the DAM model discussed earlier in this section. This means that the duct rental prices would be discounted by the average costs of €7,800 per kilometre, as discussed above at paragraph 7.170. For the purposes of the Consultation ComReg estimates that the reduction to the annual Duct Access / Direct Duct Access rental prices (at Table 12 above) over the price control period would on average be circa 30%.

7.302 It should be noted that in the case of (a) above i.e., where Eircom undertakes the duct remediation work and the Access Seeker pays Eircom for these costs upfront, the payment from the Access Seeker should only correspond to the capital cost incurred (i.e., the expenditure that would otherwise be capitalised by Eircom) and any administration costs incurred, which Eircom should not capitalise to its RAB.

7.303 While in both cases at Option 2 above ((a) and (b)) Eircom should recover its efficient historically incurred costs, the capex risks associated with the duct remediation are entirely with the Access Seeker. However, the suite of options available under Option 1 and Option 2 should allow Access Seekers

---

<sup>283</sup> The SDSI Direction set out in ComReg Document 21/99 provides that where the Access Seeker installs Sub-Duct into Eircom's Duct and for that purpose it needs to unblock the duct i.e., remove silt from the duct the Access Seeker is reimbursed for the reasonable costs incurred, by Eircom. Please refer to Sections 2.1.1 and 2.1.5 of the Decision Instrument at Annex 1 of ComReg Document 21/99.



to decide on balance which option is more suited to their needs, taking into account the known risks involved.

### Pricing options for Sub-Duct Access:

- 7.304 For Sub-Duct Access (which is calculated by adding the cost per metre of Duct and the incremental cost per metre of Sub-Duct) the pricing options discussed above for Duct Access / Direct Duct Access apply only in those cases where the Access Seeker opts for Eircom to undertake the duct remediation work i.e., Option 1 (a) and Option 2 (a) above.
- 7.305 In other words, for Sub-Duct Access Eircom can charge the Access Seeker the **full Sub-Duct Access costs** (i.e., prices in Table 12 plus the incremental annual costs of Sub-Duct Access in Table 13) where **Eircom undertakes the duct remediation work**, and incurs the cost of same, up to a financial limit of [€11,000] per kilometre of duct. In addition, Eircom can charge the Access Seeker **a discounted price for Sub-Duct Access** (i.e., prices in Table 12 discounted by circa 30% plus the incremental annual costs for Sub-Duct Access in Table 13) where **Eircom undertakes the duct remediation work**, and incurs the cost of same, and the Access Seeker pays Eircom the duct remediation costs upfront.

Q. 20 Do you agree with the proposed pricing options that Eircom should make available to PI Access Seekers, as presented above, for Duct Access / Direct Duct Access services and for Sub-Duct Access? Please provide reasons for your response.

## 7.8 Cost accounting obligation for PIA

### 7.8.1 Imposing a cost accounting obligation for PIA services:

- 7.306 To ensure the effectiveness of the price control obligations, ComReg considers that it is necessary to have a clear and comprehensive understanding of the costs of Eircom's provision of PIA services. Obligations to maintain appropriate cost accounting systems generally support obligations of price control and accounting separation and can also help ComReg in monitoring the obligation of non-discrimination.
- 7.307 The purpose of imposing an obligation to implement a cost accounting system is to ensure that fair, objective and transparent criteria are followed by the SMP operator in allocating their costs to services in situations where they are subject to price control obligations or in this case cost-oriented prices.

7.308 Already a significant proportion of the RAB<sup>284</sup> that is used to inform cost oriented prices for ducts and poles comprises Eircom's actual incurred costs. This is expected to increase, year on year, as Eircom upgrades those ducts and poles that need to be replaced/remediated in advance of either its own FTTH deployment in the Urban Commercial Area or for the NBP rollout in the Intervention Area. In this context, Eircom's cost accounting systems will be critical to the ongoing monitoring of Eircom's compliance with its obligation to have cost oriented prices for duct and pole related access as these prices will ultimately be informed by Eircom's physical infrastructure and financial records.

## 7.8.2 Implementing the cost accounting obligation for PIA services

7.309 PIA prices i.e., the prices for Pole Access, Duct Access (including Direct Duct Access) and Sub-Duct Access, are primarily intended to recover the costs of duct and pole assets based on the relative usage of those assets by Eircom (to provide services in downstream markets) and by other Access Seekers (in the form of PIA prices). Hence, it is important that data on usage and costs can be accurately identified in Eircom's network management and cost accounting systems. This requires Eircom to separately identify the costs relating to duct and pole assets that are relevant to the PIA prices (set out above) from related asset costs such as cabling or network furniture.

7.310 As a general principle ComReg is of the view that Eircom should take into account the basis on which services are charged, and how service revenue is reported, when considering how to treat costs. In particular, where costs are recovered from one-off charges or from upfront charges, they must not be capitalised and attributed to rental services. This also means that Eircom's cost accounting system needs to be able to provide cost information on one-off/upfront charges, which are subject to the obligation of cost orientation.

7.311 For example, when a pole is replaced, it is necessary to transfer pole furniture from the old pole to the new pole. ComReg understands that in the past all costs incurred at the time of pole replacement were capitalised against the pole asset. However, given that the costs of transferring pole furniture should be charged to the operator (including Eircom) that owns that furniture at the time the pole is being replaced, Eircom should not capitalise such costs against the pole asset. This is necessary to ensure that the capitalised costs that inform the Pole Access rental price do not include costs that have already been recovered through upfront charges (for pole furniture removal).

---

<sup>284</sup> Regulatory Asset Base.

7.312 For **one-off PIA charges**, these costs should be separately identified by Eircom in its cost accounting systems. Examples include:

- (a) **Pole furniture costs** should be identified separately from other pole related costs in Eircom's cost accounting systems. At the moment Eircom is the sole user of almost all of its poles with the result that all existing pole furniture is associated with Eircom's equipment. As a result, any additional costs of furniture removal and replacement of these poles should not form part of the Pole Access prices levied on other Access Seekers.
- (b) In the case where Eircom and an Access Seeker(s) agree that some elements of PIA costs could be paid for on an **upfront payment** basis rather than part of the duct rental price, e.g., duct remediation that is undertaken to support a PIA user cable deployment, Eircom should account for the expenditure as an 'operating cost'. This could be done possibly under a "Repayable Works Order" rather than capitalising the expenditure against a PIA asset class. This would facilitate the reporting of these type of costs against the appropriate revenue stream and also minimise any potential risk of double recovery in the future.
- (c) For **process related costs**, Eircom should ensure that the cost accounting system is capable of separately identifying all of the costs of managing the PIA process for specific Access Seekers.

7.313 The cost accounting information should reflect the structure of the PIA prices i.e., Pole Access, Duct Access (including Direct Duct Access) and Sub-Duct Access. The cost accounting system should also reflect how cost allocations need to evolve as the level of duct and pole related access grows and copper-based services are migrated onto FTTH in advance of copper switch-off by Eircom. While ComReg has identified some one-off charges where the costs should be separately identified in its cost accounting systems at paragraph 7.312, ComReg also recognises that there are sub-sets of PIA that may also need to be isolated.

7.314 For example, ComReg is aware that Eircom already isolates the costs of sub-duct in the cost accounting analysis it uses to prepare the HCAs, in recognition of the fact that sub-duct is used for fibre cables and is therefore not relevant to copper access. Similarly, the cost of other PIA related network elements, such as street side cabinets that are only used by Eircom's copper-based services and are not relevant to the costs of duct related access, may also require further analysis depending on the materiality of the residual costs. Therefore, ComReg intends to explore this issue further with Eircom

and its auditors in the tripartite engagements that support the preparation and production of the HCAs (also referred to as the Separated Accounts).

- 7.315 Another consideration in the imposition of a cost accounting obligation on Eircom in the PIA Market is the recent Transaction between Eircom and InfraVia to create a dedicated fibre company called FNI.<sup>285</sup>
- 7.316 ComReg considers that the cost accounting obligation is an important measure to ensure PIA related costs and revenues for both Eircom (non-FNI) and FNI are being recorded appropriately in Eircom's financial systems and HCAs. The transfer to FNI of a significant proportion of Eircom's PIA assets should require revisions to how Eircom records PIA related costs and revenues, as the use of the PIA assets will differ between those PIA assets used by FNI and the remaining PIA assets in the NBP IA. This is because the FNI PIA assets will be used by Eircom's downstream wholesale fibre access services whereas the remaining PIA assets under Eircom's control will not be used to support Eircom's fibre access services.
- 7.317 Hence, to support the price control obligations above, ComReg is of the view that the imposition of the cost accounting obligation on Eircom in the PIA Market is justified. In this regard, Eircom should ensure that it maintains appropriate cost accounting systems to justify its prices/costs for Pole Access, Duct Access (including Direct Duct Access) and Sub-Duct Access in the PIA Market taking into account the various considerations set out at paragraphs 7.309-7.316 and the obligations already in place in ComReg Decision D08/10 (the '**2010 Accounting Separation Decision**').<sup>286</sup>

## 7.9 Accounting separation obligation for PIA

### 7.9.1 Existing accounting separation obligation

- 7.318 The 2018 WLA Market Decision imposed an obligation of accounting separation on Eircom in the WLA Market.<sup>287</sup>
- 7.319 The existing accounting separation obligation is based on the 2010 Accounting Separation Decision.

---

<sup>285</sup> Please see Section 3.

<sup>286</sup> Response to Consultation, and Final Decision: Accounting Separation and Cost Accounting Review of Eircom Limited, ComReg Document 10/67, dated 31 August 2010.

<sup>287</sup> Section 11 of the Decision Instrument at Appendix 20 of the 2018 WLA Market Decision.

## 7.9.2 Imposing an accounting separation obligation for PIA services

- 7.320 The purpose of an accounting separation obligation is to provide a greater level of detail of information from that of the statutory financial statements of Undertakings designated with SMP. The objective is to reflect, as closely as possible, the performance of those parts of the Undertaking's business, if it were to operate on a standalone basis. In the case of vertically integrated Undertakings, it can also support non-discrimination obligations, prevent unfair cross-subsidies to other services, and help ComReg to monitor Eircom's compliance with pricing and other obligations. Having such detailed information enables ComReg to understand the information related to the costs, volumes and associated revenues of products, services and facilities offered by Eircom.
- 7.321 Allocating costs to the appropriate and relevant products and services of an SMP Undertaking is an important factor to consider when regulating multiple products and services carried over the same network. This is particularly true for Eircom, where its PIA network is a common infrastructure that is used to provide a range of retail and wholesale services (some of which are subject to regulation). Therefore, when setting price controls for PIA products, services and facilities (and in ensuring compliance with pricing and other obligations), information is required about the costs of Eircom's provision of duct and pole related access. These costs are distinct from the costs of other services provided over Eircom's network.
- 7.322 In Section 5 ComReg identified that Eircom has the ability and incentive to engage in a range of anti-competitive pricing behaviours in the PIA Market. These include the risk that Eircom could charge excessive prices for PIA in the PIA Market. In view of this, ComReg considers that the imposition of an accounting separation obligation on Eircom is justified, in addition to the imposition of the price control obligation of cost orientation and the obligation of cost accounting.
- 7.323 ComReg's reasons for imposing an obligation of accounting separation on Eircom is based on Eircom's integrated position across several upstream and downstream markets, its SMP designations in a number of these markets, as well as the scope for Eircom to leverage its market power (as identified in Section 5). The need to ensure sufficient visibility of how costs are allocated across duct and pole related access products, services and associated facilities and other horizontally and vertically related input services means that an accounting separation obligation is proportionate and justified.

- 7.324 Also, as the PIA prices are set in advance, based on a number of cost model assumptions, including assumptions on future network usage and forecasted expenditure, it is possible that the cost oriented prices set for a price control period could result in some degree of over or under recovery of costs that are actually incurred over that same period. The 2013 EC Recommendation recognises that “*An over-recovery of costs would not be justified to ensure efficient entry and preserve the incentives to invest because the build option is not economically feasible for this asset category*”. Equally, ComReg considers that an under recovery of costs would not be consistent with Eircom’s incentive to invest in PIA assets. As a result, ComReg intends to assess the level of returns in Eircom’s HCA Accounts for PIA and may adjust the future RAB valuation for any over or under recovery costs. This adjusted RAB valuation could then be used to inform future PIA prices.
- 7.325 For external use of PIA, it is proposed that part of this assessment would allow ComReg to monitor how the maximum prices for rental services compare to the annual unit costs which are derived from Eircom’s RAB and to assess, based on the volumes consumed, whether the materiality of any differences require intervention by ComReg during the price control period or – as noted above – in future price control periods. To allow for this, ComReg is proposing that Eircom report on its costs and revenues for PIA services in the PIA Market in Eircom’s HCA Accounts. ComReg also proposes to gather additional information which is not directly available from Eircom’s HCA Accounts. These requirements are discussed below.

### 7.9.3 Implementing the accounting separation obligation

- 7.326 In the context of this Consultation, ComReg considers that by defining a regulated market for PIA services and given the expected increase in the uptake of PIA services (by NBI and others) Eircom should be required to report on duct and pole access costs and revenues separately as part of a PIA market statement in Eircom’s HCA Accounts. This should take the same structure and detail to that presented by Eircom for other regulated markets in its HCA Accounts, based on the 2010 Accounting Separation Decision.<sup>288</sup>
- 7.327 ComReg considers the accounting separation obligation reporting requirements under the following headings:

- (a) HCA Accounts;

---

<sup>288</sup> A reasonable reference point is also the reporting schedules imposed by Ofcom on BT regarding its PIA revenues, costs and volumes. Please see Section 3 of the Ofcom Decision at [https://www.ofcom.org.uk/\\_\\_data/assets/pdf\\_file/0018/216090/wftmr-statement-volume-6-bt-rfr.pdf](https://www.ofcom.org.uk/__data/assets/pdf_file/0018/216090/wftmr-statement-volume-6-bt-rfr.pdf)

- (b) Additional Financial Information ('AFI').

### HCA Accounts

- 7.328 ComReg has set out below its proposals on what should be included in Eircom's HCA Accounts for PIA. ComReg also intends to engage further with Eircom as part of the HCA annual review discussions provided for under the 2010 Accounting Separation Decision, to address any issues that Eircom may have with the implementation of the proposed data requirements set out below.
- 7.329 ComReg proposes that Eircom should report on duct and pole costs and revenues under a separate PIA market statement in Eircom's HCA Accounts, which should be in line with the structure currently used by Eircom in its HCA Accounts for other regulated markets. Hence, ComReg proposes that Eircom should provide for the PIA market an Income Statement, a Statement of Capital Employed and a Statement of Average Cost and Revenue by Service with the details of the PIA related costs and revenues, disaggregated between internal and external use.
- 7.330 As part of the information requirements above, ComReg proposes that Eircom should disaggregate its PIA services between rental services, which relate to Eircom's RAB costs, and services for which the costs are not part of the RAB. These include:
- (a) Excess duct remediation payments (7.168-7.174)
  - (b) Upfront duct remediation payments (7.304(a)); and
  - (c) Ancillary or other charges such as one-off process charges (7.263-7.268), pole furniture (7.269-7.280) and tree trimming (7.282-7.289).
- 7.331 In addition, the proposal to report the information on the PIA market (specified at 7.333) in the same structure and detail as other regulated markets would require Eircom to report ducts and poles as separate network elements in the Statement of Network Costs in Eircom's HCA Accounts. As a result, this requires Eircom to establish specific processes for PIA reporting purposes. These processes should facilitate the harvesting, analysis and reporting of the necessary PIA data to comply with the proposed reporting obligations without imposing an undue burden on Eircom.
- 7.332 Furthermore, an important factor in determining the appropriate accounting separation obligation for PIA products, services and facilities is the Transaction between Eircom and InfraVia to create a new fibre company,

FNI.<sup>289</sup> ComReg considers that the transfer to FNI of a significant proportion of Eircom's PIA assets require revisions to how Eircom reports PIA related costs and revenues for both Eircom (non-FNI) and FNI in its HCAs. This is because the FNI PIA assets will be used by Eircom's downstream wholesale fibre access services whereas the remaining PIA assets under Eircom's control will not be used to support Eircom's fibre access services. In addition, the use of FNI PIA assets differs compared to the remaining Eircom PIA assets and this can ultimately impact on the cost orientation of PIA prices. For example, the geographic area split used for duct pricing (of Urban exchange area and Non-Urban exchange area) may differ to the split of PIA assets used by FNI and Non-FNI (Eircom) and this may need to be revisited as indicated at paragraph 7.250. Therefore, ComReg proposes that the accounting separation obligation should provide for a disaggregation of PIA related costs and revenues for both Eircom (non-FNI) and FNI in Eircom's HCA Accounts. This should provide greater transparency in the allocation of the PIA costs by Eircom to the appropriate markets and services and ensure that these allocations comply with Eircom's non-discrimination obligation.

7.333 With regards to Eircom's internal consumption of ducts and poles in the Commercial Area (with regards to FNI assets) and ducts and poles in the NBP IA, Eircom should recover the balance of costs not recovered from other users of the physical infrastructure from its downstream services. Hence, all duct and pole costs should be allocated to the PIA market statement, with Eircom's internal use of ducts and poles captured by cost-based transfers to the other downstream markets in Eircom's HCAs. However, this may require an amendment to the cost allocation method that Eircom currently has in place for preparing its HCAs. As ComReg understands it, the existing network study process first allocates the costs relating to Eircom's internal use of duct and poles to the network elements associated with access copper, access fibre and core transmission. These costs are then allocated to the downstream services that are supported by those network elements. ComReg will engage with Eircom to assess how the cost allocations and transfers in the HCAs can be amended to facilitate the reporting of all PIA costs and revenues in a single PIA market statement, as part of the annual review process for the HCAs.

7.334 With regards to the costs for Sub-Duct Access, ComReg's proposed pricing approach (discussed at 7.182-7.184) is to consider subduct costs as an incremental cost to duct access, with the subduct incremental price is based on a newly installed subduct. Therefore, ComReg proposes that those subduct costs should not be included in the RAB associated with ducts.

---

<sup>289</sup> Discussed at section 3.



Instead, ComReg proposes that the associated capital costs for subduct should be separately identified in Eircom's fixed asset register. As a result, the proposed change to the asset lives for subduct, at paragraphs 7.126-7.128, should be reflected, so to ensure consistency and reconciliation with the asset life used to set the prices in the DAM. Also, ComReg proposes that the incremental subduct revenues from providing subduct access should also be identified and reported separately, to be consistent with the proposed approach for subduct costs.

- 7.335 The proposed added transparency on the costs for duct and poles should allow ComReg to use Eircom's HCA Accounts for monitoring Eircom's pricing obligations for PIA. In particular, the proposed information should allow ComReg to determine with greater precision the costs associated with Eircom's RAB, which should then allow for a comparison with the modelled PIA rental prices so as to identify if there are any material differences. As physical infrastructure is being upgraded to a "NGA ready" state, TD HCA costs will become an even larger element of the costs used to set the duct and pole related access prices in the PAM and DAM. This is particularly the case given the significant costs expected for the deployment of PIA for the NBP in the Intervention Area and for Eircom's own PIA network requirements for its FTTH network rollout in the Urban Commercial Area. Finally, this should also be facilitated by the move to straight-line depreciation costs for Pole Access, Duct Access and Direct Duct Access, as noted at section 7.4.5.

### Additional Financial Information (AFI)

- 7.336 The 2018 WLA Market Decision<sup>290</sup> requires Eircom to provide ComReg with an annual statement on its investment in poles. The existing annual statement for poles is provided as part of Eircom's Additional Financial Information ('AFI').<sup>291</sup>
- 7.337 ComReg is of the view that Eircom should continue to provide an annual statement for poles. This process should be extended to include duct investment by Eircom and so Eircom should also provide an annual statement for ducts. The aim of both of these statements is to allow for a comparison between the actual investment in poles / ducts made by Eircom (split by Eircom (or non-FNI) and FNI) and the assumptions and estimations made in the PAM / DAM for setting the PIA prices.
- 7.338 Hence, in the case of poles and ducts, Eircom should submit annually to ComReg, and at the same time publish on its website, a statement including:

<sup>290</sup> Section 12.8 of the Decision Instrument at Appendix 20 of the 2018 WLA Market Decision.

<sup>291</sup> Please see Annex 13 of the 2016 Access Pricing Decision for the details.

- (a) The quantity of poles and ducts/sub-ducts deployed and the corresponding capital expenditure for each during the respective financial year, disaggregated between Eircom (or non-FNI) and FNI and the expenditure undertaken to support internal demand and expenditure undertaken to support external demand in line with the templates scheduled to the Decision Instrument (at Schedules 3 and 4) of this Consultation document. This information will allow ComReg to compare the pole and duct investment assumptions in the PAM and DAM respectively, with the actual investments being made by Eircom, to ensure Eircom recovers its efficient costs.
- (b) Confirmation on whether the forecasted number of poles and ducts for subsequent years remains appropriate, in line with the templates scheduled to the Decision Instrument (Schedules 3 and 4) of this Consultation document. Where this is not the case, Eircom should provide an update on the revised forecasts in the annual PIA statement.

7.339 For carrying out an assessment between the maximum PIA rental prices and the annual unit costs recorded by Eircom in its RAB, as set out at paragraph 7.325, ComReg proposes that Eircom should provide it with additional information as part of Eircom's AFIs. The AFI submission should include the following:

- (a) Demand/volume information for internal and external use of PIA, both in terms of the number of poles and the metres of duct consumed by Access Seekers.
- (b) For poles, the details of the pole volumes broken down by the number of operators sharing those poles. As the rental prices are set on the number of operators sharing the pole ('per operator'), ComReg requires this information to calculate the appropriate average cost per pole for external use.
- (c) The information at (a) and (b) disaggregated between Eircom (or non-FNI) and FNI.

7.340 The proposed data requirements at (a) to (c) above are reflected in the 'PIA network volumes' statement (or template) scheduled (at Schedule 5) to the Decision Instrument.

7.341 For monitoring the basis of the financial threshold for duct remediation [of €11k], discussed at paragraphs 7.168-7.174, ComReg is proposing that Eircom should separately identify and report the cost and volumes of duct remediation works that are below the financial threshold [of €11k] and

separately for works above the threshold, disaggregated by internal and external use and by Eircom (or non-FNI) and FNI. This information should allow ComReg to assess if any changes to the duct remediation threshold monetary level are required, and to ensure that there is equivalence between the threshold levels being applied to Access Seekers and to Eircom itself, in line with Eircom's obligation of non-discrimination. The proposed data requirements are reflected in the 'PIA Duct Remediation' statement scheduled to the Decision Instrument at Schedule 6.

- 7.342 The annual statements for poles and ducts investment, for PIA network volumes and for duct remediation costs should be provided in accordance with the procedures which govern the provision of AFIs contained in the Decision Instrument annexed to the 2010 Accounting Separation Decision. The annual statements should be provided no later than seven months after the end of the financial year.
- 7.343 ComReg considers that the annual statements above should facilitate the monitoring of cost recovery while also supporting continued investment by Eircom in its existing access network. The annual statements allow Eircom to invest in maintaining or upgrading its PIA network in the knowledge that its actual efficiently incurred expenditure can be identified and recouped. Even in the case where Eircom and an Access Seeker agrees that certain incremental costs are paid upfront (rather than paying the recurring rental price), ComReg considers that the cost accounting process should still allow ComReg to monitor Eircom's obligations and ensure that the associated expenditures and revenues are being recorded correctly and reported in the correct statements.
- 7.344 In addition to the preparation of the annual statements above by Eircom, ComReg proposes that these statements should be published by Eircom. ComReg considers that the requirement to publish the PIA annual statements is justified on the basis that given the substantial nature of the investments required in PIA, particularly in the Intervention Area, it is important that there is sufficient transparency on the spend by Eircom so as to provide assurances that there is no under or over-recovery of costs, to all relevant stakeholders. Given the level of aggregation (or accumulation) of the information set out in the annual PIA statements scheduled to the Decision Instrument, ComReg considers that no issues should arise regarding the disclosure of any confidential information.

Q. 21 Do you agree with ComReg's views that Eircom should be subject to an obligation of cost accounting (Section 7.8 above) and an obligation of accounting separation (Section 7.9 above) for PIA? Do you agree that Eircom should be subject to additional requirements to provide specific PIA information in its HCAs and AFIs to allow ComReg to monitor Eircom's price control obligations for PIA and to allow ComReg to assess differences between modelled PIA Prices and the average costs reported by Eircom, as set out at Section 7.9? Please provide reasons for your responses.

## Chapter 8

# 8 Regulatory Governance Obligations

## 8.1 Requirement for effective regulatory governance

- 8.1 A key objective of ComReg in selecting appropriate remedies to prevent potential anti-competitive behaviours arising from Eircom's SMP in regulated markets to date, has been to ensure that Access Seekers have the option to choose what level of access they want depending on the scale of their operation, while encouraging efficient infrastructure-based competition (including through price control obligations). Further to Eircom's obligations of non-discrimination and transparency in particular, a critical aspect in the effectiveness of PIA products in facilitating effective competition is the regulatory governance arrangements that are or need to be in place for the purpose of ensuring, and giving confidence to Access Seekers, that Eircom provides access to its network in accordance with its regulatory obligations. This includes in particular the management of matters such as order provisioning and service assurance; the development of the PIA products and services; the manner in which Eircom investment decisions are made, by whom and the criteria used; and the management of confidential regulated information.
- 8.2 Eircom's regulatory governance arrangements are currently overseen by ComReg in two principal ways.
- 8.3 First, Eircom is required under the 2018 WLA Market Decision and the 2020 WHQA Decision<sup>292</sup> to prepare and provide to ComReg, Statements of Compliance ('**SoC**') which detail and explain Eircom's risk assessment and control procedures. The function of the SoC is to require Eircom to demonstrate how it ensures compliance with SMP obligations, more particularly by reference to the regulatory governance measures and arrangements put in place in order to identify and manage risks of non-compliance. Eircom uses its Regulatory Governance Model ('**RGM**') to develop and provide SoCs to ComReg. The RGM in turn relies on Eircom's expertise and knowledge of its processes, systems and procedures to

---

<sup>292</sup> ComReg Document 20/06, Decision D03/20, WHQA Market Review, Response to Further Consultation and Final Decision ('**2020 WHQA Decision**').

identify, manage and control the risks of non-compliance with its regulatory obligations.

- 8.4 Second, on 10 December 2018, ComReg and Eircom entered into a settlement of a number of High Court proceedings (**'Settlement Agreement'**).<sup>293</sup> As part of this Settlement Agreement, Eircom agreed to a set of commitments which, when fully implemented, was to result in the establishment and operation of an enhanced RGM in Eircom. These commitments include among others the establishment of an Independent Oversight Body (**'IOB'**). The IOB is charged with, among other things, overseeing and assessing Eircom's regulatory governance arrangements and to publish a report on an annual basis with an opinion regarding the implementation and effectiveness of Eircom's RGM.
- 8.5 However, following its review of the IOB's first report of 8 September 2021, ComReg noted that the IOB Report was wholly based on evidence provided by Eircom and that Eircom had not yet permitted the independence and effectiveness of these functions to be independently assured in a way that ComReg considers adequate. As such ComReg considered that the IOB was not in a position to adopt an opinion on the overall effectiveness of Eircom's RGM and as a result, the IOB Report – while providing some information about aspects of Eircom's RGM – did not provide ComReg with reason to place meaningful reliance on the effectiveness of Eircom's RGM when ComReg is exercising its regulatory functions.<sup>294</sup>
- 8.6 In its Electronic Communications Strategy Statement 2021-2023<sup>295</sup>, ComReg also indicated that it continued to have some concerns around the state of competition and the culture of compliance within Eircom in the presence of the enhanced RGM, and that it would continue to review the effectiveness of the RGM and Settlement Agreement and consider if more regulatory action is required.
- 8.7 Against this background, ComReg notes from the quarterly information provided to ComReg by operators that, nearly half of the Eircom Wholesale Regulated Access Broadband Products are consumed by Eircom Retail and Access Seekers using White Label, the latter requiring no infrastructure investment. Approximately half is consumed by Access Seekers using Bitstream and VUA type products which require infrastructure investment at a National/Regional handoff for Bitstream or local exchange/aggregation

---

<sup>293</sup> Settlement Agreement between Eircom and ComReg dated 10 December 2018.

<sup>294</sup> ComReg 21/95, ComReg statement on IOB Opinion, 5 October 2021.

<sup>295</sup> Electronic Communications Strategy Statement 2021-2023, ComReg Document 21/70, June 2021.

node handoff for VUA/LLU/LS. Other than from NBI for the purpose of the NBP, there is very little PIA purchased by Access Seekers to support retail broadband provisioning. This is against a background where Eircom has successfully self-supplied PIA in three of its own roll-out programmes, namely FTTC, Rural 300K+, and now IFN, and yet no other operator has replicated this using PIA products. ComReg is concerned in this regard that the lack of take up of passive based PIA products suggests that Eircom may not be playing their role in full in supporting the development of sustainable infrastructure-based competition both from an Access Seeker's perspective and that of alternative networks who would use passive PIA products to expand their existing footprint.

- 8.8 A key aspect in assessing Eircom's regulatory governance arrangements and whether additional measures are required in this respect, is to understand in the presence of PIA products available to Access Seekers, whether they are effective in terms of facilitating effective competition and establishing that there is a level playing field for all users, including relative to how Eircom supplies itself. This includes understanding whether this is a supply problem or a demand issue and that there are no underlying incentive structures in place that seek to jointly maximise profits across Wholesale and Retail activities. Eircom, as a vertically integrated SP with control over PI not easily duplicated and competes with Access Seekers in downstream related markets, faces incentives to restrict and/or distort competition. Relative to WLA and WCA services, an effective and efficient PIA product would more likely create more long-term sustainable competition from Access Seekers, given they effectively build competing networks over which they would then have full control from a product specification and pricing perspective. Eircom may face incentives to restrict/deny access to PIA products, services and facilities, thereby creating a greater dependency by Access Seekers on the use of downstream WLA/WCA products, over which Eircom has greater control and arguably greater profit maximising opportunities.
- 8.9 The establishment of a separate legal entity Fibre Networks Ireland Limited (FNI) to hold some of the PI previously in the ownership of Eircom Limited, including ducts and poles and dark fibre outside of the NBP Intervention Area (as detailed above) is in this respect potentially a key development which may impact on Eircom's incentives in making available PIA products that facilitate effective competition. See paragraphs 3.23 to 3.35 of this Consultation for more detail on FNI.
- 8.10 In light of the above, including Eircom's divestment of some of its PI and the establishment of FNI, and the low and slow take-up to date of PIA products, ComReg is of the view that Eircom should be required to ensure that it has in place effective regulatory governance arrangements ensuring compliance

with its obligations of access, non-discrimination, transparency, accounting separation, cost accounting and price control including as regards its arrangements, and the implementation of those arrangements, with FNI. ComReg further proposes that this obligation be further specified for the time being by reference to a requirement to prepare and provide to ComReg, an SoC, as further described below. ComReg is of the view that this is the least intrusive measure which ComReg may impose on Eircom at this point in time. However, Eircom's obligations may be respecified or complemented by further requirements, including non-standard remedies where and if justified, depending on the outcome of ComReg's review of *inter alia* the effectiveness of standard regulatory obligations as well as Eircom's RGM as referred to in the ECS Strategy Statement. This will include consideration of the effectiveness of Eircom's PIA products in terms of facilitating effective competition and how competition has developed to date, and the potential impact of the divestment of certain PI into FNI and associated governance arrangements within the Eircom Group in this respect. In light of the fact that Regulation 15 of Framework Regulations has been triggered, ComReg has an obligation to assess the impact of decision making by FNI and the associated incentives on the provision of PIA by Eircom.

## 8.2 Statement of Compliance Remedies

- 8.11 ComReg proposes to require Eircom to provide, and keep up to date, a Statement of Compliance that details and explains Eircom's risk assessment and control and governance measures.
- 8.12 The function of the SoC is to require Eircom to demonstrate how it ensures compliance with the regulatory obligations imposed on it in the Relevant PIA Market. The SoC obligation requires Eircom to explain the regulatory governance measures and arrangements that it has put in place in order to identify and manage risks of non-compliance with its SMP obligations, thereby providing reasonable assurances to ComReg that Eircom effectively manages risks of non-compliance in the PIA Market.

### 8.2.1 Information to be provided in the SoC

- 8.13 The implementation of effective regulatory governance structures and arrangements by Eircom requires the identification and management of risks of non-compliance with Eircom's regulatory obligations in the Relevant PIA Market, and in turn transparency as regards Eircom's approach to risk identification and the development of controls including an explanation of the scope and output of the risk review, the processes reviewed, the material considered and how Eircom employed subject matter experts in the risk analysis and control development processes.



- 8.14 This requires assessments to be carried out by Eircom of, inter alia, systems, processes and activities that have relevance for Eircom's compliance with all of its regulatory obligations in the Relevant PIA Market in order to determine where and how regulatory risk might arise. For example, the business processes and associated systems that underpin the development of PIA products or provisioning of PIA products and services or service assurance may give rise to regulatory risk. A structured and systematic approach to the assessment of risk is required in order to identify potential risks of non-compliance. A similar approach is necessary for the effective design and operation of controls in order to manage the identified risks of non-compliance.
- 8.15 It also requires that the output of the risk analysis is documented adequately, including a description of the potential regulatory issues which could give rise to regulatory risk, together with an outline of the consideration given to potential regulatory issues and the reasons why the conclusion that issues identified do or do not give rise to regulatory risk as the case may be.
- 8.16 Eircom's risk analysis process, which it currently applies in the WLA/WCA and WHQA Markets is structured such that it produces the information outlined above and that the output from each risk assessment is stored by Eircom. Therefore, ComReg considers that this requirement, with respect to the Relevant PIA Market, will not result in an undue additional burden on Eircom. Furthermore, the provision of this information to ComReg has the potential to increase confidence in the scope and comprehensiveness of Eircom's regulatory governance and oversight in the PIA Market.
- 8.17 This information is required in order for ComReg to understand Eircom's approach to risk management and the extent to which it has fully evaluated risks and has developed, and is operating, controls. This information demonstrates the extent to which identified risks of non-compliance with obligations are being managed by Eircom in a manner that provides reasonable assurances to ComReg with respect to Eircom's compliance with its regulatory obligations in the Relevant PIA Market. It also provides information which supports the Directors' confirmation that, in their opinion, the governance arrangements in place provide reasonable assurance that Eircom is in compliance with its regulatory obligations in the PIA Market.

## **8.2.2 Activities particularly relevant to the PIA Market**

- 8.18 ComReg has identified categories of activities which it considers are particularly relevant to the delivery and availability of regulated wholesale products and services in the PIA Market. ComReg considers that non-compliance by Eircom with regulatory obligations associated with these

activities has the potential to have a significant impact on Access Seekers. Effective regulatory governance in general, including with respect to these activities, will assist Eircom to be compliant with its regulatory obligations resulting in benefits to competition and, ultimately, end users.

- 8.19 For the avoidance of doubt, ComReg is not proposing that these are the only categories or areas where the proposed SoC obligation requires Eircom to provide information on the implementation and operation of regulatory governance. It is reasonable to expect that appropriate and effective governance and oversight of the management of Confidential Regulated Information<sup>296</sup> as required by Eircom's regulatory obligations in the Relevant PIA Market will apply throughout the Eircom organisation.
- 8.20 The proposed SoC obligation is required with respect to all of Eircom's activities and processes i.e., all areas where Eircom's regulatory obligations apply in the Relevant PIA Market. ComReg expects that Eircom has the knowledge and expertise to make a determination as to the scope, extent and potential impact of its activities on its compliance with its regulatory obligations in the PIA Market and should address the requirements of the SoC obligation accordingly and in a comprehensive manner.
- 8.21 However, in this Consultation ComReg is proposing that, due to their significance and relevance, the consideration given to the management of regulatory risk arising from Eircom's activities, processes and systems associated with these categories should be explicitly included in the proposed SoC obligations:
- (a) Development of PIA Products and Services;
  - (b) Provisioning and Service Assurance
  - (c) Eircom's investment decisions; and
  - (d) Management of Confidential Regulated Information.
- 8.22 The proposed obligation requires that the SoC be signed by a person of appropriate authority within Eircom such that assurances can be provided to ComReg that regulatory governance and oversight is afforded the necessary oversight and attention by Eircom.

---

<sup>296</sup> "Confidential Regulated Information" or "CRI" means information relating to Regulated Access Products (RAPs) over and above that which is currently in the public domain. This includes Confidential Wholesale Customer Information.

"Confidential Wholesale Customer Information" means confidential or commercially sensitive information provided to the Wholesale Function by a wholesale customer relating to RAPs.

- 8.23 Furthermore, ComReg considers that the signatory needs to be a person within Eircom who is sufficiently independent from day-to-day operational activity and decision-making, in relation to the development, and supply of wholesale regulated products and services, in order to be able to objectively confirm Eircom's compliance with its regulatory obligations.
- 8.24 ComReg considers that the SoC should be signed by a Director or Directors of Eircom on behalf of the Board of Directors, of Eircom Limited and should include a statement acknowledging the Directors' responsibility in ensuring Eircom's compliance with its regulatory obligations and confirmation that the governance arrangements in place provide reasonable assurance that Eircom has taken all necessary steps to ensure compliance with its regulatory obligations in the Relevant PIA Market. ComReg considers that this requirement emphasises the importance of the SoC and reinforces the need for, and increases the likelihood of the establishment, by Eircom, of appropriately robust oversight and governance measures relating to the implementation and operation of regulatory governance in Eircom.
- 8.25 ComReg also notes that, under the Companies Act 2014, Company Directors have specific obligations with which they must comply relating to securing compliance with relevant obligations, defined in the Act, as follows:

*“The directors of a company to which this section applies shall also include in their report under section 325 a statement—*

*(a) acknowledging that they are responsible for securing the company's compliance with its relevant obligations; and*

*(b) with respect to each of the things specified in subsection (3), confirming that the thing has been done or, if it has not been done, specifying the reasons why it has not been done.*

*(3) The things mentioned in subsection (2)(b) are—*

*(a) the drawing up of a statement (to be known, and in this Act referred to as, a “compliance policy statement”) setting out the company's policies (that, in the directors' opinion, are appropriate to the company) respecting compliance by the company with its relevant obligations;*

*(b) the putting in place of appropriate arrangements or structures that are, in the directors' opinion, designed to secure material compliance with the company's relevant obligations; and*

*(c) the conducting of a review, during the financial year to which the report referred to in subsection (2) relates, of any arrangements or structures referred to in paragraph (b) that have been put in place.”*

- 8.26 In ComReg's opinion, while the obligations referred to in the Companies Act 2014 do not include regulatory obligations, ComReg considers that it is relevant and instructive that the Companies Act 2014 requires Directors to prepare a statement that, inter alia, confirms that, in their opinion, arrangements are designed and put in place that secure material compliance with the company's relevant obligations.
- 8.27 ComReg's view is that, in order to ensure that the signatory has the required independence and authority, the signatory should be a Director authorised to represent the Board of Directors (defined in the Companies Act 2014) of Eircom.
- 8.28 ComReg is aware from SoCs previously received from Eircom that there are various certification processes in place as part of the RGM which Eircom has implemented in order to govern compliance with its regulatory obligations generally. ComReg understands that these include self-certification processes by Eircom Managers certifying, for example the operation of the governance processes in their areas of responsibility.
- 8.29 ComReg proposes that the SoC describes both the processes followed and the information relied upon by the signatory to the SoC who are required to certify the correct operation of the governance process. Similarly, ComReg proposes that the SoC includes a description and explanation of the governance measures implemented in Business Areas and activities which have relevance to Eircom's compliance with its regulatory obligations. ComReg also proposes that the SoC includes a description and explanation of the processes followed by Eircom's management, in particular Senior Managers in relevant Business Areas,<sup>297</sup> in order to assess the operation and effectiveness of the processes used to identify and mitigate risks of non-compliance.
- 8.30 As some form of verification process must currently be carried out by the SoC Signatory and the staff who provide certification, ComReg considers that it is reasonable that it should understand and review the verification process followed by the SoC Signatory and Eircom Management in order for ComReg to reasonably satisfy itself that Eircom has adequate governance and oversight arrangements in order to ensure compliance with its regulatory obligations. ComReg considers that providing this information should not be an additional undue burden and is reasonable and proportionate.

---

<sup>297</sup> Senior Managers in Business Areas where Eircom's regulatory obligations apply, for example Business Areas responsible for the provision and service assurance of Regulated Access Products.

- 8.31 ComReg does not consider the SoC obligation to be overly burdensome on Eircom, as it has, to date, implemented an RGM in order to apply internal governance and oversight to its compliance with its regulatory obligations, including its obligations as they apply to the Relevant PIA Market. It is reasonable to assume, and would be expected, that consideration would be given by Eircom to all Business Areas, activities and processes when developing an RGM in order to comply with its SMP regulatory obligations.
- 8.32 A key element of Eircom's RGM is the analysis, development, management and documentation of the risk and control framework. This includes the production of data and information, some of which can be used when preparing a SoC. A significant portion of the information required for the SoC is generated as an output from the risk assessment processes executed as part of the implementation of Eircom's RGM. In the proposed SoC obligation, ComReg requires Eircom to produce information on the output generated from the risk analysis and control development process. ComReg considers that the requirement to provide such information, relating to the execution of its risk analysis process in the proposed SoC, will not result in an additional burden being placed on Eircom as this information is currently being generated by Eircom as it operates its RGM.

### **8.2.3 Timeframe for Provision of the SoC to ComReg**

- 8.33 ComReg proposes that Eircom is to be required to provide an SoC for the PIA Market within three (3) months from the effective date of the decision (to be published as a result of this Consultation) where there is no offer of a new PIA product or change to an existing PIA product.
- 8.34 ComReg considers that the following timeframes are appropriate for the provision of the SoC by Eircom:
- (a) In the case of any offer of a new PIA product, service or facility, or a change to an existing PIA product, service or facility, three (3) months in advance of it being made available to industry; or as otherwise may be required by ComReg. ComReg considers a product notification (including amendment) will only be considered to be complete if it includes the updated SoC.
- 8.35 ComReg notes that the timeframes specified above are aligned to the proposed transparency obligations discussed in this Consultation with respect to advance notification timeframes for proposed changes/amendments by Eircom to its Reference Offer and Price List.

- 8.36 In all cases, SoC and associated updates should include version control information including a revision history in order to allow the reader of the SoC to easily identify changes and when they were made

#### 8.2.4 Publication of the Statement of Compliance

- 8.37 ComReg has considered whether the SoC should be published and available to Access Seekers and is of the preliminary view that it should be. The SoC is primarily concerned with the degree of governance Eircom applies to meeting its regulatory obligations in the Relevant PIA Market.
- 8.38 ComReg is of the preliminary view that the provision of the SoC to Access Seekers gives greater visibility to Access Seekers of the processes Eircom has put in place to ensure it complies with its regulatory obligations in the Relevant PIA Market. This has the potential to improve Access Seekers confidence that they are receiving the same wholesale product or service that Eircom is supplying to its own downstream arm, for example, and this is beneficial to providing regulatory certainty, facilitating competition and ultimately greater choice to end users.
- 8.39 However, ComReg recognises that some information to be published as part of the proposed SoC may be considered confidential by Eircom. In these circumstances, where a request is made by Eircom to ComReg not to publish aspects of the SoC then ComReg will apply its rules relating to the publication of confidential information when assessing any such request.
- 8.40 ComReg proposes that Eircom should make the SoC available on its publicly available wholesale website one month after provision of the SoC to ComReg, unless otherwise agreed by ComReg.
- 8.41 ComReg also does not consider that the additional step of providing the SoC to Access Seekers to be unduly burdensome as the SoC is required to be provided to ComReg.
- 8.42 Having regard to the analysis set out above, ComReg proposes accordingly that Eircom should be obliged to provide an SoC to ComReg with respect to all its regulatory obligations as imposed in the PIA Market

Q. 22 Do you agree with ComReg's proposed Regulatory Governance Obligations for the PIA market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.

# 9 Regulatory Impact Assessment ('RIA')

## 9.1 Overview

- 9.1 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.
- 9.2 ComReg's approach to RIA follows its published RIA Guidelines<sup>298</sup> and takes into account the "Better Regulation" programme<sup>299</sup> and international best practice (for example, considering developments involving RIA published by the European Commission and the OECD).
- 9.3 Section 13(1) of the Communications Regulation Act 2002 (as amended) requires ComReg to comply with Ministerial Policy Directions. In this regard, Ministerial Policy Direction of 6 February 2003<sup>300</sup> requires that, before deciding to impose regulatory obligations on undertakings, ComReg shall conduct a RIA in accordance with European and international best practice and otherwise in accordance with measures that may be adopted under the "Better Regulation" programme.
- 9.4 In conducting the RIA, ComReg has regard to the RIA Guidelines, while recognising that regulation by way of issuing decisions, e.g., imposing obligations or specifying requirements in addition to promulgating secondary legislation, may be different to regulation exclusively by way of enacting primary or secondary legislation. ComReg's ultimate aim in conducting a RIA

---

<sup>298</sup> ComReg Document 07/56a, ComReg, "Guidelines on ComReg's Approach to Regulatory Impact Assessment", 10 August 2007 (the 'RIA Guidelines').

<sup>299</sup> Department of the Taoiseach, "Regulating Better", January 2004. See also "Revised RIA Guidelines: How to conduct a Regulatory Impact Analysis", June 2009, ('The Department of An Taoiseach's Revised RIA Guidelines'), available from: [http://www.taoiseach.gov.ie/eng/Publications/Publications\\_Archive/Publications\\_2011/Revised\\_RIA\\_Guidelines\\_June\\_2009.pdf](http://www.taoiseach.gov.ie/eng/Publications/Publications_Archive/Publications_2011/Revised_RIA_Guidelines_June_2009.pdf).

<sup>300</sup> Ministerial Policy Direction made by the Minister of Communications, Marine and Natural Resources on 21 February 2003.

is to ensure that all measures are appropriate, proportionate and justified. To ensure that a RIA is proportionate and does not become overly burdensome, a common sense approach will be taken. As decisions are likely to vary in terms of their impact, if after initial investigation, a decision appears to have relatively low impact ComReg may carry out a lighter RIA in respect of those decisions.

9.5 ComReg's approach to RIA follows 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.

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

*"RIA should be conducted at an early stage and before a decision to regulate has been taken"<sup>301</sup>.*

9.7 The EC, in reviewing its own use of impact assessments, also notes that:

*"Impact assessments need to be conducted earlier in the policy development process so that alternative courses of action can be thoroughly examined before a proposal is tabled"<sup>302</sup>.*

9.8 In determining the impacts of the various regulatory options, current best practice appears to recognise that full cost-benefit analysis would only arise where it would be proportionate or in exceptional cases where robust, detailed and independently verifiable data is available. Such comprehensive review may be undertaken by ComReg when necessary and appropriate.

9.9 Having regard to the various sets of guidelines, it is clear that the RIA should be introduced as early as possible in the assessment of potential regulatory options, where appropriate and feasible. The consideration of regulatory impact provides a discussion of options, and the RIA should therefore be integrated within the overall preliminary analysis. This is the approach which

---

<sup>301</sup> See paragraph 2.1.

<sup>302</sup> Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, "Second strategic review of Better Regulation in the European Union", COM(2008) 32 final 30.01.2008, p. 6.



ComReg is following in this market review. The RIA will be finalised in the final decision document, having taken into account all the responses to this Consultation and any comments from the European Commission and the CCPC.

- 9.10 ComReg now conducts its RIA having regard to its proposed approach to impose (or not) regulatory remedies identified in this Consultation, along with a consideration of other options. The following sections, in conjunction with the rest of the analysis and discussion set out elsewhere in this Consultation, represent a RIA. It sets out a preliminary assessment of the potential impact of proposed regulatory obligations for the PIA Market on Eircom.

## 9.2 Principles in selecting remedies

- 9.11 In Sections 1 and 4 ComReg set out the legislative basis upon which it must consider the imposition of remedies. In choosing remedies ComReg is obliged, pursuant to Regulation 8(6) of the Access Regulations/Regulation 50(5) of the ECC Regulations, to ensure that they are:

- (a) Based on the nature of the problem identified;
- (b) Proportionate and justified in the light of the objectives laid down in Section 12 of the Communications Regulation Act 2002 (as amended), and Regulation 16 of the Framework Regulations/Regulation 4 of the ECC Regulations; and
- (c) Only imposed following consultation in accordance with Regulations 12 and 13 of the Framework Regulations/Regulations 17 and 101 of the ECC Regulations.

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

- (a) To promote connectivity and access to, and take-up of, very high capacity networks;
- (b) To promote competition;
- (c) To contribute to the development of the internal market; and
- (d) To promote the interests of users within the European Union.

### 9.3 Step 1: Describe the policy issue and identify the objectives

- 9.13 In general, the European Commission acknowledges that once SMP is identified in markets, which are defined as susceptible to ex ante regulation, then the regulatory framework foresees that at least one regulatory obligation would be imposed to mitigate against the exercise of SMP and to ensure the development of effective competition within and across communications markets. ComReg noted at Section 1 that, since PIA is not included in the EC list of relevant markets susceptible to ex ante regulation, it is for NRAs to decide on an individual basis if, and based on national circumstances, whether PIA markets require regulation, in the first instance by carrying out a 3CT. This ultimately forms the basis for the assessment set out in this Consultation.
- 9.14 Having regard to the competition problems identified in Section 5, ComReg's ultimate objectives are to enhance the development of effective competition in relevant downstream markets and to help ensure that consumers can reap maximum benefits in terms of price, choice and quality of service. In so doing, ComReg is seeking to prevent exploitative behaviour and/or restrictions or distortions in competition amongst SPs. ComReg is also seeking to provide regulatory certainty to all SPs through the development of an effective and efficient forward-looking regulatory regime that serves to promote competition.
- 9.15 In pursuing these objectives, ComReg has considered the impact of specific forms of regulation in the Relevant PIA Market. As a result, ComReg is of the preliminary view that the remedies specified are both appropriate and justified in light of the market analysis and the identified competition problems. The regulatory options are further considered below.
- 9.16 ComReg recognises that regulatory measures should be kept to the minimum necessary to address the identified market failure in an effective, efficient and proportionate manner. There are a range of potential regulatory options available to ComReg to address the potential competition problems in the Relevant PIA Market.
- 9.17 In this regard, regulation can be considered to be incremental, such that only obligations are imposed which are necessary and proportionate to the competition problems which have been identified. The lightest measure that can be imposed is the obligation of transparency<sup>303</sup>. Should this be insufficient to address competition problems on its own, ComReg may apply

---

<sup>303</sup> Regulation 9 of the Access Regulations/ Regulation 51 of the ECC Regulations.

a non-discrimination obligation<sup>304</sup>. If this is still not sufficient, ComReg may next consider the imposition of an access obligation<sup>305</sup>, or accounting separation obligations<sup>306</sup>. The final measure to be considered is the imposition of a price control and cost accounting remedy<sup>307</sup>.

9.18 In conducting the Regulatory Impact Assessment, ComReg follows the structure set out in this Consultation.

## 9.4 Step 2: Identify and describe the potential regulatory options

9.19 In order to address the identified competition problems in the Relevant PIA Market, ComReg is required to impose on Eircom one or more (as appropriate) of the obligations (or remedies) set out below:

- (a) Access;
- (b) Transparency;
- (c) Non-Discrimination;
- (d) Price Control and Cost Accounting; and
- (e) Accounting Separation.

9.20 First, ComReg must consider the question of regulatory forbearance, and then incremental imposition of one or more of the obligations outlined in 9.19 above.

### 9.4.1 Forbearance

9.21 In the case of the current analysis of the Relevant PIA Market, ComReg is required<sup>308</sup> to impose at least some level of regulation on Eircom, given its proposed designation as having SMP. Regulation 8(1) of the Access Regulations/Regulation 50(1) of the ECC Regulations and Regulation 27(4) of the Framework Regulations/Regulation 49(8) of the ECC Regulations require ComReg to impose at least some level of regulation on undertakings designated as having SMP. In Section 4, ComReg set out its view that the

---

<sup>304</sup> Regulation 10 of the Access Regulations/Regulation 52 of the ECC Regulations.

<sup>305</sup> Regulation 12 of the Access Regulations/Regulation 55 of the ECC Regulations.

<sup>306</sup> Regulation 11 of the Access Regulations/Regulation 53 of the ECC Regulations.

<sup>307</sup> Regulation 13 of the Access Regulations/Regulation 56 of the ECC Regulations.

<sup>308</sup> Regulation 8(1) of the Access Regulations/Regulation 50(1) of the ECC Regulations.

Relevant PIA Market is not effectively competitive (or likely to become effectively competitive within the 5 year timeframe covered by this review).

- 9.22 In Section 5, ComReg set out its view that, absent regulation, Eircom has the ability and incentive to engage in exploitative and/or exclusionary behaviour in the Relevant PIA Market, with impact also on downstream markets. In view of this, absent the imposition of any remedies within the Relevant PIA Market, it is ComReg's view that this market (and related markets) would not likely function effectively. For example, access could be effectively refused or materially delayed (relative to its own downstream divisions or amongst Access Seekers). In addition, the price for PIA products, services and associated facilities could be set above the level that would pertain in a competitive outcome and/or Eircom may be in a position to distort competition in other downstream markets such as WLA, WDC and retail broadband (and related) markets. As highlighted in Section 5, it is ComReg's preliminary view that the option of regulatory forbearance in the Relevant PIA Market is not, therefore, appropriate or justified. By not imposing any regulatory obligations on Eircom, ComReg would be acting contrary to its own regulatory obligations. Per Regulation 8(1) of the Access Regulations/Regulation 50(1) of the ECC Regulations and Regulation 27(4) of the Framework Regulations/Regulation 49(8) of the ECC Regulations, once SMP has been identified ComReg is obliged to impose at least one regulatory remedy.

#### 9.4.2 Access Obligations

- 9.23 An access obligation gives SPs the right to request access to PIA and associated facilities and establishes the principles on which the relevant products and services should be made available. As noted in Section 6, Eircom has a range of access obligations currently imposed upon it by virtue of its existing designation with SMP in the 2018 WLA Market Decision. These include obligations to negotiate in good faith with undertakings requesting access; not withdraw access to facilities already granted and continue to provide such facilities in accordance with existing terms and conditions and specifications; and meet reasonable requests for access to specified network elements, facilities or both such elements and facilities.
- 9.24 Eircom faces a relatively moderate level of incremental burden from the proposed enhancements to the existing access obligations. These enhancements include:
- (a) To support efficient network deployment, an Access Seeker has the option to undertake the required repairs of Eircom Ducts, on behalf of Eircom, when blockages are encountered during the installation of its sub-duct (refer to paragraphs 6.61 to 6.68 above);

- (b) Eircom must provide efficient and timely access to PAR, not only in providing Access Seekers with access to PAR but also the manner in which it is made available. This is necessary so that the Access Seekers can carry out network modelling efficiently, with access to PAR information in a format that can be imported/loaded into a modelling/design tool. This is essential to the business case planning and network planning and thereby, the Access Seeker's analysis and decision-making process (refer to paragraphs 6.86 to 6.102 above).
- (c) Eircom must update its PAR information for all completed work on its PI, in a timely manner, to enable an Access Seeker to plan its network deployment more effectively and efficiently (refer to paragraphs 6.103 to 6.105 above).
- (d) Eircom must launch Access requests in the PIA Market within 10 months of receipt of the Access request or 14 months in circumstances when the solution proposed by Eircom will require Access Seekers to implement IT system changes to continue to avail of the product, service or Associated Facility. This will give Access Seekers certainty with regard to the timeline for any new developments necessary to aide network rollout, hence promoting infrastructure competition to the benefit of downstream markets and ultimately, end-users (refer to paragraphs 6.125 to 6.133 above).
- (e) If a new SLA or an amendment to an existing SLA is required due to an Access request for a new or amended product, service or associated facility, the start date for the SLA Negotiation Period will be linked to the date of receipt of the Access request. This will result in the new or amended product, service or associated facility being launched with the necessary SLA in place (refer to paragraphs 6.143 to 6.146 above).
- (f) Eircom must demonstrate how SLA Service Credits incentivise it in meeting the service levels committed in the SLA, including itemising the relevant elements and value contributing to the Service Credit. Eircom must include this information within its published SLA documentation. This will give Access Seekers certainty regarding levels of service they may provide to end-users with respect to downstream products relying on PIA (refer to paragraphs 6.147 to 6.152 above).

9.25 ComReg's preliminary view is that obligations to provide access to PIA and associated facilities are both proportionate and justified.

- 9.26 ComReg's preliminary view is that obligations to provide access to PIA and to associated facilities are both proportionate and justified in view of the competition problems identified. ComReg has considered whether obligations other than those relating to access would in themselves resolve the competition problems identified and does not consider this to be the case. Similarly, the imposition of access obligations on their own also would not likely prevent all possible forms of exploitative/exclusionary behaviour in the PIA Market such as excessive pricing, discrimination (on price or quality grounds) or ensure transparency of terms and conditions of access.

### 9.4.3 Non-Discrimination Obligations

- 9.27 The principle of non-discrimination is designed to ensure that undertakings with market power do not distort competition, in particular, where they are vertically-integrated undertakings that supply services to themselves and to undertakings with whom they compete on downstream markets. As discussed in Section 5, a potential competition problem arises when an integrated operator has SMP in one market which has links with other adjacent markets at a different (vertical) level in the production or distribution chain. In such circumstances, Eircom has the ability and incentive to transfer (leverage) its market power to such vertically related markets. This could enable Eircom to strengthen its position in those related markets and potentially also reinforce its existing market power in the SMP market in question.
- 9.28 As noted in Section 5, Eircom could offer different access products or service quality to itself or to different Access Seekers. As a consequence, ComReg proposes to require that Eircom is subject to a non-discrimination obligation, requiring it to apply equivalent conditions, including in respect of PIA prices or other charges and ensure that access and information are provided to all other undertakings under the same conditions as Eircom provides to itself or to its downstream retail arm. In terms of the standards to be applied to the non-discrimination obligation, as noted in Section 6, ComReg has proposed that Eircom offer and provide PIA products, services, and associated facilities to the standard of Eol. In Section 6, ComReg has already considered the appropriateness of applying this standard, in particular, reasonableness and proportionality have been considered with respect to the consequential IT and systems developments to be implemented by Eircom.
- 9.29 As noted in Section 6, Eircom currently has an obligation of non-discrimination with respect to the provision of PIA products, services and associated facilities.

- 9.30 ComReg has considered whether non-discrimination obligations alone would be sufficient to address the competition problems identified in Section 5 and does not consider this to be the case. For example, excessive/discriminatory pricing, outright or constructive denial of access problems, delaying tactics or poor service quality issues could *inter alia* still remain in the presence of a transparency obligation. Therefore, the imposition of non-discrimination obligations is both proportionate and justified having regard to the competition problems identified.

#### 9.4.4 Transparency Obligations

- 9.31 ComReg's preliminary view in Section 6 is that Eircom should be required to comply with a range of transparency obligations in order to minimise information asymmetries and, therefore, facilitate effective access to PIA products, services and associated facilities and promote effective competition in downstream markets.
- 9.32 In Section 5, ComReg identified competition problems which, absent regulation, could potentially arise in the PIA Market. The competition problems identified included *inter alia* potentially excessive and/or discriminatory pricing, as well as a potential for outright or constructive (e.g., through protracted negotiations on terms and conditions) refusal to supply with a view to extracting prices above efficient cost and/or distorting competition in related markets. In this regard, ComReg is proposing that, as part of a general transparency obligation pursuant to Regulation 9 of the Access Regulations/Regulation 51 of the ECC Regulations, Eircom shall be required to publish a PIARO setting out the contractual terms and conditions and technical basis upon which SPs can obtain access to PIA products, services and associated facilities. It is further proposed to continue to require Eircom to publish wholesale prices and to provide advance notice of price and non-price changes to ComReg and to other SPs. A change management process for the PIARO is also proposed. ComReg also proposes that Eircom publish a PI rollout plan as well as requirements to publish KPIs on service levels and to publish various information on engineering, planning and design rules, all of which seek to improve transparency for Access Seekers and aid their decision making in how they may use Eircom's PI.
- 9.33 By virtue of the 2018 WLA Market Decision, Eircom is already subject to obligations to publish a reference offer, a PI rollout plan, information with respect to product development and its engineering planning and design rules and it thus faces a relatively moderate level of incremental burden from the proposed transparency obligations. ComReg has also required Eircom to publish KPIs on its publicly available website and Eircom faces a relatively moderate level of incremental burden to develop relevant KPIs for PI.

- 9.34 Overall, ComReg recognises that some of the obligations will require some greater level of implementation than general pricing publication obligations. However, ComReg is of the preliminary view that the incremental level of implementation associated with such obligations should be relatively contained.
- 9.35 ComReg has considered whether transparency obligations alone would be sufficient to address the competition problems identified in Section 5 and does not consider this to be the case. For example, problems *inter alia* associated with excessive pricing, discriminatory behaviour (on price or non-price grounds) and/or impeded or delayed access would not be capable of being adequately addressed through transparency obligations alone.

#### 9.4.5 Price Control and Cost Accounting Obligations

- 9.36 The purpose of price control and cost accounting obligations is two-fold; (1) to ensure that prices charged are not excessive (i.e., above efficient cost) or cause a margin squeeze, while allowing the operator to recover the cost of its investment plus a reasonable rate of return, and (2) the costing/pricing methodology adopted serves to promote efficiency and sustainable retail competition while maximising consumer benefits. As noted in Section 7, Eircom is currently subject to a price control obligation of cost orientation and cost accounting pursuant to the SMP in the 2018 WLA Market Decision.
- 9.37 In the light of the competition problems in Section 5, ComReg remains of the view that on a forward-looking basis there is still scope for competition problems to arise absent price control and cost accounting obligations. The RIA steps described above at paragraph 9.5 are dealt with as part of the discussions in Section 5 and Section 7.
- 9.38 In summary, ComReg proposes that Eircom should be subject to a cost-orientation obligation with respect to access to PIA products, services and associated facilities. ComReg's analysis, set out in Sections 5 and 7, indicates that Eircom has the ability and incentive to engage in excessive pricing in the PIA Market, absent regulation. Our proposal to continue to maintain a cost orientation obligation on Eircom for PIA should prevent Eircom from charging excessive prices for its wholesale inputs i.e., for access to ducts and poles, and help to ensure greater predictability and stability of access prices. With cost orientation Access Seekers know in advance what costs/prices they are expected to pay over the price control period, thereby allowing them to make investment decisions and develop business plans with a greater degree of confidence.



- 9.39 In general, if specific price control obligations are to be meaningful, it may be necessary to have a clear and comprehensive understanding of the costs associated with the provision of PIA by Eircom. ComReg proposes to continue to impose a cost accounting obligation on Eircom having regard to its integrated position across several markets (in particular noting its SMP designations in a number of these markets). In discussing the competition problems in Section 5, Eircom has the ability and incentive to leverage its position from PIA into related markets. Hence, there is still a need to ensure sufficient visibility of how costs are allocated across PIA and other vertically-related inputs. As Eircom is already subject to a cost accounting obligation across a number of regulated markets, ComReg considers any incremental burden is substantially lessened. Please see Section 7.8 for further details.
- 9.40 ComReg has considered whether price control obligations alone would be sufficient to address the competition problems identified in Section 5 and it does not consider this to be the case. For example, discriminatory behaviour (on price or non-price grounds) or denial of access problems would not be capable of being adequately addressed through such obligations alone.

#### 9.4.6 Accounting Separation Obligations

- 9.41 As noted in Section 7.9, in general, the purpose<sup>309</sup> of an accounting separation obligation would be to provide a higher level of detail of information than that which can be derived from the statutory financial statements of undertakings designated with SMP. The objective is to reflect as closely as possible, the performance of those parts of the undertaking's business were it to operate on a standalone basis. In the case of vertically-integrated undertakings, it can support non-discrimination obligations, prevent unfair cross-subsidies to other services, and help ComReg in monitoring Eircom's compliance with pricing and other obligations.
- 9.42 Eircom currently has an obligation to maintain separated accounts in the 2018 WLA Market Decision. In Section 5, ComReg has identified potential competition problems associated with possible price-related leveraging to be particularly pertinent in the case of Eircom (absent regulation) which highlights the importance of continuing to ensure a transparent and effective mechanism of accounting separation.
- 9.43 As noted in section 7.9.2, having regard to Eircom's integrated position across several upstream and downstream markets, its SMP designations in a number of these markets, as well as the scope for Eircom to leverage its market power (as identified in Section 5), ComReg considers that an

---

<sup>309</sup> See Article 1 of the 2005 Accounting Separation and Cost Accounting Recommendation.

obligation of accounting separation for PIA is required. The need to ensure sufficient visibility of how costs are allocated across duct and pole related access products, services and associated facilities and other horizontally and vertically related input services means that an accounting separation obligation is proportionate and justified. Please see Section 7.9.

## 9.5 Step 3: Determine the impacts on stakeholders

- 9.44 Given that ComReg has proposed to designate Eircom with SMP in the Relevant PIA Market, ComReg's preliminary view, as outlined paragraphs 9.21 and 9.22 above, is that the option of regulatory forbearance is not appropriate or justified and can be discounted when considering the impact on stakeholders.
- 9.45 Having regard to the proposed SMP designation in Section 4 (which requires ComReg to impose at least some level of regulation<sup>310</sup>) as well as the review of competition problems and remedies in Sections 5, 6 and 7 respectively, ComReg has, on an incremental basis, identified why a range of appropriate remedies are necessary, proportionate and justified, while at the same time discounting other remedies where appropriate.
- 9.46 Having regard to the analysis and assessment of the PIA Market, ComReg has now grouped remedies into four options for the purpose of considering the incremental impact of each option on stakeholders:
- (a) **Option 1:** Impose Access obligations only.
  - (b) **Option 2:** Impose Access, Transparency and Non-Discrimination obligations.
  - (c) **Option 3:** Impose Access, Transparency, Non-Discrimination and Price Control and Cost Accounting obligations.
  - (d) **Option 4:** Impose Access, Transparency, Non-Discrimination, Price Control and Cost Accounting and Accounting Separation obligations.

---

<sup>310</sup> Pursuant to Regulation 8(1) of the Access Regulations and Regulation 27(4) of the Framework Regulations.

Table 14: Option 1 - Impose Access Obligations only

Impact on Eircom	Impact on Competition	Impact on Consumers
<p>Eircom would benefit from reduced regulatory burden relative to 2018 WLA Market Decision and related decisions.</p> <p>There would be increased flexibility for Eircom to use its market power at wholesale level to engage in exploitative behaviour and/or influence market developments downstream, including at the retail level. This could facilitate extraction of excessive rents from PIA and related markets.</p> <p>Eircom's incentives to innovate and increase efficiency may be reduced where prices are set above efficient cost are paid for by competitors and, in turn, by their customers.</p> <p>Increased risk of disputes and legal challenges involving Eircom's PIA services arising from ineffective transparency, price control and other preventative measures to protect against non-discrimination. Disputes could increase legal and regulatory costs faced by Eircom and Access Seekers.</p>	<p>High risk that, even though access mandated in principle, there would be significant scope for it to be effectively undermined through such practices as high or discriminatory pricing, unreasonable terms and conditions, delaying tactics, poor service quality, etc.</p> <p>Where access is provided to downstream competitors on exploitative or discriminatory terms (relative to that provided to Eircom's own retail arm) this could significantly disadvantage existing rivals and distort existing competition in downstream markets.</p> <p>Ineffective access to PIA could also raise barriers to entry and expansion for new entrants in downstream markets due to inability to access PI for the deployment of competing networks</p> <p>PIA prices set above efficient cost would raise financial barriers to entry and expansion for smaller or newer entrants in downstream retail and wholesale markets.</p>	<p>There would be a risk that, even though PIA is mandated in principle, there would be significant scope for it to be effectively undermined through such practices as high or discriminatory pricing, unreasonable terms and conditions, delaying tactics, poor service quality, etc.</p> <p>If downstream competition is distorted or investments discouraged due to ineffective PIA access, consumers would potentially have reduced service choice, quality and innovation.</p> <p>Above-cost PI could ultimately put upward pressure on retail prices. Above-cost PIA would also limit scope for network deployment and competition, thereby hindering downstream wholesale and retail pricing innovations thereby potentially depriving consumers of new and innovative bundles/packages involving broadband (and other) services.</p>

**Table 15: Option 2 - Impose Access, Transparency and Non-Discrimination obligations**

Impact on Eircom	Impact on Competition	Impact on Consumers
<p>Eircom would benefit from reduced regulatory burden relative to 2018 WLA Market Decision and related decisions.</p> <p>There would be increased flexibility for Eircom to use its market power at wholesale level to engage in exploitative behaviour and/or influence market developments downstream, including at the retail level. This could facilitate extraction of excessive rents from PIA and related markets.</p> <p>Eircom's incentives to innovate and increase efficiency may be reduced where prices are set above efficient cost are paid for by competitors and, in turn, by their customers.</p> <p>Increased risk of disputes and legal challenges involving Eircom's PIA services arising from ineffective transparency, price control and other preventative measures to protect against non-discrimination. Disputes could increase legal and regulatory costs faced by Eircom and Access Seekers</p>	<p>While the risk of impeding access to PIA may be moderated somewhat relative to Option 1, effective PIA access may still be undermined through above cost PIA pricing.</p> <p>Where access is provided to downstream competitors on exploitative terms, this could significantly disadvantage existing rivals and distort existing competition in downstream markets.</p> <p>Ineffective access to PIA (through exploitative or exclusionary pricing) could also raise barriers to entry and expansion for new entrants in downstream markets.</p> <p>PIA prices set above efficient cost would raise financial barriers to entry and expansion for smaller or newer entrants in downstream retail markets. Scope would persist for Eircom to squeeze competitors across related wholesale/retail markets through its relative pricing of PIA vis-à-vis other wholesale (e.g. WLA and WDC) and retail services. Where PIA prices are set above efficient cost, this could limit scope for network deployment and</p>	<p>There would be a risk that, even though PIA is mandated in principle, there would be significant scope for it to be effectively undermined through such practices as excessive pricing and/or margin squeeze.</p> <p>If downstream competition is distorted or investments discouraged due to ineffective PIA access, consumers would potentially have reduced service choice, quality and innovation.</p> <p>Above-cost PIA could put upward pressure on downstream wholesale and/or retail prices. Above-cost PIA would also limit the extent of competing network deployment and hence the scope for wholesale and retail pricing innovations ultimately potentially depriving consumers of new and innovative bundles/packages involving broadband (and other) services.</p>

While risk of disputes and legal challenges involving Eircom's PIA services might be eased somewhat relative to Option 1 due to enhanced transparency, risk of disputes would persist due to lack of direct regulatory oversight in respect of Eircom's PIA prices. Disputes could increase the legal and regulatory costs faced by Eircom and Access Seekers and lead to untimely delays ultimately impacting on competition and consumers through ineffective network deployment leading to reduced service choice, quality and innovation.

attendant innovations by Eircom's downstream rivals.

Regulatory certainty is reduced given wholesale access and pricing uncertainty which could undermine use of PIA. A potentially increased incidence of disputes could also raise legal and regulatory costs for Eircom's rivals.

**Table 16: Option 3 - Impose Access, Transparency, Non-Discrimination and Price Control and Cost Accounting obligations.**

Impact on Eircom	Impact on Competition	Impact on Consumers
<p>As Eircom is currently subject to price control and cost accounting obligations pursuant to 2018 WLA Market Decision, the incremental burden of maintaining these obligations is not likely to be significant.</p> <p>Eircom’s regulatory burden under Option 3 would not be significantly less than under Option 4 (below) as Eircom is already subject to accounting separation obligations in other SMP markets. Under Option 3 there would an increased opportunity for Eircom’s non-discrimination and/or price control obligations to be undermined, given the lack of visibility of the allocation of PIA costs to appropriate markets and services as well as the potential for unfair cross-subsidies.</p> <p>Risk of disputes and legal challenges involving Eircom’s PIA prices may be eased relative to Options 1 and 2 with the imposition of the price control obligation. However, lack of accounting separation may generate uncertainty regarding Eircom’s compliance</p>	<p>Regulating PIA prices at efficient cost would reinforce the effectiveness of the access, transparency and non-discrimination obligations thus reducing risk of competitive distortions in downstream retail markets and potentially lowering barriers to entry/expansion for smaller Service Providers.</p> <p>Regulating PIA prices at efficient cost would potentially provide greater scope for wholesale and/or retail pricing innovations by Eircom’s downstream rivals.</p> <p>Greater consistency with EU guidance and other regulatory decisions would promote legal certainty and a more predictable environment for potential investors although lack of accounting separation obligation may render monitoring of potential exclusionary behaviour less transparent further impacting on investment incentives for new entrants.</p> <p>While greater certainty that PIA prices would be set at efficient cost potentially moderates risk of disputes relative to Options 1 and 2, the lack of transparency of Eircom’s financial</p>	<p>Reduced risk of competitive distortions and more level playing field in downstream markets and greater wholesale pricing certainty helps facilitate retail price and service innovations (in terms of options for competing network deployment).</p> <p>Reduced risk of above efficient cost PIA prices being passed through to End Users in form of higher prices relative to Options 1 and 2 above.</p> <p>Potential for discriminatory behaviour due to lack of accounting separation may impact on downstream competition and investment with consequent negative implications in terms of price and service choice over time.</p>

<p>with non-discrimination and price control obligations.</p>	<p>information on PIA due to absence of an accounting separation obligation may still contribute to scope for discrimination (relative to its own related businesses) and consequent risk of disputes.</p>	
---	--	--

**Table 17: Option 4 - Impose Access, Transparency, Non-Discrimination, Price Control and Cost Accounting and Accounting Separation obligations.**

Impact on Eircom	Impact on Competition	Impact on Consumers
<p>Imposition of an obligation of Accounting Separation on Eircom's PIA requires Eircom to harvest and analyse PIA data while also making some adjustments and revisions to how Eircom reports duct and pole related access costs and revenues in Eircom's HCA (or Separated Accounts). However, it is not deemed to be an undue burden given that Eircom already is subject to the obligation of accounting separation across a number of existing regulated markets and in addition this proposed obligation supports non-discrimination obligations, prevents unfair cross-subsidies to other services, and helps in monitoring Eircom's compliance with its price control obligation.</p>	<p>Publication by Eircom of certain information (e.g., revenue, split between internal and external use, as well as volume, average price and cost information for PI rentals), disaggregated between Eircom (Non-FNI) and FNI should provide greater transparency in the HCAs, in particular, regarding the allocation of the PIA costs to the appropriate markets and services so as to ensure that such allocations comply with Eircom's non-discrimination obligation. The deployments and use of FNI PIA assets differs compared to the remaining Eircom PIA assets and this can ultimately affect how the costs and revenues associated with those PIA assets should be reported in Eircom's HCA Separated Accounts. Therefore, ComReg considers that the accounting separation obligation is an important measure to ensure sufficient visibility of PIA related costs and revenues for both Eircom (non-FNI) and FNI in Eircom's HCAs, to ensure Eircom complies with its regulatory obligations while providing better market predictability and certainty for other</p>	<p>Increased competition in networks and more level playing field in fibre deployment and greater PIA pricing certainty helps facilitate both downstream wholesale and retail price and service innovations (e.g. in terms of packages/bundles offered).</p> <p>Reduces risk of excessive PIA prices being passed through to End Users in form of higher prices through monitoring PIA information in Eircom's HCA Accounts.</p> <p>Dynamic competition from alternative Service Providers (facilitated by effective price control and appropriate preventative measures for discriminatory behaviour in respect of Eircom's PIA) should help facilitate ongoing delivery of price and service innovations and choice to End Users over time.</p>



	Access Seekers competing with Eircom in downstream markets.	
--	---	--

## 9.6 Step 4: Determine the impacts on competition

- 9.47 In the discussion on the proposed approach on remedies set out in Sections 6 and 7 relating to the PIA Market, ComReg has taken full account of its obligations under Regulation 8(6) of the Access Regulations (including that any proposed remedies are to be based on the nature of the problem identified)/Regulation 50(5) of the ECC Regulations, as well as its relevant objectives as set out under Section 12 of the Communications Regulation Act 2002 (as amended).
- 9.48 ComReg's preliminary view is that absent regulation, there is the potential and incentive for Eircom, as the undertaking proposed to be designated with SMP in the Relevant PIA Market, to engage in exploitative and exclusionary behaviours which would impact on competition and consumers. In Section 5, ComReg provided examples of potential competition problems and the impact of these on competition and consumers. ComReg has also highlighted its objectives in regulating the PIA Market in paragraph 9.14 above, in particular, preventing restrictions or distortions of competition in affected downstream retail and wholesale markets and helping to ensure that consumers can achieve maximum benefits in terms of price, choice and quality of service.
- 9.49 The imposition of appropriate ex ante remedies to address such competition problems was discussed and justified in Sections 6 and 7 and each of the specific remedies is designed to promote the development of effective competition and to protect End Users. Given that a full suite of remedies is proposed to be applied on Eircom, ComReg considers that the risk of competition problems and associated impacts should be minimised. This will ultimately be to the benefit of Service Providers and End Users of downstream retail and wholesale services.

## 9.7 Step 5: Assess the likely impacts and choose the best option

- 9.50 The proposed maintenance of regulation on Eircom in the PIA Market (i.e., **Option 4**) is considered justified in that it is required to ensure that Eircom does not exploit its market power at the wholesale level to the detriment of competition in both related markets, and to the ultimate detriment of consumers. In Section 5, a broad range of potential competition problems were identified for Eircom, which has the ability and incentives for both exploitative and exclusionary practices given its continuing significant presence in downstream markets.

- 9.51 In particular, Eircom's position in the PIA market as well as downstream markets implies that the ability and incentives to engage in vertical leveraging/foreclosure would seem particularly strong for Eircom. In view of its control over a number of key input markets, Eircom has the ability and incentives to impede downstream competitors through price (e.g., excessive/discriminatory pricing) and/or non-price means (e.g., by not facilitating access to essential services in the PIA Market). The regulatory obligations proposed in designed to specifically address the competition problems identified and are proportionate in that they are the least burdensome means of achieving this objective.
- 9.52 ComReg invites comments from interested parties on the above RIA and its underlying analysis.

Q. 23 Do you agree with ComReg's preliminary conclusions on the Regulatory Impact Assessment? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your position.

## 10 Next Steps

- 10.1 As set out at paragraphs 1.36 to 1.41 above, ComReg has indicated that the consultation period will run to 17:00 hrs on 3<sup>rd</sup> March 2023, providing an 8 week consultation period. Respondents should ensure that any submissions are provided within this period. ComReg encourages interested parties to comment on the issues set out in this Consultation.
- 10.2 ComReg will then notify these final draft measures to the EC, other NRAs and BEREC, pursuant to Regulation 13 of the Framework Regulations<sup>311</sup>/Regulation 17(4) of the ECC Regulations. Taking utmost account of any comments received from the EC, as well as from the other aforementioned parties, ComReg will then seek to adopt and publish the final decision in its subsequent Response to Consultation and Decision.

---

<sup>311</sup> Mirrored under Article 32 of the EECC.

# Annex 1: Decision Instrument

**Please note:** The Regulations made by the Minister for Communications for the purpose of transposing the European Electronic Communications Code, namely the European Union (Electronic Communications Code) Regulations 2022, SI No. 444 of 2022, have yet, at the time of publication of this Consultation, to be commenced and the legal basis for this market review and consultation is accordingly the suite of regulations made in 2011 including in particular the Framework Regulations and the Access Regulations. Were the Electronic Communications Code Regulations to be commenced prior to the adoption of ComReg's final decision, ComReg will adopt its final decision including this Decision Instrument referring to the relevant Regulations as appropriate. For the purpose of this Consultation, references to both the 2011 set of Regulations and to the Electronic Communications Code Regulations have been included.

## 1 STATUTORY POWERS GIVING RISE TO THIS DECISION INSTRUMENT

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

- (i) Pursuant to and having had regard to Sections 10 and 12 of the Communications Regulation Act 2002 (as amended); Regulation 6(1) of the Access Regulations and Regulation 16 of the Framework Regulations/Regulation 4 and Regulation 42 of the ECC Regulations;
- (ii) Having taken the utmost account of the 2020 Recommendation, the Explanatory Notes and the SMP Guidelines;
- (iii) Having, where applicable, pursuant to Section 13 of the Communications Regulation Act 2002 (as amended) complied with Ministerial Policy Directions;
- (iv) Having had regard to the analysis and reasoning set out in ComReg Document No. 23/04 [*the Consultation document*] and having taken account of the submissions received from interested parties in response thereto following a public consultation pursuant to Regulation 12 of the Framework Regulations/Regulation 101 of the ECC Regulations;
- (v) Having consulted with the Competition and Consumer Protection Commission, further to Regulation 27 of the Framework Regulations/Regulation 49 of the ECC Regulations;

- (vi) Having notified the draft measure and the reasoning on which the measure is based to the European Commission, BEREC and the national regulatory authorities in other EU Member States pursuant to Article 32 of the Code/Regulation 17 of the ECC Regulations and having taken utmost account of any comments made by them;
  - (vii) Having had regard to the provisions contained in the European Electronic Communications Code;
  - (viii) Pursuant to Regulations 25, 26 and 27 of the Framework Regulations and Regulations 8, 9, 10, 11, 12, 13 and 18 of the Access Regulations/Regulations 45, 46, 49, 50, 51, 52, 53, [54], 55, 56 and 104 of the ECC Regulations;
  - (ix) Pursuant to Regulation 16 of the Authorisation Regulations/Regulation 99 of the ECC Regulations; and
  - (x) Having regard to the analysis and reasoning set out in ComReg Decision DXX/XX [*the draft Decision*].
- 1.2 The provisions of ComReg Document No. 23/04 [*the Consultation Document*] and ComReg Decision DXX/XX, [*the draft Decision*] shall, where appropriate, be construed consistently with this Decision Instrument. For the avoidance of doubt, however, to the extent that there is any conflict between a decision instrument dated prior to the Effective Date (as defined in Section 2.1 of this Decision Instrument) and this Decision Instrument, this Decision Instrument shall prevail.

## PART I - GENERAL PROVISIONS

### 2 DEFINITIONS

- 2.1 In this Decision Instrument, unless the context otherwise suggests:
- “**Access**” shall have the same meaning as under Regulation 2 of the Access Regulations/Regulation 2 of the ECC Regulations;
- “**Access Regulations**” means the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011);
- “**Access Seeker**” means an Undertaking other than Eircom;
- “**Additional Financial Information**” means the information defined in section 2.1 of the Decision Instrument annexed to ComReg Decision D08/10;

**“Associated Facilities”** has the same meaning as under Regulation 2 of the Framework Regulations/Regulation 2 of the ECC Regulations;

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

**“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;

**“Bottom Up Long Run Average Incremental Cost plus”** or **“BU-LRAIC+”** means the methodology used to estimate average efficiently incurred directly attributable variable and fixed costs, including an appropriate apportionment of joint and common costs;

**“Chamber”** means a construction allowing access to the duct network, regardless of its location and for the avoidance of doubt includes a chamber within, under or in the vicinity of an Exchange;

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

**“Competition and Consumer Protection Commission”** means the body established under section 9 of the Competition and Consumer Protection Act 2014;

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

**“ComReg Decision D08/10”** means ComReg Document No. 10/67, entitled “Response to Consultation Document and Final Direction and Decision, Response to Consultation Document No. 09/75 and Final Direction and Decision: Accounting Separation and Cost Accounting Review of Eircom Limited”, dated 31 August 2010;

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

“**ComReg 21/60R**” means ComReg’s Direction to Eircom Limited with respect to Access to CEI under ComReg Decision D10/18 made on 8 June 2021 and corrected on 8 October 2021 and published under Document number 21/60R;

“**Dark Fibre**” means an Eircom optical fibre that is installed but not in use;

“**Director**” has the same meaning as under Section 2 of the Companies Act 2014;

“**Duct**” means a pipe or conduit that forms part of Eircom’s PI and that is capable of carrying sub-ducts and/or cables;

“**Duct Access Model**” or “**DAM**” means the cost model used to set PIA prices as described in section 7.5 of ComReg Document No. 23/04 [*the Consultation document*];

“**Duct network**” means that part of Eircom’s Physical Infrastructure which includes more specifically its Ducts, Sub-Ducts and Chambers;

“**Effective Date**” means the date set out in Section 20 of this Decision Instrument;

“**Egress**” means the point of exit from the PI accessed (which may be for Pole Access the last Pole accessed on an aerial route);

“**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;

“**Eircom’s Physical Infrastructure**” or “**Eircom’s PI**” means the Physical Infrastructure owned or controlled, including the operational control, of Eircom and includes for the avoidance of doubt the Physical Infrastructure owned by FNI;

“**Electronic Communications Network**” or “**ECN**” has the same meaning as under Regulation 2 of the Framework Regulations/Regulation 2 of the ECC Regulations;

“**Electronic Communications Service**” or “**ECS**” has the same meaning as under Regulation 2 of the Framework Regulations/Regulation 2 of the ECC Regulations;

“**End-User**” has the same meaning as under Regulation 2 of the Framework Regulations/Regulation 2 of the ECC Regulations.



**“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;

**“Exchange”** means an Eircom network premises or equivalent facility used to house network and associated equipment;

**“Exchange Area”** means the geographic area served by a specific Exchange;

**“Explanatory Note”** means the European Commission 2020 Recommendation – Staff Working Document/Explanatory Note (dated 18 December 2020 SWD(2020) 337 final);

**“FNI”** means Fibre Networks Ireland Limited, a company incorporated in Jersey (Number 140179), registered as a Branch in Ireland (Number 909747), with a registered Branch Office at 2022 Bianconi Avenue, Citywest Business Campus, Dublin 24, D24 HX03;

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

**“GIS”** stands for Geographic Information System;

**“Historical Cost Accounts”** or **“HCA”** means the historical cost accounts which Eircom is required to publish in accordance with ComReg Decision D08/10;

**“Ingress”** means the point of entry onto the PI accessed (which may be for Pole Access the first Pole accessed on an aerial route);

**“Interconnection”** has the same meaning as under Regulation 2 of the Access Regulations/Regulation 2 of the ECC Regulations;

**“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;

**“Non-Disclosure Agreement”** means an agreement for protecting the disclosure of commercially sensitive, competition sensitive or confidential information and governing its use or reliance;

**“Non-Urban Exchange Area”** means one of the Exchanges on the list of Exchanges set out in Schedule [2];

“**Object**” means a data structure in an inventory database that is used to store information on physical infrastructure entities;

“**Object ID**” means an identifier contained in an inventory database table which provides a unique reference for each record in the table;

“**OSS**” stands for operational support systems;

“**PAR**” stands for Passive Access Records;

“**Physical Infrastructure**” or “**PI**” means physical facilities that are designed or used to house or carry the fixed elements of an electronic communications network including copper wires, optical fibre and co-axial cables, including without limitation subterranean and/or above ground assets such as ducts, sub-ducts, chambers, poles and Associated Facilities;

“**PIA**” stands for Physical Infrastructure Access;

“**Pole**” means a pole that forms part of Eircom’s PI;

“**Pole Access Model**” or “**PAM**” means the cost model used to set PIA prices as described in section 7.5 of ComReg Document No. 23/04 [the Consultation document];

“**Pole network**” means that part of Eircom’s Physical Infrastructure which includes its Poles;

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

“**Ready for Order Date**” means the date by which a particular PI Access product, service or associated facility is available for order from Eircom by an Undertaking;

“**Relevant Market**” means the market described in Section 4 of this Decision Instrument;

“**Service Credit**” means the amount of money owed by Eircom to an Access Seeker in circumstances where Eircom has failed to meet the service levels which Eircom commits to in its SLA, or on the occurrence of specified events or the application of criteria specified in the SLA;

“**Service Level Agreement**” or “**SLA**” means a legally binding contract between Eircom and an Access Seeker in relation to the service levels which Eircom commits to from time-to-time;

**“SMP Guidelines”** means the European Commission guidelines of 7 May 2018 on market analysis and the assessment of significant market power under the EU regulatory framework for electronic communications networks and services (2018/C 159/01) (OJ C 159, 7.5.2018, p.1);

**“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;

**“Top-Down HCA”** means the methodology in which the HCA and network information of the regulated Undertaking are used as the starting point for calculating the costs of relevant services;

**“Threshold”** means the level of remediation costs referred to in Section 14.8.

**“Undertaking”** has the same meaning as under Regulation 2 of the Framework Regulations/Regulation 2 of the ECC Regulations;

**“Urban Exchange Area”** means one of the Exchanges on the list of Exchanges set out in Schedule [1];

**“2020 Recommendation”** means the European Commission Recommendation of 18 December 2020 on relevant product and service markets within the electronic communications sector susceptible to *ex ante* regulation in accordance with Directive (EU) 2018/1972 of the European Parliament and of the Council of 11 December 2018 establishing the European Electronic Communications Code (C (2020) 8750).

### **3 SCOPE AND APPLICATION**

- 3.1 This Decision Instrument is binding upon Eircom and Eircom shall comply with it in all respects.
- 3.2 This Decision Instrument applies to Eircom and its subsidiaries and any related companies, including FNI, and any Undertaking which owns or controls Eircom, and its successors, affiliates and assigns and all shall comply with it in all respects.
- 3.3 Eircom shall notify to ComReg as soon as reasonably practicable of any decision, change or other event which affects its control of FNI or of the Physical Infrastructure in the ownership of FNI on the Effective Date.

## **PART II – RELEVANT MARKET AND SMP OBLIGATIONS**

### **4 MARKET DEFINITION**

- 4.1 The Relevant Market is hereby defined as the market for the provision of Access in the State to passive telecoms-specific physical infrastructure, including subterranean and above ground assets such as ducts, sub-ducts, chambers, poles and Associated Facilities, that is designed or used to house or carry the fixed elements of an electronic communications network including copper wires, optical fibre and co-axial cables

### **5 THREE CRITERIA TEST AND DESIGNATION OF EIRCOM WITH SIGNIFICANT MARKET POWER (“SMP”)**

- 5.1 ComReg hereby finds that the three criteria test set out in Article 67(1) of the Code/Regulation 49(3) of the ECC Regulations, is met and accordingly that the Relevant Market is a market that is susceptible to ex ante regulation.
- 5.2 ComReg finds that the Relevant Market is not effectively competitive and hereby designates Eircom as having SMP in the Relevant Market.

### **6 REQUIREMENT FOR SMP OBLIGATIONS**

- 6.1 In light of the competition issues arising in connection with Eircom’s SMP in the Relevant Market, ComReg finds that it is necessary to impose on Eircom in respect of the Relevant Market obligations of Access, non-discrimination, transparency, price control and accounting separation as set out in, and further specified as the case may be, in Sections 7 to 15.

### **7 ACCESS**

#### **Reasonable requests for Access**

- 7.1 Eircom shall meet all reasonable requests from Undertakings for Access to its physical infrastructure in the Relevant Market, irrespective of the type of ECN or ECS for which Access is being sought or intended.
- 7.2 For the purpose of Section 7.1, and in accordance with Section 7.4, all requests for Access to Eircom’s Physical Infrastructure in the Relevant Market shall be deemed reasonable, subject always to reasonable terms and conditions, and a request for Access may only be rejected, refused or otherwise denied for objective reasons such as where Access, as per the request, is not technically feasible or threatens network integrity and concerns in this respect may not be objectively mitigated satisfactorily by way of suitable terms and conditions.

- 7.3 Within ten (10) working days of the end of each Quarter following the Effective Date, Eircom shall provide ComReg with a list of all requests for Access to Physical Infrastructure, whether by way of requests for the development of new products, services or Associated Facilities or amendments to existing products, services or Associated Facilities which have been accepted or refused / declined within the Quarter, together with the objective reasons for refusing or declining to meet the Access request.

#### **Conditions of Access**

- 7.4 Eircom shall at all times grant Access in a fair, reasonable, timely, transparent and non-discriminatory manner, as may be further specified by ComReg from time to time.
- 7.5 Without prejudice to the generality of Section 7.4 and subject to Section 7.7, Eircom shall ensure, in providing Access to its Pole and Duct networks, that:-
- (i) Poles, Ducts, Sub-Ducts and Associated Facilities are fit for use by Access Seekers and to that effect, Eircom shall:-
    - (a) carry out any remediation required to ensure that this is so in a fair, reasonable and timely manner subject always that where Duct network remediation costs exceed the Threshold, Eircom is only required to carry out the remediation where the Access Seeker has agreed to bear the costs exceeding the Threshold, Eircom having informed the Access Seeker concerned of same and offered as an alternative Access to Dark Fibre, if available;
    - (b) ensure that where redundant cables/enclosures/equipment on Poles or in Ducts or Sub-Ducts hinder the provision of Access, that they are removed in a timely manner.
  - (ii) Requirements imposed in respect of accreditation, audits and supervision are reasonable, proportionate and non-discriminatory by reference to the task concerned and the circumstances pertaining to the Access such that they do not result in unjustifiable impediments to the work of, or unwarranted costs for, Access Seekers. In particular, save where a material risk to national security, public safety or public health presents, or taking into account the nature of the work involved, there is a serious risk to the integrity of Eircom's network due to the location of the PI concerned in Eircom's network, or the proximity of the PI to network equipment that is critical to the functioning of Eircom's overall network, Eircom shall ensure that any supervision requirements are applied in such a way that they do not have the effect of delaying or preventing Access Seekers

from commencing or continuing work in the absence of an Eircom supervisor.

### **Specified forms of Access**

7.6 Without prejudice to the generality of the foregoing, Eircom shall provide and grant Access to its Physical Infrastructure by way of the following products, services and Associated Facilities, subject only to fair and reasonable terms and conditions and as may be directed by ComReg from time to time:-

- (i) Pole Access, whereby Access is granted to Eircom's Pole network for the installation, by an Access Seeker, of its cables and equipment;
- (ii) Access to Eircom's Duct network, including by way of:-
  - (a) Duct Access, allowing Access to Duct for the purpose of an Access Seeker installing a sub-duct or such-ducts, as further specified;
  - (b) Sub-duct Access, allowing Access to a Sub-Duct for the purpose of an Access Seeker installing a cable or cables into a Sub-Duct;
  - (c) Direct Duct Access, allowing an Access Seeker to install its cables into a Duct without the use of a sub-duct in order to connect from a Chamber, accommodating the cable distribution point to an end-user's premises or in general where the space available is not sufficient to accommodate a sub-duct;
 

And allowing for each order, the Access Seeker to nominate the points of Ingress and Egress.
- (iii) Where Pole Access or Access to Eircom's Duct network is not available, Access to Dark Fibre where reasonably available;
- (iv) Access to Passive Access Records whereby Access Seekers are provided Access to all the available records containing information relating to Eircom's PI including for the avoidance of doubt where available the following information:-
  - (a) Location information including co-ordinate information;
  - (b) Containment information, including information on the cables contained within which Sub-Ducts or Ducts and the Sub-Ducts contained within Ducts and equipment contained within Chambers;

- (c) connectivity information, namely information regarding whether the PI element is connected or not, and how, attribute information, namely information describing the PI entities concerned and their properties and system generated attributes such as the Object ID;
- (d) reservation information for Ducts, Sub-Ducts, Poles and Chambers including co-ordinate references or Object ID of the start and the end of the route, requested date of reservation and reservation lapse date; and
- (e) photographs of PI.
- (v) For the purpose of Pole Access and Access to the Duct network, Access to the following Associated Facilities:-
  - (a) Access to Chambers;
  - (b) Access to Ingress and Egress points;
  - (c) Co-location, including:
    - I. Access to the Main Distribution Frame ('**MDF**') and/or to the Optical Distribution Frame ('**ODF**'), floor space, Alternating Current ('**AC**') power, Direct Current ('**DC**') power, air conditioning, mast access, roof access, cable trays and cable management systems as applicable at Exchanges;
    - II. Co-location Rack Interconnection allowing interconnection between two or more Access Seekers' co-location equipment racks in the same Exchange;
    - III. Co-location Resource Sharing whereby an Access Seeker may accommodate its network access and/or transmission equipment in the co-located rack of another Access Seeker and share resources such as power supplies (AC or DC) and/or backhaul;
  - (d) Tie Connection Service between the Co-location space/rack and the Ingress and Egress points nominated by the Access Seeker whereby Eircom installs and makes available a fibre connection between the Access Seeker's co-located equipment in an equipment rack or the Access Seeker's co-located ODF, to a Chamber or Pole in the vicinity of the Exchange.

7.7 In providing Duct Access for the purpose of Section 7.6(ii)(a), Eircom shall make available to Access Seekers the following:-

- (i) The Sub-Duct Self Install Duct Access product described in Sections 2.1.1 to 2.1.5 of Appendix 1 of ComReg 21/60R;
- (ii) Unless already available on the Effective Date, including for the avoidance of doubt further to any obligations under ComReg Decision D10/18, within seven (7) months of the Effective Date, a Sub-Duct Self-Install Repair Duct Access product allowing Access Seekers to clear all blockages in Ducts where the blockage is preventing an Access Seeker from installing its Sub-Duct or cable into the Duct, including Duct Repair, namely activities that are required to remediate a Duct's structure and/or civil works, including in particular Duct excavation and opening activities required to clear a blockage that cannot be cleared otherwise, subject to any reasonable terms and conditions as may be determined by Eircom and/or further specified by ComReg.

7.8 For the purpose of Section 7.6(ii)(b), Eircom shall ensure that Access Seekers may avail at their election of Sub-Duct Access as follows:

- (i) Access to an Eircom controlled Sub-Duct, whereby Eircom installs a new Sub-Duct or assigns an existing Eircom controlled Sub-Duct to the Access Seeker and at the request of the Access Seeker, cuts into the Sub-Duct so that the Access Seeker may create additional Ingress/Egress points for connections to its ECN; and
- (ii) Access to an Access Seeker controlled Sub-Duct, whereby Eircom installs a new Sub-Duct, regardless of whether a spare Sub-Duct is available in a multi-core Sub-Duct and the Access Seeker may cut into the Sub-Duct to create additional Ingress/Egress points for connections to its ECN.

7.9 For the purpose of Section 7.6(iii), and without prejudice to Section 7.5(i)(b), Eircom shall ensure that where Access to the Pole network or the Duct network is not available due to lack of usable space or the Duct or Ducts concerned are extensively damaged on a portion of a route, the Access Seeker may elect to avail of Dark Fibre where available for the entirety of the route Access to which is sought, or only a portion thereof.

7.10 In providing Access to PAR for the purpose of Section 7.6(iv), Eircom shall:

- (i) For a period of seven (7) months from the Effective Date, continue to make PAR available to Access Seekers using the same means of Access available on the day prior to the Effective Date;



- (ii) Make PAR available to Access Seekers through GIS data files on a quarterly basis;
- (iii) Within seven (7) months of the Effective Date, make available to Access Seekers a user application allowing Access Seekers;
  - (a) Real-time Access to PAR information;
  - (b) The ability to select PAR information within geographical area(s) (including containment information) for export in real-time;
  - (c) Real-time PAR download in the GeoJSON open standard geospatial data interchange format.
- (iv) From seven (7) months after the Effective Date, ensure that PAR is updated within one (1) month of a change to the state of the PI concerned or the creation of new PI or Eircom having been informed by an Access Seeker, in accordance with any reasonable requirements which Eircom may impose in this respect, that work has been completed such that the state of the PI concerned has changed.

7.11 Without prejudice to the general obligations set out in Sections 7.1 to 7.4 of this Decision Instrument, Eircom shall:

- (i) Negotiate in good faith with Undertakings requesting Access;
- (ii) Not withdraw Access to products, services and Associated Facilities already granted without the prior approval of ComReg and in accordance with terms and conditions as may be determined by ComReg;
- (iii) Provide Access to its OSS or similar software systems necessary to obtain Access in a fair, timely and efficient manner.

## **8 NON-DISCRIMINATION**

8.1 Eircom shall, as regards the provision of Access required in Section 7 of this Decision Instrument, ensure that it does not discriminate between Access Seekers, and between Access Seekers and itself, its subsidiaries, affiliates or partners, and to that effect shall more particularly:

- (i) Apply equivalent conditions in equivalent circumstances to other Undertakings requesting, or being provided with Access (or requesting or being provided with information in relation to such Access); and

- (ii) Provide Access and information in relation to such Access to all other Undertakings under the same conditions and of the same quality as Eircom provides to itself or to its subsidiaries, affiliates or partners, as further specified in Section 9.2.
- 8.2 For the purpose of Section Section 8.1(ii), Eircom shall, within seven (7) months of the Effective Date, provide Access and information to all Undertakings including itself, its subsidiaries, affiliates or partners, on the same timescales, terms and conditions, including those related to prices and service levels, using the same systems and processes.

## **9 TRANSPARENCY**

- 9.1 Eircom shall ensure transparency in its provision of Access to its Physical Infrastructure in the Relevant Market.

### **Publication**

- 9.2 Subject to Section 9.3, and save where otherwise specified by ComReg, a requirement to publish in this Decision Instrument shall be met where Eircom has made the information that it is required to publish, publicly available on its publicly available wholesale website.
- 9.3 Where the information which Eircom is required to be published under this Decision Instrument is of a confidential and/or commercially/competition sensitive nature, Eircom shall restrict access to such information to Access Seekers availing of PIA from Eircom or who have a demonstrable intention to avail of PIA using appropriate means, such as publication on a password-protected or restricted section of its website and subject to such reasonable terms and conditions as may be required in light of the nature of the information concerned, including a requirement to enter into a Non-Disclosure Agreement, and in accordance with any directions which ComReg may make.

### **PIARO and other information to be published**

- 9.4 Without prejudice to the generality of Section 9.1 within seven (7) months of the Effective Date and having notified ComReg at least one (1) month in advance, Eircom shall publish a separate Reference Offer for Access to its Physical Infrastructure ("**Physical Infrastructure Access Reference Offer**" or "**PIARO**") which shall be sufficiently unbundled so as to ensure that Access Seekers availing of PIA are not required to pay for products, services or Associated Facilities that are not necessary for the Access requested and in particular include at least the following:

- (i) A description of the offer of contract for Access broken down into components according to market needs including without limitation relevant charges, terms of payment and billing procedures;
  - (ii) A description of any associated contractual or other terms and conditions for supply of Access and use including a description of each product offered (“**Product Description**”) and a “**PIARO Price List**” setting out applicable prices, for each of the products and Associated Facilities provided further to Section 7;
  - (iii) Subject to Section 9.3 as the case may be, a description of technical characteristics and engineering or technical standards for network access, including any technical usage restrictions and other security issues, to include accreditation and audit requirements, that are relevant to Access to Eircom’s Physical Infrastructure;
  - (iv) SLAs;
  - (v) Detailed description of operational processes, including in particular:
    - (a) Pre-ordering, ordering, provisioning and service assurances processes;
    - (b) Rules of allocation of space between the parties when co-location space is limited;
    - (c) Repair and maintenance processes;
    - (d) IT systems in such detail that Access Seekers may independently perform any development that they require to avail of Access.
- 9.5 Eircom shall ensure that invoices for products, services and Associated Facilities within the Relevant Market are sufficiently disaggregated, detailed and clearly presented such that an Access Seeker availing of PIA can reconcile invoices to Eircom’s PIARO and PIARO Price Lists.
- 9.6 Without prejudice to the generality of Section 9.1 and by way of further specification of Eircom’s obligation of transparency at Section 9.1, Eircom shall within seven (7) months of the Effective Date, publish and thereafter keep up-to-date, subject to Section 9.3 as the case may be, the following information:
- (i) A full, true and accurate description of all systems and processes relied upon for the provision of Access to Physical Infrastructure to itself, its subsidiaries, partners and affiliates (to include for the avoidance of doubt any systems and processes relied upon by

third party contractors) and Access Seekers, including without limitation the systems and processes used for pre-ordering, ordering, provisioning, fault reporting and repair for PIA (**“Systems and Processes Description”**);

- (ii) A full, true and accurate description of the product development process relied upon by Eircom to meet Access requests including a description of all process steps and activities to include the points where Eircom decides to advance, delay or terminate the development of a product, service or Associated Facility (the **“Product Development Decision Points”**) and any key stages in the analysis, design, development and launch, and the date on which the product, service or Associated Facility will be made available (together, **“Milestones”**) from receipt of a written request for Access to launch;
- (iii) The list of all proposed, planned and in progress developments in respect of each Access request identified by their unique reference, a summary and a link to relevant documentation (hereafter, the **“Product Development Roadmap”**), which Eircom shall keep up-to-date on an ongoing basis with the information set out in Section 10.3(iii)(b) and the timelines at Section 10.3(iii)(e)II);
- (iv) The prioritisation process and the criteria used by Eircom in reaching decisions with respect to the prioritisation of product developments relative to each other (**“Prioritisation information”**);
- (v) Further to Section 9.4(iii), the Engineering, Planning and Design Rules in relation to Access to PI including without limitation:
  - (a) All rules that an Access Seeker’s network design must adhere to;
  - (b) The parameters (including without limitation maximum dimensions allowed) of sub-ducts, cables and equipment that can be used in or on Ducts, Sub-Ducts, Chambers and Poles;
  - (c) The methodology used by Eircom for calculating spare capacity in Ducts and Chambers, and space on Poles;
  - (d) The specification of the physical characteristics of sub-duct, cables and equipment;
  - (e) The specification of the physical characteristics of ancillary materials which may be used in relation to the deployment of sub-ducts, cables or equipment;

- (f) The rules with respect to the placement of sub-duct, cables and equipment in Ducts, Sub-Ducts, Chambers and on Eircom's Poles;
- (g) All workmanship standards that are to be adhered to, and
- (h) All rules with respect to how Ducts, Sub-Ducts, Chambers and Poles can be physically accessed including without limitation cutting into Sub-Ducts for Ingress and Egress and with respect to remediation of PI.

#### **Amendments, Notification and publication timelines/Change control**

- 9.7 Subject to Section 9.3 and Section 9.9, Eircom shall keep the PIARO, PIARO Price List and the Systems and Processes Description, the Prioritisation information and the Engineering, Planning and Design Rules up-to-date on its publicly available website.
- 9.8 Eircom shall ensure that the following, in searchable format, is available on its publicly available website;
- (i) A current, unmarked, version of the PIARO and PIARO Price List;
  - (ii) A marked version of the PIARO and PIARO Price List tracking changes as against the previous version such that all changes are readily identifiable;
  - (iii) A PIARO Change Matrix listing all of the amendments made to the PIARO over time, including dates at which amendments were made;
  - (iv) A PIARO Price List Change Matrix listing all of the amendments made to the PIARO Price List including dates at which amendments were made; and
  - (v) A copy of historic versions of its PIARO, PIARO Price List, PIARO Change Matrix and PIARO Price List Change Matrix.
- 9.9 Save as provided for in Section 9.10, or save as otherwise agreed in writing with or directed by ComReg, Eircom shall not introduce new products, services or Associated Facilities or make amendments to existing products, services or Associated Facilities without first amending accordingly the documents that it is required to publish under this Decision Instrument including without limitation, the PIARO, PIARO Price List, the Systems and Processes Description, the Prioritisation information and the Engineering, Planning and Design Rules, and may not alter the manner in which Access is provided or make changes to the documents, without first publishing at least two (2) months in advance of coming into effect, any proposed amendments or changes, having notified ComReg in writing with the

information to be published at least one (1) month in advance of any such publication taking place.

- 9.10 By way of exception to the requirements set out in Section 9.9, Eircom shall not introduce new products, services or Associated Facilities or make amendments to existing products, services or Associated Facilities and make the required amendments to the documents that it is required to publish under this Decision Instrument where they involve changes to Eircom's IT systems such that Access Seekers will require to carry out development work to their own IT systems in order to continue to avail of Access to Eircom's Physical Infrastructure on a like for like basis or avail of new or amended products, service or Associated Facilities, without first publishing at least six (6) months in advance of coming into effect, save as otherwise agreed in writing with or directed by ComReg, the proposed amendments or changes, having notified ComReg in writing with the information to be published together with a justification for the changes necessitating Access Seekers to carry out development work to their own IT systems, at least one (1) month in advance of any such publication taking place.

#### **PI Rollout Plan**

- 9.11 Without prejudice to the generality of Section 9.1, and subject to Section 9.3, Eircom shall within three (3) months of the Effective Date publish information in a single consolidated file regarding the routes where Eircom is to deploy, or have deployed, new PI, being new PI extending or adding to existing PI or remediating existing PI resulting in a change to the PI's characteristics ("**PI rollout plan**"), including;
- (i) The route where PI is to be deployed (Pole, Duct and Sub-Duct) including the Object IDs and in the case of Poles, the x and y coordinates of the Poles, and, in the case of Ducts and Sub-Ducts, the location of the start and end points of individual Duct and Sub-Duct segments;
  - (ii) Attribute information including the number and size of Ducts and Sub-Ducts to be deployed on each route; and
  - (iii) The planned and, as soon as it is available, actual Ready for Order Date for the planned infrastructure, subject always that the Ready for Order date shall be set no earlier than one (1) month from the date on which the PI has been verified by Eircom as being complete in the field and can be ordered and utilised for the installation of cables, sub-ducts and equipment. Neither Eircom nor Access Seekers may use or reserve such PI prior to the Ready for Order date.

9.12 Eircom shall keep the PI roll out plan and the information listed in Section 9.11 up-to-date and to that effect publish (subject to Section 9.3), an updated PI rollout plan on a monthly basis and ensure that:

- (i) All decisions in respect of the deployment of PI are reflected in the PI roll-out plan as soon as practicable, and
- (ii) The PI roll-out plan at all times accurately reflects any progress in PI route deployment status.

## **10 PRODUCT DEVELOPMENT PROCESS REQUIREMENTS**

10.1 Further to Eircom's obligations under Sections 7, 8, 9 and 11.1, save where the Access request is not reasonable, Eircom having provided objective and adequate reasons therefor in accordance with Section 7.2 as soon as reasonable and in any event within one (1) month of receiving the Access request, Eircom shall ensure that the request is met and a new product, service or Associated Facility developed or an existing product service or Associated Facility amended, as the case may be, in each case together with an SLA meeting the requirements of Section 11.1:

- (i) Save where another timeline is agreed with or directed by ComReg, within ten (10) months of receiving the request, the notification requirements set out in Section 9.9 having been complied with; or
- (ii) Save where another timeline is agreed with or directed by ComReg, within fourteen (14) months of receiving the request, the notification requirements set out in Section 9.10 having been complied with.

10.2 Eircom shall make available a clear, non-discriminatory and transparent process for requesting the development of new forms of Access in the Relevant Market, including new products, service or Associated Facilities including SLAs and amendments to existing products, services and Associated Facilities including SLAs and such process shall apply, for the avoidance of doubt, to requests for SLAs or amendments to SLAs made independently of a request for a new or amended product, service or Associated Facilities.

10.3 For the purposes of Section 10.2, Eircom shall make available a product development process which meets the following requirements:

- (i) The process applies in respect of any developments requested by an Access Seeker, or by Eircom, its subsidiaries or partners;
- (ii) It is a requirement that Access requests are made in writing;

- (iii) The product development process provides for the exchange as soon as practicable and at appropriate times, of information with the Undertaking that has made the written request (“**the requestor**”) and other Undertakings including at the minimum in all cases:
- (a) An acknowledgement to the requester of receipt of the request providing a unique reference number identifying the request;
  - (b) Provision of a copy of the request to Access Seekers with the allocated reference number of the request and a description of the key features and functionality requested;
  - (c) A description of the matter or matters in respect of SLAs that require negotiations and the timelines governing the negotiations (“**the SLA Negotiation Period**”);
  - (d) A status update including:
    - I. An outline of the product, service or Associated Facility proposed in response to the Access request including, as the case may be, any aspects which do not fully meet the requestor’s requirements and the objective reasons therefor;
    - II. The product development timelines including expected notification, publication and launch dates, and where Eircom anticipates at that stage that IT developments on the part of Access Seekers may be required, the objective reasons therefor;
    - III. The priority level granted to the request with detail of the input value and calculations used by Eircom for the prioritisation of the request, any impact on the development timelines for other Access requests and where other Access requests are reprioritised as a result, the objective reasons therefor;
  - (e) A timetable for engagement and negotiations as regards the Access request including the times at which the requestor and other Access Seekers are required to provide information or clarifications or comments including as part of the SLA Negotiation Period (“**the engagement timetable**”) outlining the manner in which Eircom will consult and seek inputs from the requestor and other Undertakings on the product requirements or SLAs and the timelines therefor in respect, in particular, of the matters described in Section 10.3(iii)(a) to (d), noting that in all cases, save where otherwise agreed with, or directed by



ComReg, Eircom shall ensure, as soon as practicable and in any event within the timelines below, that:

- I. An Access request is acknowledged, and a unique reference provided, within no more than three (3) working days from receipt of the Access request;
- II. The information set out in Section 10.3(iii)(b) and (c) including the SLA Negotiation Period, the engagement timetable are provided within no more than fifteen (15) working days of receipt of the Access request;
- III. The status update referred to in Section 10.3(iii)(d) is provided within no more than eighty-five (85) working days of receipt of the Access request;
- IV. In the absence of agreement between the negotiating parties, the SLA Negotiation Period lasts for no more than six months from receipt of the Access Request and ends with Eircom making a Best and Final Offer (“**BAFO**”).

## **11 SERVICE LEVEL AGREEMENTS**

11.1 Eircom shall ensure that a legally binding, fit-for-purpose, SLA which encourages an efficient level of performance on the part of Eircom is attached to each product, service and Associated Facility made available under this Decision Instrument from the time that the product, service and Associated Facility is available and subsequently kept up-to-date and fit for purpose.

11.2 In meeting its obligation under Section 11.1, Eircom shall:

- (i) Negotiate proactively, in good faith, with Undertakings, on their requirements be it in respect of a new SLA or an amendment to an existing SLA and to that purpose meet the further requirements set out in Section 11.3 as may be amended or further specified by ComReg from time to time;
- (ii) Ensure that SLAs are sufficiently detailed and include, without limitation, the following provisions:
  - (a) An obligation on Eircom to compensate failure to meet agreed service levels by way of payment of Service Credits such that the Service Credits cover, at a minimum, the direct costs and any other reasonable loss of value incurred by the Access Seeker concerned and provide Eircom with sufficient and adequate incentives to meet agreed service levels;

- (b) Details of the specific circumstances upon which Service Credits must be paid by Eircom and the methodology used to calculate the amount of Service Credits owed, including an itemised list of the direct costs and other losses contributing to the Service Credit calculation, supported by clear examples demonstrating the practical application of Service Credits;
    - (c) An obligation on Eircom to apply Service Credits, where payable, automatically and in a timely manner;
  - (iii) Ensure, where provision is made in an SLA for its suspension, that suspension may only be triggered on the basis of objectively defined and measurable parameters, and that full details are set out as to the specific circumstances which may trigger such suspension, all the terms and conditions governing the suspension, and the procedural requirements to be followed for suspension. Where suspension of an SLA occurs, Eircom shall, in accordance with the requirements of this section, report to Access Seekers on the basis of such suspension and the parameters relied upon.
- 11.3 Eircom shall ensure that negotiations for the conclusion or amendment of an SLA as the case may be, are conducted in a fair, reasonable and timely manner and that the matters of Service Credits and SLA suspension are the subject of negotiations during the SLA Negotiation Period.
- 11.4 Where no agreement is reached the SLA Negotiation Period shall conclude with Eircom making available to the requestor or Undertakings involved in the negotiation its best and final offer (“**BAFO**”) within the timelines set out in the engagement timetable referred to in Section 10.3(iii)(c) (subject always to Section 10.3(iii)(e)(e)IV)), and the BAFO shall enter into force and replace as the case may be any SLA it amends, within three (3) months of its notification to ComReg in accordance with Section 9.9 or within seven (7) months of its notification to ComReg in accordance with Section 9.10 as the case may be, save where Eircom has applied, setting out reasons therefor, for an extension and ComReg, at its sole discretion, has granted same, or in the case of an SLA or an amendment to an SLA for a new product or an amendment to a product, on the date the new or amended product, service or Associated Facility is launched.
- 11.5 Further to its obligation of transparency set in Section 9, Eircom shall:
- (i) Publish concluded SLAs or when no SLA is formally agreed, the SLA reflecting the BAFO required under Section 11.4;

- (ii) Within two (2) months of the end of each Quarter, publish a report setting out the actual performance achieved in each of the three (3) previous months in respect of all Access Seekers compared to the committed service levels contained in the relevant SLA for the products, services and Associated Facilities referred to in Section 7;
  - (iii) Having regard to Section 11.5(ii), publish and maintain a report detailing the methodology applied, the source data used and explanations on how the source data was processed by Eircom including worked examples as to how the processed source data relates to the actual performance achieved.
- 11.6 Unless otherwise agreed with ComReg, within seven (7) months of the Effective Date Eircom shall ensure that any and all existing Service Level Agreements SLAs in respect of products, services and Associated Facilities in the Relevant Market meet the requirements of this Section 11.

## 12 KEY PERFORMANCE INDICATORS

- 12.1 Further to Eircom's obligations under Sections 7, 8 and 9, Eircom shall, on a Quarterly basis, monitor its performance in respect of its provision of PIA in the Relevant Market, including PIA which Eircom consumes for its own purposes.
- 12.2 For the purpose of Section 12.1, Eircom shall commence monitoring performance of PIA on the first day of the first Quarter seven (7) months after the Effective Date (the "**Implementation Date**"), or as otherwise agreed in writing with or directed by ComReg, having documented in full and published, the processes used for gathering, processing, and reporting KPI ("**the KPI processes**") in accordance with Section 12.3 and as may be further specified by ComReg from time to time, and Eircom shall maintain all such documentation up to date on its publicly available website.
- 12.3 For each Quarter from the Implementation Date, Eircom shall collect the data that is necessary for monitoring the performance of PIA ("**Quarterly Data**"), including in respect of any existing product, service or Associated Facilities, or new products, services or Associated Facilities from launch, in terms of the following indicators:
- (i) Ordering,
  - (ii) Provisioning by reference to provisioning process points, and
  - (iii) Faults and Repair

And measure performance by reference to appropriate performance metrics (hereafter "**KPI Metrics**") as may be further specified by ComReg from time to time.

- 12.4 Eircom shall ensure that the KPI metrics are calculated on the basis of the full set of the Quarterly Data as collected and in accordance with the KPI processes.
- 12.5 From the Implementation Date, for each Quarter and within two months of the end of the Quarter to which the KPI Metrics relate, Eircom shall publish a KPI Report setting out the KPI Metrics and source data used to arrive at the KPI Metrics, and ComReg may vary or further specify requirements related to the KPI Metrics and KPI Report from time to time.

### **13 OBLIGATION OF ACCOUNTING SEPARATION**

- 13.1 Eircom shall maintain separated accounts in respect of the products, services and Associated Facilities in the Relevant Market.
- 13.2 Without prejudice to the generality of Section 13.1, Eircom shall comply with the requirements set out in the Decision Instrument annexed to ComReg Decision D08/10 (as may be amended from time to time) and further and for the purpose of such requirements, Eircom shall:
- (i) Ensure that the HCAs distinguish between PIA related costs and revenues associated with assets in the ownership of FNI and those in the ownership of Eircom;
  - (ii) Prepare a separate Income Statement, Statement of Mean Capital Employed and a Statement of Average Cost and Revenue by Service for PIA which distinguishes between Eircom and FNI, and disaggregated between internal and external use;
  - (iii) No later than seven months after the end of Eircom's financial year, provide ComReg with, and publish on the same day, an annual statement for Poles and an annual statement for Ducts in the format set out in Schedules 3 and 4 respectively, and an annual statement on PIA Network Volumes and PIA Duct Remediation in the format set out respectively in Schedule 5 and Schedule 6, having followed the procedure which governs the provision of Additional Financial Information contained in the Decision Instrument annexed to ComReg Decision D08/10.

### **14 OBLIGATIONS RELATING TO PRICE CONTROL AND COST ACCOUNTING**

#### **Cost orientation**

- 14.1 Eircom shall ensure that the prices it charges for Access to its Pole and Duct networks, as well as Access to Dark Fibre, in accordance with Section 7 are cost-oriented, as may be further specified by ComReg from time to time.

## Further specification

### Annual Rental and One-Off Charges

14.2 For the purpose of Section 14.1 and as may be varied or amended by ComReg from time to time, in respect of Pole Access, Duct Access, Sub-Duct Access and Direct Duct Access, Eircom shall recover from Access Seekers no more than the costs of Access calculated in accordance with the PAM and DAM, as applicable, by way of the maximum annual rental charge further specified below, save that Eircom may recover by way of one-off charges efficiently incurred costs in respect of the following:

- (i) The costs associated with processing a PIA order ("**Process costs**")
- (ii) The costs associated with Pole Furniture removal and replacement ("**Pole Furniture costs**")
- (iii) Tree trimming costs associated with preparing aerial cable routes in advance of cable deployment ("**Tree trimming costs**") which costs exclude for the avoidance of doubt tree trimming costs associated with pole replacement,

Eircom having notified ComReg and published in accordance with the timelines set out in Section 14.12:

- (iv) In respect of the Process costs, a Process Costs List setting out each and all applicable charges and the justification therefor;
- (v) In respect of the Pole Furniture costs, a Pole Furniture Charge List setting out each and all applicable charges and detail of how they have been derived;
- (vi) In respect of the Tree trimming costs, a Tree Trimming Charge List setting out each and all applicable charges and detail of how they have been derived.

14.3 For the avoidance of doubt no charges other than those provided for under Section 14.2 may be raised by Eircom in respect of PIA unless and until Eircom demonstrates in advance to ComReg's satisfaction that any such additional charges are required for the purpose of ensuring the cost orientation of prices and Eircom has complied with the requirements of Section 9.9.

### Maximum Annual Rental Charge for Pole Access

14.4 Eircom shall ensure that the annual rental price for Access to a Pole is no more than the cost of a Pole calculated in accordance with Section 14.5 divided by the number of Undertakings availing of that Pole.

- 14.5 For the purpose of Section 14.4, the cost of Pole Access shall be the total annual costs incurred by an efficient operator providing Physical Infrastructure Access as set out in the Pole Access Model calculated as a national average on the basis of a combination of Top-Down HCA (calculated on a Fully Allocated Cost basis) and BU-LRAIC+ cost methodologies reflecting the proportion of Reusable and Non-Reusable Poles respectively, divided by the total number of Poles, resulting for the period five years from the Effective Date in the following maximum annual costs per Pole:

<b>TABLE 1 – Maximum annual national cost for Pole Access (€)</b>	
<b>1 July 2022 – 30 June 2023</b>	21.23
<b>1 July 2023 – 30 June 2024</b>	21.89
<b>1 July 2024 – 30 June 2025</b>	22.36
<b>1 July 2025 – 30 June 2026</b>	22.91
<b>1 July 2026 – 30 June 2027</b>	22.60

#### Maximum Annual Rental Charge for Duct Access and Direct Duct Access

- 14.6 Subject to Section 14.8, Eircom shall ensure that the annual rental charge for Duct Access is no more than the cost per metre of Duct calculated in accordance with Section 14.7 and is applied such that:
- (i) An increase in usage will result in an equivalent percentage increase in the Duct charge, save that a minimum charge shall apply in respect of Duct Access utilising up to a cross-sectional area in a Duct equivalent to a sub-duct with a diameter of 25mm; and
  - (ii) No charge is raised in respect of those segments of a Duct which are not used by an Access Seeker, including in those situations where Eircom maintains segments of a Duct will not be used as a result of the Access User availing of Access to another segment of the Duct.

- 14.7 For the purpose of Section 14.6, the cost of Duct Access shall be the total annual costs incurred by an efficient operator providing Physical Infrastructure Access as set out in the Duct Access Model calculated as a combination of Top-Down HCA (calculated on a Fully Allocated Cost basis) and BU-LRAIC+ cost methodologies reflecting the proportion of Reusable and Non-Reusable Ducts respectively, divided by the total number of metres of duct, and allocated according to the geographic area of the Urban Exchange Area or the Non-Urban Exchange Area and according to the surface type of carriageway, footway or verge, resulting for the period five years from the Effective Date in the following maximum annual charges:

<b>TABLE 2 – Duct Access/Direct Duct Access – Maximum annual cost €/ Per metre</b>						
	<b>Carriageway</b>		<b>Footway</b>		<b>Verge</b>	
	<b>Urban</b>	<b>Non-Urban</b>	<b>Urban</b>	<b>Non-Urban</b>	<b>Urban</b>	<b>Non-Urban</b>
<b>1 July 2022 – 30 June 2023</b>	0.92	0.79	0.71	0.61	0.44	0.38
<b>1 July 2023 – 30 June 2024</b>	0.92	0.79	0.71	0.61	0.44	0.38
<b>1 July 2024 – 30 June 2025</b>	0.90	0.78	0.70	0.61	0.43	0.38
<b>1 July 2025 – 30 June 2026</b>	0.88	0.76	0.69	0.59	0.42	0.37
<b>1 July 2026 – 30 June 2027</b>	0.86	0.74	0.67	0.58	0.41	0.36

- 14.8 Eircom shall ensure that Access Seekers have the choice of the following options in terms of the annual rental charge for the recovery by Eircom of the costs calculated in accordance with Section 14.7:
- (i) Eircom charges the full annual rental charge in accordance with Table 2 and undertakes Duct remediation work, and bears the costs of same save that Eircom may recover the reasonable remediation costs in excess of [€11,000] per kilometre of Duct from the Access Seeker;
  - (ii) The Access Seeker undertakes the Duct remediation work and Eircom charges the full annual rental charge in accordance with Table 2 and reimburses the Access Seeker the reasonable remediation costs up to a maximum of [€11,000] per kilometre of Duct;
  - (iii) Eircom undertakes Duct remediation work and recovers Duct remediation costs outside of the annual rental charge in which case Eircom shall charge no more than the maximum annual rental charge set out in Table 2 discounted by [30%]; and

- (iv) The Access Seeker undertakes the Duct remediation work and bears the cost of same and Eircom charges no more than the maximum annual rental charge set out in Table 2 discounted by [30%].

#### Maximum Annual Rental Charge for Sub-Duct Access

- 14.9 Eircom shall ensure that the annual rental charge for Sub-Duct is no more than the cost per metre of Sub-Duct, calculated by adding to the cost per metre of Duct, calculated in accordance with Section 14.7, the annual incremental cost per metre of Sub-Duct set out for each year in Table 3:

<b>TABLE 3 – Sub-Duct Access – Incremental annual cost of a Sub-Duct €/ Per metre</b>				
<b>1 July 2022 – 30 June 2023</b>	<b>1 July 2023 – 30 June 2024</b>	<b>1 July 2024 – 30 June 2025</b>	<b>1 July 2025 – 30 June 2026</b>	<b>1 July 2026 – 30 June 2027</b>
0.08	0.08	0.08	0.08	0.08

- 14.10 Eircom shall ensure that Access Seekers have the choice of the options listed at Section 14.8(i) and (iii) in terms of the annual rental charge for the recovery by Eircom of the costs calculated in accordance with Section 14.9.

#### Implementation Date, Notification and Publication

- 14.11 The maximum rental charges set out in Table 1, Table 2 and Table 3 shall apply from the first day of the third month following the Effective Date.
- 14.12 Eircom shall publish applicable annual rental charges and any one-off charges to apply in accordance with Section 14.2 on the first day of the second month following the Effective Date, having notified ComReg of such charges including the Process Costs List, the Pole Furniture Charge List and the Tree Trimming Charge List as the case may be within two (2) weeks of the Effective Date. Any amendments thereafter shall be governed by the notification and publication requirements set out in Section 9.9.

#### Cost Accounting

- 14.13 For the purpose of Eircom's obligation of cost-orientation set out in Section 14.1, Eircom shall maintain appropriate cost accounting systems in respect of products, services and Associated Facilities in the Relevant Market.
- 14.14 Without prejudice to the generality of Section 14.13, Eircom shall ensure that information in its cost accounting systems:
- (i) Reflects the forms of PIA required to be made available or provided by Eircom and records for each, the revenues, costs and volumes, including associated cost allocation rules, as appropriate;



- (ii) Separately identifies the costs recovered by one-off charges in accordance with Section 14.2 in respect of the categories of one-off charges listed in Section 14.2 and for Duct remediation costs, in respect of the individual Access Seekers to whom they are charged;
- (iii) Identifies whether costs and revenues are in respect of assets that are Eircom's (non-FNI) or FNI's.

## 15 REGULATORY GOVERNANCE

- 15.1 Eircom shall have in place transparent regulatory governance arrangements which facilitate effective and non-discriminatory provision of Access by Eircom to its Pole and Duct networks in accordance with the requirements of this Decision Instrument.
- 15.2 Without prejudice to the generality of Section 15.1, within three (3) months of the Effective Date, Eircom shall submit to ComReg a written statement of compliance ("**Statement of Compliance**") signed by a Director or Directors of Eircom authorised to provide such statements on behalf of the Board of Directors of Eircom which includes the following:
- (i) A statement:
    - (a) That the Directors acknowledge that they are responsible for Eircom securing compliance with its regulatory obligations;
    - (b) Confirming that, in their opinion, arrangements, structures and internal controls are in place that provide reasonable assurance that Eircom is compliant with its obligations as set out in this Decision Instrument;
    - (c) Explaining the basis upon which the confirmation in subparagraph (b) above is made, including a description of the information relied upon, and the process followed, by the Directors for that purpose;
  - (ii) A description and explanation of the governance measures implemented by Eircom to ensure that it is, and remains, in compliance with the obligations set out in this Decision Instrument;
  - (iii) A description of the methodology followed to identify risks of noncompliance with the obligations imposed in Sections 7 to 14 of this Decision Instrument (the "**regulatory risks**") and to develop the controls required to manage the regulatory risks including in particular by reference to identifying, employing and relying on adequate expertise, material and information.

- (iv) A detailed description of the regulatory risks identified utilising the methodology described in Section 15.2(iii) above for all PIA products, services and facilities in the Relevant Market, including without limitation, in respect of the following activities:
  - (a) Pre-provisioning, provisioning and service assurance;
  - (b) Product development including product enhancements, and pre-product development screening of Access requests;
  - (c) Product prioritisation and investment decisions;
  - (d) Access to shared resources including IT and product development resources, and
  - (e) The management of confidential information, in conformance with regulatory requirements.
- (v) A detailed description of the controls developed to manage the regulatory risks, including:
  - (a) A description of the relationship of each control to the underlying regulatory risk;
  - (b) A description of the process used to assess the adequacy and effectiveness of the controls;
  - (c) A description of the operation of controls including the method employed by Eircom to record and store the data produced when controls are operated;
  - (d) The identification and description of the repository in which the data from the operation of each control is recorded and stored.
- (vi) For each of the products, services and Associated Facilities reviewed for the purpose of Section 15.2(i) and 15.2(v), a description of the risk analysis and control development process carried out (the “**Process**”), to include the following:
  - (a) The scope of the Process, including in particular:
    - I. A description of the expertise relied upon to identify the regulatory risk and develop the controls required to manage the regulatory risks, by reference to the description of the expertise of the Eircom personnel engaged in the Process, and
    - II. A list of all the material used to identify the regulatory risks and develop the controls required to manage the regulatory risks including without limitation, relevant product documentation, internal process information, risk analysis documentation.

- (b) The outcome of the Process in respect of the identification of regulatory risks, and the justification for the outcome;
  - (c) The outcome of the Process in respect of the development of the controls required to address the regulatory risks identified, and the justification for the outcome, to include:
    - I. A description of the operation of the control, including the frequency of its operation,
    - II. A description of the directory / path details for repository for control evidence.
- 15.3 The documentation referred to in this Section 15 shall be of sufficient clarity and detail to enable ComReg to assess whether Eircom's risk assessment and control and governance measures provide reasonable assurance as to Eircom's compliance with the obligations set out in this Decision Instrument.
- 15.4 Eircom shall keep the Statement of Compliance up to date. In particular, and without prejudice to the generality of this obligation, Eircom shall update, and submit to ComReg, an updated Statement of Compliance, duly dated and signed and meeting the requirements of Section 15.2(i) above, in the following circumstances:
  - (i) Where a material change or material changes are made to any of the documentation and information detailed in this Section 15, within three (3) months of such change or changes being made;
  - (ii) Where a new PIA product, service or Associated Facility, or an amendment to an existing PIA product, service or Associated Facility which falls within the scope of the Relevant Market is introduced, having regard in particular to the requirements in Sections 15.2(iv), 15.2(v) and 15.2(vi), and in accordance with the timeline set out in, and as part of the documentation required for the purpose of Section 9.9, or as otherwise may be required or agreed by ComReg.
- 15.5 Eircom shall ensure that updates or changes to the Statement of Compliance are easily identifiable. For that purpose, Eircom shall operate a standardised regime for the management of changes to the documents contained in, and including, the Statement of Compliance whereby:
  - (i) Different versions of the Statement of Compliance are identified by a number, letter or code, associated with a date and timestamp; and
  - (ii) A record of all changes made to versions of the Statement of Compliance is maintained and incorporated in a dedicated and indexed section in each Statement of Compliance.

- 15.6 Eircom shall publish the Statement of Compliance, and updates to the Statement of Compliance, within one (1) month of providing it to ComReg, unless otherwise agreed with ComReg.

### **PART III - OPERATION AND EFFECTIVE DATE**

#### **16 STATUTORY POWERS NOT AFFECTED**

- 16.1 Nothing in this Decision Instrument 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).

#### **17 WITHDRAWAL OF SMP OBLIGATIONS**

- 17.1 The following sections of the Decision Instrument at Appendix 20 of ComReg Decision D10/18 shall be withdrawn as follows:

- (i) On the Effective Date:
  - (a) Section 7.2(xiii),
  - (b) Section 7.2(xiv),
  - (c) Section 12.8.
- (ii) On the first day of the third month following the Effective Date:
  - (a) Section 12.6,
  - (b) Section 12.7.
- (iii) On the first day of the fourth month following the Effective Date:
  - (a) Section 10.26.

#### **18 MAINTENANCE OF OBLIGATIONS**

- 18.1 Unless expressly stated otherwise in this Decision Instrument, all obligations and requirements contained in Decision Notices and Directions made by ComReg, applying to Eircom, and in force immediately prior to the Effective Date of this Decision Instrument, continue in force and Eircom shall comply with the same.
- 18.2 For the avoidance of doubt, to the extent that there is any conflict between a Decision Instrument dated prior to the Effective Date and Eircom's obligations set out herein, it is the latter which shall prevail.

18.3 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.

## **19 PUBLICATION AND NOTIFICATIONS**

19.1 This Decision Instrument shall be published on ComReg's website, [www.comreg.ie](http://www.comreg.ie) and notified to Eircom on the same day.

## **20 EFFECTIVE DATE**

20.1 The Effective Date of this Decision Instrument shall be the date of its notification to Eircom and it shall remain in force until further notice by ComReg.

**COMMISSIONER  
THE COMMISSION FOR COMMUNICATIONS REGULATION  
THE ... DAY OF ..... 20XX**

## **SCHEDULES**

### **Schedule 1 – URBAN EXCHANGE AREA**

Exchange Code	Exchange name
ABE	ASHBOURNE
AKW	ARKLOW
ATD	ATHLUNKARD
ATY	ATHY
AUV	NAVAN
BBH	BEGGARS BUSH
BDT	BLANCHARDSTOWN
BLA	BALLINA
BLB	BALLYBODEN
BLP	BELCAMP
BNC	BALLINCOLLIG
BND	BANDON
BOF	BALLYBOFEY
BRI	BRAY
BRN	BALBRIGGAN
BSE	BALLINASLOE
BSZ	BETTYSTOWN
BUA	BUNCRANA
CAB	CABRA
CAV	CAVAN
CBR	CASTLEBAR
CCS	CARRICKMACROSS
CEE	CLONEE
CEL	CELBRIDGE
CGI	CARRIGALINE
CHD	CAHERDAVIN
CHF	CHURCHFIELD
CKC	CORK CENTRAL
CLD	NANGOR ROAD
CLK	COOLOCK
CLM	CLONMEL
CLT	CLONTARF
COS	CARRICKONSUIR
COV	COBH
CRA	CROWN ALLEY
CRL	CRUMLIN
CRW	CARLOW
CSR	CEANANNUS
CTY	CASTLETROY
DBC	DROGHEDA
DBN	DOLPHINS BARN
DDK	DUNDALK
DDM	DUNDRUM
DGL	DONEGAL
DGS	DOUGLAS
DLA	DUNLAOGHAIRE

DNU	DROICHEAD NUA
DVA	DUNGARVAN
DYX	DENNEHYS CROSS
ENS	ENNIS
ETY	ENNISCORTHY
FMY	FERMOY
FNG	FINGLAS
FOX	FOXROCK
GAL	GALWAY
GMR	GLANMIRE
GPO	GPO
GRS	GREYSTONES
GRY	GOREY
HYD	HETTYFIELD
KLE	KILDARE
KLN	KILLARNEY
KNY	KILKENNY
LCN	LUCAN
LEX	LEIXLIP
LGA	LOUGHREA
LIS	LISTOWEL
LKD	DOORADOYLE
LKY	LETTERKENNY
LMK	ROCHES STREET
LND	LUCAN
LOD	LONGFORD
MDN	MIDLETON
MER	MERRION
MGN	MONAGHAN
MGR	MULLINGAR
MHZ	MALAHIDE
MLW	MALLOW
MNT	MAYNOOTH
MVW	MERVUE
NAS	NAAS
NNH	NENAGH
NRS	NEW ROSS
NUT	NUTLEY
NWL	NEWLANDS CROSS
NWT	NEWCASTLE WEST
PAL	PALMERSTOWN
PAN	PORTARLINGTON
PGS	PORTLAOISE
PHB	PHIBSBORO
PMK	PORTMARNOCK
PRP	PRIORY PARK
QKR	QUAKER ROAD
RCM	ROSCOMMON

RMS	RATHMINES
ROC	ROCHESTOWN
RSL	ROSLEVIN
RTD	RATHEDMOND
RUS	RUSH
SAN	SANTRY
SGO	SLIGO
SHN	SHANNON TOWN
SHP	SHIP STREET
SKL	SHANKILL
SKS	SKERRIES
SLA	SHANTALLA
SND	SANDYFORD
SNH	SANDYFORD AEH
SRD	SWORDS
SRL	SUMMERHILL
STN	SUTTON
THS	THURLES
TLH	TALLAGHT
TLM	TULLAMORE
TPR	TIPPERARY
TRE	TERENURE
TRM	TRIM
TRR	TRAMORE
TUM	TUAM
TWV	TRALEE
TYC	TYCOR
WAL	WALKINSTOWN
WHI	WHITEHALL
WLW	WICKLOW
WRD	WELLINGTON ROAD
WST	WESTPORT
WTD	WATERFORD
WXD	WEXFORD
YHL	YOUGHAL



**Schedule 2 – NON-URBAN EXCHANGE AREA**

Exchange Code	Exchange name
ABK	ABBEEKNOCKMOY
ABP	CORK AIRPORT IND EST
ABX	ABBEELEIX
ABY	ATHBOY
ACE	ACLARE
ACF	AUGHNACLIFFE
ACL	ANNASCAUL
ACY	ANNACOTTY IND EST
ADA	ARDARA
ADE	ADRIGOLE
ADG	ARDAGH
ADH	ARDAGH
ADL	ADELAIDE ROAD
ADN	ARDRAHAN
ADR	ADARE
ADT	ADAMSTOWN
ADW	ADAMSTOWN CASTLE
ADY	ARDCRONEY
AFD	ASHFORD
AFE	ABBEEFEALE
AFN	ARDFINNAN
AGA	ARIGNA
AGH	AUGHRIM
AGL	AGLISH
AGN	ATHGARVAN
AGY	ANNAGRY
AHA	AHERLA
AHC	AGHANCON
AHH	AHASCRAUGH
AHM	AUGHRIM
AHO	AHERLOW
AHS	ACHILL SOUND
ALD	ARDFIELD
ALE	AYLE
ALS	ALLIHIES
ALW	ALLENWOOD
AME	ARDMORE
ANA	ANABLAHA
ANN	ANNESTOWN
ANR	ATHENRY
ANY	ABBEEYDORNEY
ARA	ARAGLIN
ARC	ARDCLOUGH
ARD	ARDEE
ARL	ARLES VILLAGE
ARN	ARRANMORE

ART	ARDFERT
ARW	ARDREW
ASD	ASDEE
ASN	ASKEATON
ATE	ATHEA
ATH	ATHLONE
ATL	ATHLEAGUE
ATN	ARDATTIN
ATP	ADAMSTOWN THE PADDOCKS
ATS	ATTYMAS
AVA	ARVA
AVO	AVOCA
AYL	ANNAYALLA
BAA	BALLA
BAD	BALLINAFAD
BAE	BALLINAMORE
BAH	BALLAGH
BAI	BLARNEY
BAK	BALLINAKILL
BAL	BALLYHAHILL
BAM	BALLINAMULT
BAN	BALLINEEN
BAR	BARNA
BAS	BALLYGLASS
BAX	BALLYMACAHILL CROSS
BAY	BANTRY
BBA	BALLYBAY
BBE	BOHERBUE
BBN	BALLYBUNION
BBO	BAILIEBORO
BBS	BALLYBRITTAS
BBT	BALLINTUBBERT
BBY	BAWNBOY
BCA	BALLACOLLA
BCE	BALLYCASTLE
BCG	BALLINCURRIG
BCH	BALLYCLOUGH
BCK	BALLYMACKEY
BCL	BALLYCONNELL
BCN	BONNICONLON
BCR	BELCARRA
BCS	BEKAN CROSS
BCY	BALLYCARNEY
BDB	BALLYDEHOB
BDN	BUNDORAN
BDY	BROADWAY
BEE	BRUREE
BEG	BUNBEG

BEN	BALLAGHADERREEN
BER	BREE
BES	BANGOR ERRIS
BEY	BALLYCONNELLY
BFD	BROADFORD
BFF	BALGRIFFIN
BFN	BALLYFORAN
BFO	BURNFORT
BFR	BALLYFERRITER
BFT	BEAUFORT
BGA	BALLYGORMAN
BGE	BRIDGEND
BGH	BALLINAGH
BGL	BALLYGLUNIN
BGN	BALLYAGRAN
BGR	BALLYGAR
BGS	BALTINGLASS
BGT	BALLYGARRET
BGV	BEECHGROVE
BGW	BALLYGAWLEY
BGY	BALLINGARRY
BHE	BALLYHAISE
BHG	BALLYHEIGUE
BHH	BEHAGH
BHL	BIRDHILL
BHM	BINGHAMSTOWN
BHN	BALLYHAUNIS
BHR	BANAGHER
BHS	BALLINHASSIG
BHT	BALLINACLASHET
BHY	BALLYHOOLEY
BIB	BILBOA
BIG	BLACKWATERBRIDGE
BIN	BALLYFIN
BIR	BIRR
BIT	BALINTOGER
BIY	BALLINDERRY
BJD	BALLYJAMESDUFF
BKA	BALLYMAKEERA
BKD	BLACKSOD
BKG	BRACKNAGH
BKN	BLACKLION
BKR	BALLICKMOYLER
BKS	BALLINSKELLIGS
BKT	BRANNOCKSTOWN
BLC	BALLYCOTTON
BLD	BALLYLONGFORD
BLE	BALLINALEE

BLF	BALLYDUFF
BLG	BALLINGARRY THURLES
BLH	BALLINLOUGH
BLI	BLIARY
BLL	BELCLARE
BLN	BALLON
BLO	BALLYNOE
BLR	BLACKROCK
BLS	BALLYLANDERS
BLT	BALLYMOUNT
BLV	BALLYGARVAN
BLX	BALLYALLA CROSS
BLY	BALLINGEARY
BMA	BALLYMACODA
BMD	BALLYDESMOND
BME	BALLYMORE EUSTACE
BMH	BONMAHON
BML	BELMULLET
BMN	BALLYMAHON
BMO	BALLYMOE
BMT	BALLYMACELLIGOTT
BMY	BALLYMACARBERY
BNA	BROSNA
BNE	BALLINDINE
BNG	BARNADERG
BNN	BALLYMONEEN
BNR	BANTEER
BNS	BERRINGS
BNY	BALLYNACARGY
BNZ	BALLYCOOLIN
BOH	BOHOLA
BOK	BORRISOKANE
BOL	BORRISOLEIGH
BON	BOHERLAHAN
BPC	BEAUPARC
BPN	BALLYPOREEN
BPO	BURTONPORT
BRA	BALLINTRA
BRD	BROADFORD
BRE	BALLINROBE
BRF	BROADFORD
BRH	BALRATH
BRM	BROOMFIELD
BRS	BORRIS
BRT	BALLYRAGGET
BRU	BRUFF
BRY	BALLINGARRY
BSA	BANSHA

BSB	BRITTAS BAY BRIDGE
BSH	BALLYSHANNON
BSN	BLESSINGTON
BSO	BORRIS IN OSSORY
BSP	BALLINSPIITTE
BTA	BARNATRA
BTB	BENNETTSBRIDGE
BTE	BALLYMOTE
BTH	BLACKTRENCH
BTM	BALTIMORE
BTN	BARNTOWN
BTR	BALLYTORE
BTS	BRITTAS
BTT	BATTERSTOWN
BTW	BRIDGETOWN
BTY	BUNRATTY
BUB	BUTLERSBRIDGE
BUD	BUNNANADDEN
BUO	BUNCLODY
BUT	BELTURBET
BUY	BUNNACURRY
BVN	BALLYVAUGHAN
BVR	BALLIVOR
BVT	BUTTEVANT
BWG	BWEENG
BWM	BALLYWILLIAM
BWN	BALLINAHOWEN
BWR	BLACKWATER
BXG	BALLINAGAR
BYA	BALLYNABOLA
BYB	BALLYBOUGHAL
BYC	BALLYCULLANE
BYD	BALLYDAVID
BYE	BOYLE
BYF	BALLYFARNAN
BYG	BALLYDANGAN
BYH	BALLYHEAN
BYM	BALLYCUMBER
BYN	BALLYLINAN
BYO	BALLYCONDON
BYR	BALLYCROY
BYS	BALLYSPILLANE
BYV	BALLYVARY
BYW	BALLYMORE
BYX	BARNEYS CROSS
CAA	CORNAMONA
CAE	CLANE
CAG	CRAGGAGH

CAL	CHARLESTOWN
CAM	CARNMORE
CAN	CROGHAN
CAR	CARNA
CAS	CASHEL
CAT	CARRIGART
CAW	CANNINGSTOWN
CAY	CALRY
CBE	CLONBULLOGUE
CBM	CASTLEBELLINGHAM
CBN	COOLBAWN
CBO	COOLBOY
CBT	CLONTIBRET
CBY	CASTLEBLAKENEY
CCE	CLARECASTLE
CCG	COOLCARRIGAN
CCH	CARAGH VILLAGE
CCI	CAPE CLEAR
CCL	CASTLECONNELL
CCM	CASTLECOMER
CCR	CLARA
CDA	CORRANDULLA
CDF	CULDAFF
CDH	CARNDONAGH
CDN	CLIFDEN
CDT	CASTLEDERMOT
CDU	COILL DUBH
CDW	COLDWINTERS
CEN	CLONMELLON
CER	CAHER
CFA	CLOONFAD
CFD	COACHFORD
CFG	CUFFESGRANGE
CFL	CORNAFULLA
CFN	COROFIN
CFO	CARLINGFORD
CFY	CLIFFONY
CGA	CROSSAGALLA
CGE	CLOGHEEN
CGG	CLEGGAN
CGH	CLOGHAN
CGL	CARAGH LAKE
CGM	CREGMORE
CGN	CASTLEGARREN
CGS	CREGGS
CGY	CASTLEGREGORY
CHA	CLOGHANE
CHE	CRUSHEEN

CHG	CASTLETOWNGEOGHAN
CHH	CLOGHERHEAD
CHL	CHURCHILL
CHR	CAHIR
CHT	CARRIGTWOHILL
CHX	CHURCHCROSS
CID	CASTLEISLAND
CIG	CARRIGALLEN
CIL	CULLAHILL
CIM	CARRIGANIMMY
CIN	CASTLEFIN
CIS	CLARE ISLAND
CJN	CLOUGHJORDAN
CKE	CLONKEEN
CKH	CLONSKEAGH
CKN	CARRICKONSHANNON
CKO	COOLKENNO
CKW	CROOKEDWOOD
CKY	CLONAKILTY
CLA	CLARINA
CLB	CLONBERN
CLC	CLONROCHE
CLE	CLOYNE
CLG	CLAREGALWAY
CLH	CLERIHAN
CLL	COLEHILL
CLN	CALLAN
CLO	CURRACLOE
CLR	CLONLARA
CLS	CASTLELYONS
CLU	CLOONE
CLW	COLLINSTOWN
CLY	COLLOONEY
CMA	CROSSMOLINA
CMK	CARROWMORELACKEN
CML	CAMOLIN
CMN	CASTLEMAHON
CMO	CLASHMORE VILLAGE
CMP	CAMP
CMR	CASTLEMARTYR
CMS	CLAREMORRIS
CMY	CLONMANY
CNA	CLONDRA
CNB	CLONBUR
CNE	CLONES
CNG	CONG
CNR	CARNAROSS
CNS	CARRIGANS



CNV	CARRIGNAVAR
CNW	CARNEW
CNX	CLONBANIN CROSS
CNY	COOLANEY
COG	CLOGHAN
COL	COLBINSTOWN
CON	COLLON
COO	COON
COT	COOTEHALL
COU	CLOUGH
COY	CONVOY
CPH	CAPPAGH
CPL	CAMPILE
CPM	CAPPAMORE
CPN	CAPPOQUIN
CPO	CAPPOGUE
CPT	CASTLEPLUNKETT
CPW	CAPPAWHITE
CPX	COLPE BUILDING
CRC	COORACLARE
CRD	CAHERDANIEL
CRE	CASTLEREA
CRF	CLOGHANS
CRK	CARRICK
CRM	CROOM
CRN	COOLRAIN
CRO	CARRAROE
CRR	CARRON
CRT	COURTOWN HARBOUR
CRV	CROSSHAVEN
CRY	CARBURY
CSA	COLLINS LANE
CSB	CASTLEBRIDGE
CSE	CLONASLEE
CSH	CREESLOUGH
CSJ	CASTLEJORDAN
CSK	CROSSAKIEL
CSL	CASHEL
CSO	COSTELLO
CSP	CASTLEPOLLARD
CSS	CASTLESHANE
CSW	CASTLETOWN
CSY	CASTLEBLAYNEY
CTB	CASTLETOWNBERE
CTD	CASTLETOWNSHEND
CTE	CRATLOE
CTH	COURTLOUGH
CTL	COOTEHILL

CTN	CLEARISTOWN
CTW	CARLANSTOWN
CUA	CURRANE
CUB	CURRAGHBOY
CUR	CURRAGH CAMP
CUS	CUSTOMS HS DOCKS
CUX	CULLEN
CVN	CAHIRCIVEEN
CVW	CALVERSTOWN
CWD	CHERRYWOOD
CWL	CRAUGHWELL
CWN	CROOKSTOWN
CWT	CITYWEST
CYA	CRETTYARD
CYE	CHERRYVILLE
CYG	CLONYGOWAN
CYW	CLONAKILTY WEST
DAH	DONORE RD
DAP	DUBLIN AIRPORT
DBG	DOONBEG
DBR	DUBBER
DBT	DONABATE
DCE	DOIRE CHONAIRE
DCK	DUNCORMICK
DCL	DRUMCOLLOGHER
DCN	DUNCANNON
DDA	DONADEA
DDT	DUNDRUM
DDY	DUNDERRY
DEZ	DUNBOYNE
DFY	DUNFANAGHY
DGE	DINGLE
DGH	DUAGH
DGN	DAINGEAN
DGY	DUNGOURNEY
DHA	DOONAHA
DHL	DONOHILL
DHR	DROMAHAIR
DKE	DUNKINEELY
DKN	DRUMKEERAN
DLE	DRIMOLEAGUE
DLG	DOOLEEG
DLK	DULEEK
DLO	DUNGLOE
DLR	DUNLEER
DMD	DROMARD
DME	DONOUGHMORE
DMO	DRUMSHANBO

DMR	DUNMORE
DMW	DUNMANWAY
DNA	DRUMSNA
DND	DONARD
DNM	DONAMON
DNN	DRANGAN
DNR	DUNMORE EAST
DNV	DUNLAVIN
DNX	DROMARTIN CROSS
DOM	DONAGHMEDE
DON	DONERAILE
DPF	DEEPPORDE
DRA	DOWRA
DRB	DRINAGH
DRH	DRUMCONRATH
DRI	DRINAGH
DRL	DRUMLISH
DRM	DROMIN
DRS	DURRUS
DRW	DURROW
DSN	DUNSHAUGHLIN
DUK	DRUMKEEN
DUN	DOON
DUR	DUNIRY
DVN	DELVIN
DWT	DROMORE WEST
ECT	EYRECOURT
EDY	EDENDERRY
EFD	ENFIELD
EFI	EFFIN
EFN	ELPHIN
EKY	ENNISKERRY
EMJ	EMMOO JUNCTION
EMN	EDMONSTOWN
EMV	EMYVALE
EMY	EMLY
EPT	EASTPOINT
ERL	ERRILL
ERS	EYERIES
ESK	EASKY
ETN	ENNISTYMON
ETW	EDGEWORTHSTOWN
FBD	FERRYBRIDGE
FBK	FERRYBANK
FBO	FURBO
FCA	FALCARRAGH
FDR	FEDAMORE
FEH	FENAGH

FES	FERNS
FET	FETHARD
FFD	FRESHFORD
FFO	FARRANFORE
FGE	FINUGE
FGH	FEENAGH
FHD	FETHARD ON SEA
FHN	FAHAN
FIN	FINTOWN
FKE	FEAKLE
FLH	FARMLEIGH
FMH	FOURMILEHOUSE
FML	FOULKSMILLS
FMT	FREEMOUNT
FMX	FARMERS CROSS
FNA	FINEA
FNS	FOYNES
FNT	FENIT
FPK	FRENCHPARK
FRB	FERBANE
FRS	FOUR ROADS
FVA	FIVE ALLEY
FWN	FORDSTOWN
FXD	FOXFORD
FXH	FOXHOLE
FYB	FYBAGH
GAR	GARRISTOWN
GBE	GORESBRIDGE
GBH	GLENBEIGH
GBY	GALBALLY
GCE	GREENCASTLE
GCF	GRACEFIELD
GCK	GLENCOLUMBKILLE
GCR	GLENCAR
GDH	GLENDALOUGH
GDN	GOLDEN
GEY	GLENEELY
GGF	GLENGARRIFF
GHL	GEASHILL
GIL	GLENISLAND
GLA	GLANN
GLC	GLENCULLEN
GLF	GLENFARNE
GLI	GLIN
GLN	GOLEEN
GLO	GLENROE
GLS	GLASSLOUGH
GME	GLENMORE

GMH	GRAIGUENAMANAGH
GMI	GLENAMOY
GMY	GLENAMADDY
GNA	GRANARD
GNG	GRANAGH
GNH	GRENAGH
GNK	GLENBROOK
GNO	GREENOGE
GNY	GLENEALY
GRD	GARRANARD
GRE	GRANGE
GRT	GORT
GSL	GEESALA
GSN	GLASSAN
GSX	GOOLDS CROSS
GTA	GORTNAGOWNA
GTN	GURTEEN
GTS	GLENTIES
GUE	GURTNAHOE
GUN	GURTEEN
GVE	GLENVILLE
GWH	GLANWORTH
GWN	GOWRAN
HBN	HERBERTSTOWN
HCS	HOLYCROSS
HCX	HACKBALLSCROSS
HDD	HEADFORD
HFD	HOLLYFORD
HFT	HOLLYFORT
HKN	HACKETSTOWN
HLP	HORSELEAP
HMT	HOLLYMOUNT
HOB	HODSONS BAY
HPD	HEWLETT PACKARD
HPL	HOSPITAL
HRD	HEADFORD
IBF	INISBOFIN
IGE	INISTIOGE
IGH	INCHIGEELAGH
IHR	INISHERE
INC	INCH
INE	INNISCRONE
ING	INAGH
INH	INCH
INL	INTEL
INM	INISMAAN
INR	INVER
INV	INVERIN

INY	INCHYDONEY
ISK	INNISKEEN
ISL	INCH ST LAWRENCE
ISN	INNISHANNON
JKN	JENKINSTOWN
JNN	JOHNSTOWN
JSN	JOHNSTOWN
JTN	JULIANSTOWN
JWL	JOHNSWELL
KAE	KILMAINE
KAP	KNOCK AIRPORT
KAS	KINCASSLAGH
KBD	KILBRIDE
KBE	KILBRIDE
KBK	KILBRECK
KBN	KILBEGGAN
KBS	KILLYBEGS
KBY	KNOCKBOY
KCE	KILRICKLE
KCH	KILCROHANE
KCK	KNOCK
KCL	KILCONNELL
KCN	KESHCARRIGAN
KCO	KILCOMMON
KCR	KILCAR
KCW	KILMACOW
KCY	KILCONLY
KDH	KILLINADRISH
KDK	KILDALKEY
KDN	KILDANGAN
KDO	KILDIMO
KDT	KILDYSART
KDY	KILDORRERY
KEH	KILLEIGH
KEK	KILNALECK
KEL	KEEL
KEN	KILKERRIN
KEY	KILKELLY
KFA	KILFENORA
KFE	KILFINANE
KGD	KINNEGAD
KGL	KNOCKNAGOSHEL
KGN	KILCOLGAN
KGT	KINGSCOURT
KGV	KILGARVAN
KGX	KILLERIG CROSS
KHN	KILKISHEN
KIA	KILLEA

KIC	KILCARN
KIH	KILCOHAN
KIK	KILLERISK
KIL	KILL
KIM	KILMEAGUE
KIN	KINLOUGH
KIR	KILLIMOR
KKE	KILKEE
KKL	KEALKILL
KKY	KNOCKADERRY
KLA	KILLALA
KLB	KILBRITTAIN
KLC	KILCULLEN
KLG	KNOCKLONG
KLH	KILLEAGH
KLK	KILLINICK
KLL	KELLS
KLM	KILMINCHY
KLO	KILLALOE
KLR	KILTYCLOGHER
KLS	KELLS
KLU	KILLURIN
KLY	KILMALEY
KMA	KILMACRENAN
KMC	KILMACANOGUE
KMD	KILMEAD
KME	KENMARE
KMG	KILMOGANNY
KMK	KILMALLOCK
KML	KILMIHIL
KMN	KILMEADEN
KMT	KILMACTHOMAS
KMU	KILMUCKRIDGE
KMW	KILMAINHAM WOOD
KMY	KILMEEDY
KNA	KENAGH
KND	KILLENARD
KNE	KILLANNE
KNF	KNOCKFERRY
KNG	KNOCKNAGREE
KNK	KNOCK
KNL	KILLENAULE
KNM	KNOCKMORE
KNT	KINNITY
KOK	KILCOCK
KON	KILLADOON
KOR	KILMORE
KQY	KILMORE QUAY

KRA	KILNAMARTYRA
KRG	KILLORGLIN
KRH	KILRUSH
KRM	KILCORMAC
KRN	KILRONAN
KRR	KILTORMER
KRY	KNOCKCROGHERY
KSA	KILLESHANDRA
KSL	KINSALE
KSN	KILSHEELIN
KSV	KILSHARVAN
KTA	KILTULLA
KTH	KILTIMAGH
KTK	KANTURK
KTM	KILTOOM
KTN	KILTEGAN
KTR	KNOCKTOPHER
KTX	KINEILTY CROSS
KUC	KILLUCAN
KVA	KINVARA
KVN	KILLAVULLEN
KWH	KILWORTH
KYG	KILLYGORDON
KYK	KERRYKEEL
LAG	LEABEG
LAN	LATTIN
LAY	LISMACAFFREY
LBN	LOMBARDSTOWN
LBO	LANESBORO
LBU	LOUISBURGH
LCY	LISSYCASEY
LDA	LABASHEEDA
LDN	LAHERDANE
LED	LITTLE ISLAND
LEG	LEGLINBRIDGE
LEP	LEAP
LET	LEITRIM VILLAGE
LGB	LOUGHBOY
LGN	LOUGHGLYNN
LGW	LOCH GOWNA
LHA	LORRHA
LIF	LIFFORD
LKR	LETTERFRACK
LMB	LEMYBRIEN
LME	LISMORE
LMW	LETTERMACAWARD
LNE	LEENANE
LNF	LINSFORT



LNH	LAHINCH
LNW	LIXNAW
LNK	LISKARNEY
LOS	LOSKERAN
LPN	LYRACROMPANE
LRH	LAURAGH
LRN	LUGGACURREN
LSL	LISCARROLL
LSN	LISSELTON
LTH	LOUTH
LTM	LETTERMORE
LTN	LITTLETON
LTW	LOBINSTOWN
LVA	LISDOONVARNA
LVH	LAVAGH
LVN	LISLEVANE
LWD	LONGWOOD
LWN	LAURENCETOWN
MAH	MAHON
MAL	MALIN
MAM	MAAM
MAN	MARTINSTOWN
MBC	MAYNOOTH BUSINESS CAMPUS
MBG	MUINE BHEAG
MBS	MOUNT BOLUS
MBW	MOUNTBELLEW
MBY	MILLTOWN MALBAY
MCH	MOUNTCHARLES
MCM	MANORCUNNINGHAM
MCN	MOONCOIN
MEE	MAREE
MEN	MEELIN
MFD	MILFORD
MFM	MULTYFARNHAM
MGE	MAGENEY
MGL	MONEYGALL
MHL	MOHILL
MHW	MAUGHERON
MIK	MILTOWN
MIL	MILTOWN
MLA	MULLAGH
MLD	MILFORD
MLE	MOVILLE
MLF	MILFORD
MLH	MULLAGH
MLN	MONAMOLIN
MMK	MOUNTMELICK
MNB	MINANE BRIDGE

MNE	MOYNE
MNH	MENLOUGH
MNK	MONKSLAND
MNU	MOUNTNUGENT
MON	MOONE
MOT	MOATE
MOY	MOYNALTY
MPT	MONEYPOINT
MRM	MACROOM
MRN	MANORHAMILTON
MRO	MURROE
MRW	MACROOM WEST
MRY	MULRANY
MSK	MURRISK
MSN	MITCHELSTOWN
MST	MILLSTREET
MTH	MOUNTRATH
MTK	MOUNTHAWK
MTN	MITCHELSTOWN
MUC	MUCROSS
MUF	MUFF
MUG	MULLENNAGLOUGH
MUK	MUCKLAGH
MUN	MULLINAHONE
MUS	MEANUS
MVA	MONIVEA
MVE	MOYVORE
MVN	MONASTEREVAN
MVT	MULLINAVAT
MYL	MYSHALL
MYN	MOYCULLEN
MYV	MOYVANE
NAL	THE NAUL
NAN	NARIN
NAR	NARRAGHMORE
NBE	NEWBRIDGE
NBS	NEWBLISS
NCE	NEWCASTLE
NCM	NEWTOWNCUNNINGHAM
NCN	NEWCESTOWN
NCV	NEWCASTLE VILLAGE
NGO	NEWTOWNGORE
NHL	NEWHALL
NIN	NEW INN
NMK	NEWTOWNMTKENNEDY
NMN	NORTH MAIN
NMT	NEWMARKET
NOF	NEWMARKET ON FERGUS

NOR	NOBBER
NPT	NEWPORT
NRT	NEWPORT
NRY	NURNEY
NSM	NEWTOWNSHANDRUM
NTC	NEWTOWNCASHEL
NTF	NEWTOWNFORBES
NTW	NEWTOWN
NWN	NEW INN
OBB	OBRIENS BRIDGE
OGO	OGONNELLOE
OGT	OUGHTERARD
OLA	OOLA
OLD	OLDTOWN
OLE	OLDCASTLE
OLT	OULART
OME	ORANMORE
OMH	OMEATH
OWN	OLDTOWN
OYG	OYLGATE
PGN	PALLASGREEN
PGO	PETTIGO
PKW	PARK WEST
PKY	PALLASKENRY
PLL	PULLAGH
PLT	PELLETSTOWN
PME	PORTMAGEE
PNE	PUCKANE
PRE	PARTREE
PRK	PARKE
PRS	PROSPEROUS
PRT	PORTROE
PSG	PASSAGE EAST
PSX	PEDLARS CROSS
PTN	PILTOWN
PTW	PORTLAW
PUA	PORTUMNA
PWC	POWERSCOURT
PWL	PATRICKSWELL
PWN	PAULSTOWN
QPT	QUIGLEYS POINT
QUN	QUIN
QVE	LIFFEY VALLEY
RAN	RAHAN
RAY	RATHDOWNEY
RBE	ROCHFORTBRIDGE
RBT	ROBINSTOWN
RCH	ROCKCHAPEL

RCL	RATHCOOLE
RCN	RATHCABBIN
RCR	RACECOURSE ROAD
RCS	RECESS
RCY	ROSSCARBERRY
RDE	RHODE
RDM	RATHDRUM
RDS	REDCROSS
RFN	RAFFEEN
RFO	RAPHOE
RHS	REDHILLS
RIP	RINGASKIDDY PORT
RIS	RINGASKIDDY
RIV	RIVERSTOWN
RKE	RATHKEALE
RKY	ROCKCORRY
RLC	RATHLUIRC
RLE	ROSSLARE STRAND
RLH	ROSSLARE HARBOUR
RME	RATHMORE
RMK	RATHGORMACK
RMN	RATHMULLEN
RMO	RATHMORE
RMT	RAMELTON
RNG	RING
RNL	ROSENALLIS
RNV	ROSSINVER
ROK	ROCKMOUNT
ROM	ROSCAM
ROT	ROSEMOUNT
RPT	ROSSES POINT
RPY	READYPENNY
RRN	RERRIN
RRX	REARCROSS
RSA	ROSCREA
RSC	ROSSCAHILL
RSK	ROSMUC
RSM	ROSSMORE
RSN	ROBERTSTOWN
RSP	ROSSPORT
RST	ROUNDSTONE
RSY	ROSSOULTY
RTH	RATOATH
RTN	RATHANGAN
RTO	RATHOE
RUN	RUANE
RUY	ROOSKEY
RVD	RAVENSDALE

RVK	RIVERSTICK
RVN	RIVERSTOWN
RVY	RATHVILLY
RWD	ROUNDWOOD
RWH	ROSNOWLAGH
RWN	RATHOWEN
RWR	THE ROWER
RYN	RYLANE
RYX	RAHEY CROSS
SAP	SHANNON AIRPORT
SBE	SIXMILEBRIDGE
SBH	SMITHBOROUGH
SBR	SWANLINBAR
SBY	STRADBALLY
SCF	SCARRIFF
SCK	SHERCOCK
SCL	SCHULL
SCN	SCARTAGLIN
SCT	SCOTSTOWN
SFN	STRAFFAN
SGH	SHILLELAGH
SGN	SHANAGOLDEN
SHE	SHRULE
SHL	STRANDHILL
SHR	SHINRONE
SHY	SHANBALLY
SIL	SILVERMINES
SJR	HEUSTON SOUTH QUARTER
SKB	SKIBBEREEN
SKN	STROKESTOWN
SLE	SLANE
SLS	SALLINS
SML	SUMMERHILL
SNB	SHANNONBRIDGE
SNM	SNEEM
SNO	SHANAOE
SON	STRANODDEN
SPL	SPIDDAL
STD	STRADONE
STH	SCOTSHOUSE
STJ	ST JOHNSTON
STM	STAMULLEN
STY	STRADBALLY
SWD	SWINFORD
TAA	TARA
TAN	TARELTON
TBD	TUBRID
TBL	TOBERELATAN

TBT	TARBERT
TCN	TIERMACLANE
TCY	TUBBERCURRY
TDY	TEMPLEDERRY
TEY	TOURMAKEADY
TFA	TOURNAFULLA
TFN	TERMONFECKIN
TGN	TEMPLEGLANTINE
TGR	TOGHER
THY	TINAHELY
TLA	TULLA
TLE	TIMOLEAGUE
TLN	TULLYALLEN
TLP	TYRRELLSPASS
TLR	TULLOGHER
TLT	TYRRELSTOWN
TLW	TULLOW
TMD	TOMHAGGARD
TME	TEMPLEMORE
TML	TAUGHMACONNELL
TMN	TAGHMON
TMO	TEMPLEOWEN
TMR	TURLOUGHMORE
TMY	TAMNEY
TNE	TEERANEA
TNH	TULLYNAHINERA
TOE	TIMAHOE
TOG	TOGHER
TOO	TOOMEVARA
TOW	TALLOW
TPN	TEMPLEMARTIN
TPY	TEMPLEDTOUHY
TSK	TULSK
TST	TUOSIST
TSW	THE SWAN
TTH	THE HEATH
TTN	THOMASTOWN
TUR	TUBBER
TUX	TULLY CROSS
TVN	TULLYVIN
UGM	UPPER GLANMIRE
URL	URLAUR
VGA	VIRGINIA
VIS	VALENTIA
VMT	VALLEYMOUNT
VTY	VENTRY
WAP	WATERFORD AIRPORT
WFA	WATERFALL

WFD	WOODFORD
WGL	WATERGRASSHILL
WGT	WHITEGATE
WIS	WALSH ISLAND
WKW	WILKINSTOWN
WLN	WOODLAWN
WMN	WILLIAMSTOWN
WOL	WOLFHILL
WPK	WHITEPARK
WTB	WELLINGTON BRIDGE
WTG	WHITEGATE
WVE	WATERVILLE
WXA	WEXFORD ANNE STREET

### Schedule 3 – ANNUAL STATEMENT FOR POLES

#### TEMPLATE 1: POLE INVESTMENTS

	Pole investments			
Entity	Eircom (non-FNI)		FNI	
Demand	<u>Internal demand</u>	<u>External demand</u>	<u>Internal demand</u>	<u>External demand</u>
	<u>Number of poles</u>			
Replacement of poles for Pole access				
Poles replaced for other network operational reasons				
Pole additions				
	<u>Actual pole investment - €</u>			
Replacement of poles for Pole access				
Poles replaced for other network operational reasons				
Pole additions				

Eircom shall provide ComReg with analysis of the quantity and cost relating to investment in poles during the past year indicating if the investments were required to support Pole Access or for other operational reasons such as pole replacement as part of ongoing maintenance programmes, pole additions or to allow Eircom to deploy new cables.

#### TEMPLATE 2: FORECASTS FOR POLE INVESTMENTS

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
Number of poles			
Pole investments			

Eircom shall provide ComReg with the latest available forecast of pole investments for the next three years.



## Schedule 4 – ANNUAL STATEMENT FOR DUCTS

### TEMPLATE 1: DUCT INVESTMENTS

Entity	Duct investments			
	<u>Eircom (non-FNI)</u>		<u>FNI</u>	
Demand	<u>Internal demand</u>	<u>External demand</u>	<u>Internal demand</u>	<u>External demand</u>
	<u>Duct (Trench) lengths</u>			
Remediation of ducts for Duct Access/Direct Duct Access/Sub-Duct Access				
Ducts remediated for other network operational reasons				
Duct (Trench) additions				
	<u>Actual duct investment - €</u>			
Remediation of ducts for Duct Access/Direct Duct Access/Sub-Duct Access				
Ducts remediated for other network operational reasons				
Duct (Trench) additions				

Eircom shall provide ComReg with analysis of the quantity and cost relating to investment in underground CEI during the past year indicating if the investments were required to support duct related access or for other operational reasons such as clearing and repairing ducts to allow Eircom to deploy new cables.

### TEMPLATE 2: FORECASTS FOR DUCT INVESTMENTS

	<u>Year 1</u>	<u>Year 2</u>	<u>Year 3</u>
Length of Ducts (Trench)			
Duct investments			

Eircom shall provide ComReg with the latest available forecast of duct investments for the next three years.

### Schedule 5 – PIA Network Volumes

Eircom shall provide ComReg with the following data:

	PIA Network Volumes								
Entity	Eircom (non-FNI)			FNI			Total Network		
Demand	<u>Internal Demand</u>	<u>External Demand</u>	<u>Total</u>	<u>Internal Demand</u>	<u>External Demand</u>	<u>Total</u>	<u>Internal Demand</u>	<u>External Demand</u>	<u>Total</u>
Number of poles in network ('000)									
By number of users on pole									
1									
2									
Metres of duct in network ('000)									

**Schedule 6 – PIA Duct Remediation**

PIA Duct Remediation							
Entity	<u>Eircom (non-FNI)</u>						
Demand		<u>Internal Demand</u>			<u>External Demand</u>		
	<u>Unit</u>	<u>Volume</u>	<u>Average Cost</u>	<u>Total Cost</u>	<u>Volume</u>	<u>Average Cost</u>	<u>Total Cost</u>
Duct Remediation							
<i>Above [€11k] financial threshold</i>							
<i>Below [€11k] financial threshold</i>							

Entity	<u>FNI</u>						
Demand		<u>Internal Demand</u>			<u>External Demand</u>		
	<u>Unit</u>	<u>Volume</u>	<u>Average Cost</u>	<u>Total Cost</u>	<u>Volume</u>	<u>Average Cost</u>	<u>Total Cost</u>
Duct Remediation							
<i>Above [€11k] financial threshold</i>							
<i>Below [€11k] financial threshold</i>							

# Annex 2: Assessment of various PI Networks

## Introduction

- A 2.1 This annex details the various relevant telecoms<sup>312</sup> and other non-telecoms specific networks against the 8 non-price demand-side PIA product features or characteristics discussed further below and summarised in Table 18. Importantly however, some of these demand-side characteristics have also resulted in an examination of actual and possible supply side characteristics of these networks. These features are primarily based on gauging the physical scope, scale and topologies of these various PI networks, (telecoms-specific and non-telecoms specific), to provide PI to access seekers. For this aspect of our assessment, we have used the associated network maps of current and potential PI suppliers.
- A 2.2 This review incorporates our observations of the features of networks of non-telecoms utilities, some of which already currently provide PIA for wired telecoms network deployment. The types of networks considered here are also those for which views were sought in a QQ sent to various SPs, as to the relevant PIs suitability to support wired Electronic Communication Network ('ECN') deployment.
- A 2.3 ComReg issued this QQ to 15<sup>313</sup> telecoms operators (SPs who own physical networks or use PI of various types) in May 2021, 10 of which responded. Therein, ComReg asked SPs to rank 9 various suggested demand-side characteristics of a PIA product, including price, in terms of importance and their impact on decisions to use various forms of PIA. These characteristics were identified by ComReg following previous meetings with various SPs, utility network owners/operators, and other NRAs<sup>314</sup> (with respondents to the QQ also free to highlight alternative characteristics). Pricing was also identified as a product characteristic in the QQ but it is not included in the review in this annex.

---

<sup>312</sup> We look at those SPs who own PI networks (duct and pole) and for completeness, also consider those who mostly use other SPs' PI, rather than building their own underlying PI networks.

<sup>313</sup> Aurora Networks, BT Ireland, Colt, Eircom, Enet, ESBT, EU Networks, GTT, Magnet Networks, NBI, SIRO, Viatel, Virgin Media, Vodafone and ZAYO.

<sup>314</sup> ARCEP, France and Ofcom, U.K.

A 2.4 The summary of this review is presented in Table 18 below. This summary is ComReg’s appraisal of the likelihood that each of these networks can satisfy these characteristics. In this table, an “✘” indicates that our view, it would be challenging for a network to comfortably fulfil this desired characteristic, an “✓” means that we think it would meet the corresponding feature. A “–”, means that we are not in a position to offer any opinion. The evidence used for this assessment other than the responses to our QQ, was obtained from several sources. These included various network mapping information, both confidential and publicly available, interviews with various stakeholders and utility operators such as the ESB and Irish Water.

Table 18: ComReg summary of its review of various networks versus desired PIA product characteristics

	Ease of Deployment	Breakout for connections	Resilience from damage	Repair times	Surveys of infrastructure	Spare capacity	Geo locations / density	National Ubiquity
Aurora / GNI	x	x	-	-	-	x	x	x
BT	x	x	-	-	-	x	x	x
Colt	x	x	-	-	-	x	x	x
Eircom	✓	✓	-	-	✓	✓	✓	✓
ESB	x	x	-	x	x	x	✓	✓
ESBT*	x	x	-	-	x	x	x	x
eNet	x	x	-	-	-	x	x	x
EU Net	x	x	-	-	-	x	x	x
GTT	x	x	-	-	-	x	x	x
Irish Rail	x	x	x	x	x	x	x	x
Irish Water	x	x	x	x	x	x	x	x
LA duct	x	x	x	x	x	x	x	x
LA drains <sup>315</sup>	x	x	x	x	x	x	x	x
NBI*	x	x	-	-	-	x	x	x
Rivers, canals	x	x	x	x	x	x	x	x
SIRO*	x	x	-	-	x	x	x	x
TII <sup>316</sup>	x	x	x	x	x	x	x	x
Virgin Media	x	x	-	-	-	-	x	x
Vodafone	x	x	-	-	-	x	x	x
WI	x	x	x	x	x	x	x	x
Wireless <sup>317</sup>	✓	x	x	-	x	-	x	✓
ZAYO	x	x	✓	-	-	x	x	x

\*These SPs largely use PI of other networks/utilities

<sup>315</sup> "LA" means Local Authority.

<sup>316</sup> "TII" means transport infrastructure Ireland.

<sup>317</sup> There are hundreds of licence holders of various types of wireless spectrum which incorporate PI supporting thousands of point-to-point links and various mobile wireless networks.

## Background

- A 2.5 The various networks considered in this annex include all relevant telecoms specific networks, and also other non-telecoms networks which are currently used to ECS purposes. ComReg had sought views on the use of various non-telecoms' networks' PI as potential substitutes for telecoms specific PI in meetings with stakeholders and in our QQ. The QQ also sought views on geographic considerations and network expansion issues, market dynamics and other topics. The responses to the QQ are summarised in Annex 2 of this Consultation.
- A 2.6 The networks listed in Table 19 below, incorporates telecoms specific and non-telecoms specific networks, (which includes all possible, relevant ECN SPs), are viewed by ComReg through the prism of the 8 demand-side (non-price) PIA product characteristics contained in the QQ. These 8 product characteristics are reproduced below (and include a brief explanation):
- (a) Speed and ease of deployment (Does the PI network allow efficient and rapid deployment of an ECN?);
  - (b) Protection & resilience from damage (Is the PI network sufficiently robust to ensure a high-quality ECN can be maintained?);
  - (c) Ability & ease of breakout for connections (Can ingress and egress be achieved quickly and efficiently?);
  - (d) Repair times (Can plant be accessed easily so that faults be remedied quickly?);
  - (e) Redundancy / spare capacity (Is there sufficient PI capacity to allow accommodation of additional customers at the required volume level?);
  - (f) Data / surveys on the condition of Infrastructure (Are records of the PI sufficiently accurate and available to access seekers on demand to ensure efficient access and provide for accurate network planning e.g. surveys etc.?);
  - (g) Geographic location and scope/density of the infrastructure (Does the PI have access to the large majority of premises in a locality? i/e; does the network have sufficient capillarity<sup>318</sup> to allow for the deployment of a network); and

---

<sup>318</sup> This is the term used by the EC in its Explanatory Note accompanying the 2020 Recommendation, to describe local density or reach of networks.

- (h) Geographic national ubiquity (What is the footprint of the PI in terms of national or near-national coverage of premises and locations in the country?).

A 2.7 Below, ComReg provides a non-exhaustive summary of the types of PI used to provide fixed (wired) telecoms services or which potentially, or theoretically, could perhaps be used for this purpose.

**Table 19: Summary of network types considered in review**

Type of PI/ telecoms network	Description	Main target customers	Telecoms SPs or utility
<p><b>LL Type SPs networks* used to provide downstream high capacity business grade leased line services and/or wholesale high capacity backhaul/access services - referred to in shorthand as "LL Type" SPs</b></p>	<p>These networks display similar features:</p> <ul style="list-style-type: none"> <li>(a) are skeletal in nature, lacking capillarity (local density);</li> <li>(b) mostly limit their PI deployment to within business/commercial areas;</li> <li>(c) target low volumes of high value customers and so can absorb relatively high connection costs (compared to residential customer connections);</li> <li>(d) have limited capacity PI networks designed to cater for these low volumes and so are not suitable for residential deployments; and,</li> <li>(e) have challenges for breakout which apply particularly, but not exclusively to, the backhaul portions of their networks.</li> </ul>	<p>Medium to Large Business and/or wholesale customers</p>	<p>Aurora, BT, Colt, eNet, ESBT, EU Networks, GTT, Magnet Networks, Vodafone, Verizon and ZAYO</p>
<p><b>Cable TV</b></p>	<p>HFC network, customers mostly connected with surface mounted coax cable (there is a small element of FTTH in some new build)</p>	<p>Largely residential</p>	<p>Virgin Media</p>



<b>SP networks which largely use non-telecom specific PI to rollout ECN/S to residential customers</b>	Fibre network deployed on ESB electrical PI.*	Largely residential	SIRO
<b>SPs which largely use telecoms specific PI to rollout ECN/S to residential customers</b>	SP which uses telecoms specific PI for roll-out of networks to residential and/or small business	Residential	NBI
<b>Other utilities</b>	Gas, electricity, Rail, Tramways, water, local authority non-telecoms specific PI (not originally designed to host telecoms networks).	Various	ESB, IR, LUAS, GNI, etc.
<b>Incumbent PI network</b>	Ubiquitous national telecoms specific PI, duct and pole network	Various	Eircom
<b>Wireless PI</b>	PI used to site mobile, microwave point to point and satellite equipment	Various	various

\* Some upstream inputs used by “LL Type” SPs may be 3rd party dark fibre or fibre optic cable rather than PIA.

+ ESBT uses mix of ESB and self-supplied PI. [X [REDACTED] X].

## Rationale for the assessment

A 2.8 Below, we lay out some general points which apply to our assessment, as there are some common traits which are valid to various cohorts of PI networks. Our observation of the features of the various networks has indicated that there is a specific group of network types which display similar characteristics, which we have labelled as LL Type network (as listed in Table 2 above).

### “LL Type” SPs

A 2.9 The categories in Table 2 above are not intended to be exhaustive but to provide a context for the analysis in this Consultation, and to explain the scope of the networks reviewed. For the avoidance of repetition and expediency, we have created a category referred of “LL Type” SP networks whose PI display sufficiently similar features.

- A 2.10 LL type SPs largely target medium to large business and/or wholesale customers with high bandwidth services, usually but not exclusively, based on active connectivity. These SPs in many cases also provide numerous other business and wholesale type services such as dark fibre, colocation, Software as a Service ('SAAS'), etc.
- A 2.11 The key facet of their activity, from a network perspective, is that they provide fibre connections to particular end user premises. This fibre in turn requires supporting PI connectivity into each such premises. LL type SPs preferences are generally to use their own PI where economically feasible, but they may use other upstream 3rd party inputs such as rented PI, dark fibre or active services. The decision to "build or buy" in order to connect into a premises is usually calculated on the commercial viability of each individual opportunity and on the lead times for the completion of the various solutions available. Other SPs also provide LL type services, but it's not necessarily their core business activity.
- A 2.12 The "LL Type" SPs are Aurora, BT, Colt, eNet, ESBT, EU Networks, GTT, Magnet Networks, Vodafone, Verizon and ZAYO, though ESBT largely uses ESB's underlying electrical PI along with some self-supplied PI. The remainder are SPs that to varying degrees, use a mixture of self-supplied PI and/or purchase telecoms specific PI (or dark fibre) from other SPs. The type of services they provide include multiple site-network connections,<sup>319</sup> business voice services, internet access and high bandwidth lease lines and, in some cases, dark fibre solutions. These types of services, some of which are described above, are provided by those SPs which we have incorporated into the general category of "LL Type" SPs.

---

<sup>319</sup> E.g. Wide Area Network ('WAN') solutions which can provide many services between the premises of multi-sited customers such as branch networks of banks, commercial outlets, government departments etc.

- A 2.13 The total volume of fibre connected LL premises in the country connected by all SPs, including these “LL Type” PI networks in 2018 was circa 8.5K<sup>320</sup>, a figure which included Eircom’s fibre LLs connected premises. This represents a small proportion of the approximate 2.3+ million premises nationally. While the number of connections to a network does not necessarily correlate directly to its volume of PI, it provides corroborating evidence to the mapping information of each network provided to ComReg (some of which are publicly available and reproduced below in the individual assessments). Taken together, this information clearly demonstrates that networks with very large volumes of connections, are many orders of magnitude greater in terms of PI than those with relatively small numbers of connections.
- A 2.14 Typically, such LL Type SPs’ networks will have a maximum of one or two ducts connecting between chambers, and in many instances only a sub-duct or micro-duct routed within a 3rd party duct. This applies particularly to longer backhaul or middle-haul portions of their network, which often traverse residential and rural areas and as such, are of little commercial interest to these SPs. These portions of their networks are typically used to connect between the target LL commercial/business areas and so these routes in particular, can often have very low physical capacity and cannot be used to connect up large volumes of premises. This demonstrates that LL Type SPs’ PI networks have capacity which is sufficient to satisfy their design criteria. They can easily meet their targeted business demand of their business customers, but it would be challenging for them to cope with large volumes of PI connections, as for instance, would be required for a residential type rollout.
- A 2.15 The business models of these LL Type SPs are based on their targeting of high value customers where the expensive connection costs can be more justified. This is due to the nature of the typical contracts involved. They are high value, often multi-site and have terms that are far longer than residential contracts, typically 3 to 5 years in length. LL Type SPs’ networks are often skeletal in nature, lacking capillarity, and with intermediate backhaul sections used for connecting between business parks and commercial districts. Although they may have more dense cable or duct deployment in some business parks and commercial areas, their local access PI networks are generally very limited in scale and coverage terms.

---

E.g. Wide Area Network (**‘WAN’**) solutions which can provide many services between the premises of multi-sited customers such as branch networks of banks, commercial outlets, government departments etc.  
lines was 431K, ComReg Quarterly Key Data Report Q2 2022, Document No. 22/76 published 8 September 2022.

- A 2.16 Their existing PI tends to be routed within the carriageway rather than the footway and have limited volumes of spurs connected into the specific premises of high value customers. Hence building PI either into, or adjacent to, end users' premises on a speculative basis would add greatly to the cost of the original PI installation and would not be economic in most areas. New connections require new PI which can incur considerable expense and time. For longer distances, as well as being more expensive, additional time-delays may be introduced due the requirement to provide longer wayleave notice periods<sup>321</sup> to local authorities. For these reasons, ComReg considers for LL Type SPs in many cases their PI will not meet the characteristics of "speed and ease of deployment" and "ability and ease of breakout for connections".
- A 2.17 Such LL Type SP networks are not engineered to cater for large volume or dense residential type deployments. As detailed above, their PI is generally concentrated in business areas and commercial districts. Even within such areas, the LL Type SPs' PI networks target the specific business premises of their customers. They are not connected to, or even necessarily immediately adjacent to every premises in an area, i.e., their network deployments are generally not dense. Therefore, these networks exhibit common characteristics of: limited capillarity or density of deployment; limited network presence; usually only target specific premises; insufficient capacity/capability to deal with higher customer volumes; and have limited ingress/egress network points.

## Resilience, Redundancy, Repair Times and network records

- A 2.18 All SPs typically have resilience and redundancy built into the core and backhaul sections of their networks<sup>322</sup> however we do have detailed information on repair times, resilience or redundancy of individual SPs PI networks.
- A 2.19 We do, however, note the primacy of ESB's electricity service over any telecoms services which its infrastructure may support, as required by its sector specific regulation. The ESB is required by the national utilities regulator, the CRU, to give priority to the electrical system above that of telecoms services because its primary mandate is to ensure the provision of electricity services to end users (see paragraph A 2.53 below).

---

<sup>321</sup> In the Dublin City Council area, usually distances greater than 100m require a 3 month notification period.

<sup>322</sup> Regulation 23 of the Framework Regulation requires all ECN/Ss to ensure the integrity of their networks.

A 2.20 In regard to accuracy of SPs' PI records, we have inspected most SPs' PI network maps, but this did not incorporate any audit of such records against their actual in-situ external plant.

### Our assessment of various PI networks

A 2.21 Below we consider SPs' and utilities PI networks alphabetically. In some cases, to avoid repetition, ComReg has conflated SPs and/or utilities together in our analysis where we consider they have sufficiently similar characteristics or are owned by the same organisation. e.g. Aurora Telecom and Gas Networks Ireland ('GNI').

#### Aurora Telecom and Gas Networks Ireland

A 2.22 Aurora Telecoms and Gas Networks Ireland's PI networks Aurora Telecom is a wholly subsidiary of GNI which in turn is a subsidiary company of Ervia, which is fully owned by the Irish State. It primarily offers backhaul dark fibre services to operators, corporate and public service customers and describes itself as "Ireland's leading backhaul dark fibre service provider<sup>323</sup>". It also offers high-capacity managed bandwidth and colocation services to medium to large businesses.

A 2.23 Its PI network is generally built adjacent to, but importantly, is separate from, the gas distribution network i.e., it has installed separate ducts solely to carry fibre cables. It, therefore, owns and controls a telecoms-specific PI network. Its inter-urban PI routes usually pass through farmland and are not accessible for breakout, nor are they close to customers for connection purposes. Aurora's PI network comprises a Dublin MAN (see Figure 17 below) which connects a number of the business parks and commercial areas in the greater Dublin area, and an inter-urban PI network with a spur to Killala, Co. Mayo (see Figure 18 below).

A 2.24 Given the above, we have classified it as a LL Type SP, so the restrictions to its PI network noted above in terms of the characteristics of speed and ease of deployment, breakout and capacity, local density etc. apply to Aurora.

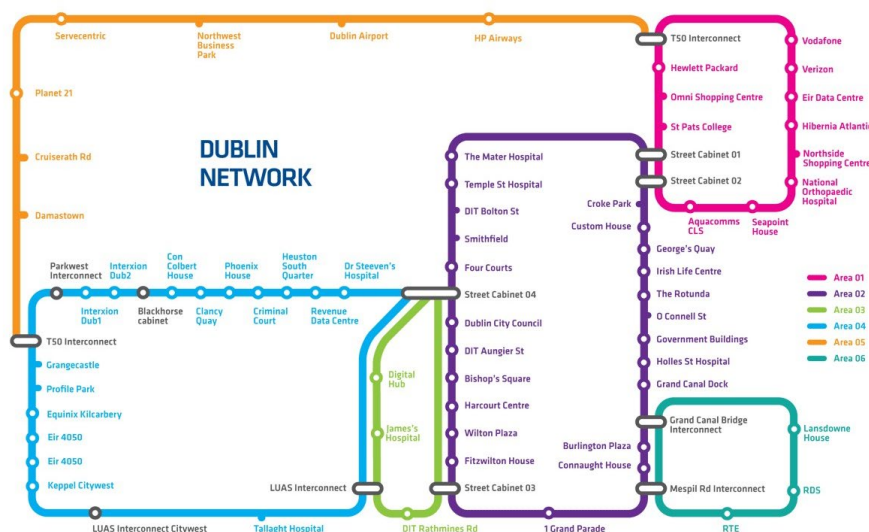
---

<sup>323</sup> <https://www.auroratelecom.ie/>

A 2.25 As noted above, it does not route any fibre cables directly through the gas distribution pipes and even if it was possible to do so, sometime in the future (ComReg is not aware of any such plans), GNI’s piped gas network does not have full national coverage. The gas network is limited to urban areas as shown in Figure 19 below. Additionally, GNI’s gas network does not extend to all premises within the urban areas<sup>324</sup> in which it operates.

**Figure 17: Aurora Telecom, Dublin Network (Stylised)<sup>325</sup>**

Dublin Network



<sup>324</sup> 68% of households in Dublin use natural gas but this figure is much lower outside Dublin (e.g. 3.3% in the Border region) <https://www.cso.ie/en/releasesandpublications/ep/p-rsdgi/regionalsdgsireland2017/env/>

<sup>325</sup> <https://www.auroratelecom.ie/network-maps/>

Figure 18: Aurora Telecom, inter-urban network (Stylised)<sup>326</sup>  
National Network




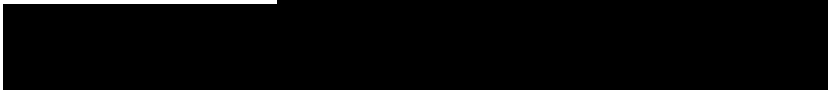
Figure 19: GNI’s national mains gas pipeline distribution network<sup>327</sup>



<sup>326</sup> Ibid.

<sup>327</sup> <https://www.gasnetworks.ie/corporate/company/our-network/pipeline-map/>

## BT Ireland

- A 2.26 BT Ireland has 4,300km of fibre network in Ireland<sup>328</sup>. Its skeletal PI network connects major urban centres and business parks to BT's 40 next generation Ethernet points of presence and is also connected to almost 100 Eircom exchanges<sup>329</sup>. It largely services the wholesale and retail corporate and enterprise markets and has MANs and associated PI in Dublin and other urban centres throughout the country.
- A 2.27 It has an intercity fibre cable routed alongside the Irish Rail network<sup>330</sup>, though this does not necessarily incorporate any associated PI in portions of its route as [ ✕   ✕], access to this PI would be difficult and restricted given that given the network is located alongside the rail network which crosses though farmland and other inaccessible locations and is subject to strict access-times and health and safety ('H&S') rules. Therefore, this also means it has limited breakout (ingress and egress) capability, and these are mostly restricted to PI located at railway stations. These characteristics would likely undermine the ability of any third party use to deploy a telecoms network in an effective and efficient manner in such PI where it exists.
- A 2.28 As BT Ireland largely targets the business and wholesale markets with its own fibre network, it is classified as a LL Type SP and is included in the list of SPs identified as such in Table 21 above. It has connected its wired network to a large number of business parks and commercial areas throughout the country. However, the features which applies to other LL type networks, challenges in terms of speed and ease of deployment, lack of capillarity or density, breakout and capacity, equally apply to it, as they do to many other similar SPs.

<sup>328</sup> <https://www.btireland.com/wholesale/bt-ireland-wholesale/our-network-wholesale>, Our assumption is that this includes Northern Ireland.

<sup>329</sup> Ibid.

<sup>330</sup> ComReg Document No.16/69, p.44.



## Colt Ireland

A 2.29 Colt is an international operator with points of presence in Dublin. It owns a Dublin MAN which connects a large number of business parks and commercial districts in the city and it supplies the wholesale, corporate and enterprise markets with various voice, data, and high bandwidth services. Its PI network, largely confined to the greater Dublin area lacks density in terms of premises coverage/connectivity. It is classified as a LL Type SP, so the restrictions to its PI network in terms of speed and ease of deployment, breakout and capacity apply to it.

## Eircom

A 2.28 Eircom is the incumbent telecoms operator that has a near ubiquitous national duct and pole network that enables it to provide network connectivity to almost every residential and business premises in the State. Its telecom's specific PI is comprised of circa [REDACTED] [REDACTED] [REDACTED].<sup>331</sup> It's wired network encompasses copper cables, Fibre to the Cabinet (FTTC), point-to-point fibre and FTTH transmission media, and is used to provide a range of retail telephony, broadband and related services, including xDSL and fibre broadband services and corresponding wholesale services, both regulated and unregulated. It is active in almost all wholesale (in some cases due to regulation) and retail fixed line markets.

A 2.29 In its Q2 2022 results<sup>332</sup> published 30th August 2022 it stated the following:

*"2.0 million premises passed by Ireland's largest fibre network, or 87% of premises in Ireland. 864,000 premises now passed with FTTH across Ireland, up 28% or 189,000."*

A 2.30 However, it should be noted that on 28 January 2022, Eircom and InfraVia Capital Partners ('InfraVia') announced that they had reached an agreement to create a dedicated fibre company, Fibre Networks Ireland Limited ('FNI'), with plans to pass over 1.9m homes with FTTH by 2026<sup>333</sup>. This agreement was enacted on 30 June 2022.

<sup>331</sup> Information provided to ComReg by Eircom in 2019.

<sup>332</sup> <https://www.eir.ie/investorrelations/newsannouncements/>

<sup>333</sup> <https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/news/220701-eir-Fibre-Partnership-Completes-Press-Release.pdf>

- A 2.31 In this agreement, InfraVia was allocated a 49.99% interest in FNI, and Eircom the remaining 50.01%, and this relates to PI assets which are largely located outside the Government's NBP IA, the area in which NBI is currently engaged in deploying a FTTH network.
- A 2.32 ComReg has laid out its view of this new ownership structure in detail in Section 3 of this consultation. In summary, we believe that as Eircom retains effective operational and management control of the entire PI estate, both inside and outside the IA, it is appropriate to treat the PI owned by FNI and Eircom as a single network.
- A 2.33 Eircom currently offers wholesale access to its PI services on foot of SMP regulation, imposed on it in Market 3a, however, there has been limited use of its PIA by SPs other than that by NBI, for the rollout of the NBP.
- A 2.34 Eircom has at its disposal detailed Passive Access Records ('PAR') recording the location and capacity of its outside plant and these are constantly being updated, as its own FTTH rollout and that of the NBP proceeds.
- A 2.35 Eircom's published USO performance results for Q2 2022 and in its annual USO results of 2021/22<sup>334</sup> in addition to its wholesale and resale RAP product KPIs<sup>335</sup>, demonstrate that Eircom can relatively speedily and easily connect customers while maintaining performance levels, particularly for fibre-based services. However, there is currently no requirement for it to provide any reports relating directly to the repair of its PI faults, and no such specific information is currently available to ComReg.
- A 2.36 Although it has not announced plans to physically remove its copper infrastructure when it has been replaced by fibre and retired from service, the PI capacity currently used by copper cables should be released at some time at some time in the future, thus reducing substantially the possibility of any capacity constraints on PI infrastructure in the future.

---

<sup>334</sup><https://www.comreg.ie/publication/universal-service-requirements-provision-of-access-at-a-fixed-location-af-ly-by-eircom-limited-quality-of-service-performance-data-q2-2022-1-april-30-june-annual-2021-2022-1>

<sup>335</sup><https://www.openeir.ie/wp-content/uploads/2021/08/eir-KPI-Equivalence-KPIs-Apr-Jun-2021.pdf>

## eNet

- A 2.39 eNet was appointed<sup>336</sup> by the government as the Management Services Entity ('MSE') responsible for managing, maintaining, and operating 88 publicly owned PI MANs<sup>337</sup> and associated fibre and transmission equipment, on behalf of the State. These comprise a total of circa 1,200 Km of duct. It also owns a number of other privately owned MANs. eNet was purchased by the Irish Infrastructure Fund ('IFF')<sup>338</sup> in 2020 and comprises part of the IFF Speedfibre Group<sup>339</sup>, Airspeed and Magnet Networks being the other members. The MANs, routed through 94 towns and urban centres, are classified as a LL Type SP above (see paragraphs A 2.9 to A 2.17 above). Hence, the restrictions itemised above apply to it.
- A 2.40 The MANs operate in the wholesale LL markets thereby supporting the wholesale markets and associated downstream retail business markets. The MANs usually pass Eircom exchanges and railway stations in towns connected to the national rail system where available, thereby maximising opportunities to connect to backhaul services. eNet offers operators wholesale managed bandwidth, dark fibre and duct/sub-duct access services on an open access basis.
- A 2.41 The maps of the MANs are publicly available<sup>340</sup> and their purpose is to provide business connectivity to business districts and town centres. Additionally, almost half of the MANs are in towns without any rail connections and are therefore, [X ██████████ ██████████ X].
- A 2.42 eNet also owns privately owned MANs in Dublin and Castlebar<sup>341</sup> and has leased dark fibre from CIE on the national rail network which has allowed it to connect some of these MANs using its own independent national backhaul service.

---

<sup>336</sup> eNet was awarded a 15-year services contract in June 2004 to manage phase 1 of the MANs. In July 2009, it was awarded a 15-year services contract to operate and manage the additional Phase 2 MANs. Both contracts were extended by the Government to 2030 <https://www.gov.ie/en/policy-information/9bd180-broadband/>

<sup>337</sup> <https://www.enet.ie/mans-search.html>

<sup>338</sup> <https://www.enet.ie/news/195/138/Irish-Infrastructure-Fund-to-acquire-100-ownership-of-enet.html>

<sup>339</sup> <https://speedfibregroup.ie/>

<sup>340</sup> <https://www.enet.ie/news/152/138/Taoiseach-launches-enet-s-1-5M-fibre-network-in-Castlebar.html>

<sup>341</sup> Ibid.

## ESB

- A 2.43 ESB, a statutory corporation, owns the national electrical distribution system. As set out in Table 20 below, the network consists of over 2 million poles supporting 150,000 km of overhead electrical cable and 22,000 km of underground electrical cabling. It should be noted that Electricity Supply Board Networks (**ESBN**) is a ring-fenced business unit within ESB that carries out the function of Distribution Asset Owner (**DAO**) and Transmission Asset Owner (**TAO**). ESN DAC is a wholly owned subsidiary of ESB and is licenced as the Distribution System Operator (**DSO**). References to ESB in this document encompass ESB acting as ESN in these roles.
- A 2.44 Its network is used to host a fibre optic cable network, used for its own internal telecoms systems and to manage the electrical distribution network. Some fibres on a portion of these routes have been given over to ESBT (see paragraphs A 2.28 to A 2.34 below). This allows it to offer LL services in the wholesale market on an open access basis.

**Table 20: Summary of ESB external plant inventory<sup>342</sup>**

Description	Quantity
Wooden Poles	2.1 million
Overhead Line	150,000 km
Underground Cable	22,000 km
Pole Mounted MV/LV Transformers	242,000
Ground MV/LV Substations	21,680
110kV/38V or 110MV Substations	133
38kV/MV Substations	438
Meters	2.3 million

<sup>342</sup> ESB external plant inventory ( <https://www.ESBnetworks.ie/who-we-are/our-networks> )

### ESB PI capacity limitations and Health & Safety issues

- A 2.45 The original chosen routes for the existing electrical PI, and whether under or overground, were decided by network planners implementing the most economically efficient routes for building an electrical network. This route planning took into account various factors such as engineering and safety rules (e.g., loading and pole spacing), local topography, planning rules and obstacles, both natural and man-made such as canals, rivers, roadways etc. The ESB was created in 1927 and its supplies were initially mostly overhead until the early 1980s when new housing estates were largely ducted. Older housing stock (pre 1980s) is still supplied directly via overhead cables in many instances. The rural electrical scheme which commenced in the 1940s and finished in the 1970s, was also mostly completed using overhead distribution. No consideration was therefore ever factored or engineered into the design and build of the electrical network for supporting any other services and it is therefore engineered solely and expressly for the supply of electrical power distribution.
- A 2.46 Capacity on the electrical PI in the LV overhead system is restricted to supporting a single fibre cable due to limitations required by various health and safety and construction standards, especially those relating to height and space for mounting plant. For these reasons access is limited to a single access seeker. In addition to the electrical conductors, the LV poles must support various electrical plant such as transformers, arrestors etc. In some instances, these items of electrical “pole furniture” must be moved and relocated in order to accommodate the fibre and its associated optical splitters and splice closures. This work, in addition to increasing the cost of fibre rollout, especially for overhead deployment, is also a source of considerable delay in the build process. This work also necessitates having to arrange outages on the overhead electricity service in most instances.

A 2.47 SIRO has found that [REDACTED]<sup>343</sup> of in-situ poles must be either replaced or repaired. This work is not trivial due to the presence of the live conductors and the obvious hazard they pose, and these replacements/reconfigurations of the pole network and the associated electrical plant, can add further considerable delay to deployment of overhead fibre. In addition to the extensive survey and planning work involved, electrical outages must be arranged to complete the reconfiguration of the electrical plant. This reconfiguration work and corresponding fibre installation work is also usually restricted to daytime working for H&S reasons. For this reason, [REDACTED]  
[REDACTED]  
[REDACTED].

A 2.48 Some limited works may be undertaken in a “live” electricity environment on the LV and MV overhead systems but can only be undertaken by ESB staff. Therefore, outages are usually necessary for all fibre related overhead work on LV and MV poles undertaken by SIRO’s ESB approved and trained staff. In many instances, fibre routes cannot avoid the overhead system. The electrical network topology<sup>344</sup> consists of the 38KVA sub-stations servicing a town hosting the FTTH PoP, with feeder routes from these sub-stations on MV lines out towards the LV local distribution network which, in turn, connects to the end user premises. The electrical cable routes (and therefore routes of associated PI) from a sub-station to customer premises are usually a combination of overhead and underground paths. Hence, the use of the overhead system, (on which live working is usually prohibited unless carried out by ESB staff), is largely unavoidable. This further adds to cost and time of installation of fibre on the electrical network.

A 2.49 Apart from the above, there are minimum cable height-clearance restrictions<sup>345</sup> which apply to the conductor or fibre (whichever is the lowest). This can mean the fibre may be required to be strung either below or above the electrical conductors to meet the ground-to-cable height-requirements to allow, for example, agricultural machinery to pass safely beneath them. These height restrictions are to ensure the safe passage of farming machinery and other vehicular traffic beneath the cable.

---

<sup>343</sup> [REDACTED]  
[REDACTED].

<sup>344</sup> This also applies to supporting PI, other than in instances of directly buried electrical cables (i.e. where there is no extant PI).

<sup>345</sup> ESB engineering specification documents: [REDACTED]  
[REDACTED].

- A 2.50 This has most relevance to the LV system which can operate at lower heights than the MV system, whose conductors require higher clearances from the ground. Hence, the LV system is the “lowest common denominator”, while also comprising the largest portion of the local electrical distribution system. When this is combined with the pole space restrictions, the outcome is that a second SPs fibre cable, replete with its associated fibre equipment (jointing closures and splitters etc.) cannot be accommodated on the LV overhead system under the ESB’s health and safety and operational rules.
- A 2.51 Many end user premises are connected to the LV system on routes containing a mixture of portions of overhead and underground routes. For instance, the electrical cables connecting a premise in a typical housing estate, urban street or business park may be mostly underground. However, the main supply to the estate or street may be a mixture of over and underground routes. This condition can also be reversed whereby the electrical supplies in the estate or street may be interspersed with a mixture of cable routed overhead on poles, underground in duct or directly buried, and in some instances, surface mounted on buildings. It is not feasible to only use the underground portion of the electrical distribution system for a dense rollout, such as is required for a residential type deployment. Hence, this capacity restraint which pertains to the overhead LV PI estate, effectively applies to the underground portion of the fibre routes. This is because it is not practical or economical to use the underground routes in isolation from the overhead portions for any substantial rollout.
- A 2.52 The LV capacity restraint referred to above, already applies to the existing 2 users of ESB’s PI, ESBT and SIRO whose fibre networks do not, therefore overlap on the LV network. However, [REDACTED]  
[REDACTED]  
[REDACTED] ]. Additionally, this limitation makes it difficult for ESB to meet new PIA requests from other access seekers and its preferred solution is to provide dark fibre services via ESBT to satisfy such requirements.
- A 2.53 The challenges to using ESB infrastructure also include accessibility issues due to the cross-country routing of its power lines. This contrasts to roadside sited telephone poles which can be more easily accessed for both installation and repair purposes.

A 2.54 Any change to the electrical network PI in order to accommodate multiple access seekers such as installing taller poles and further reconfigurations of its in-situ electrical plant on poles, would likely incur major costs. It would also require a significant modification to the existing regulatory (from an electricity perspective) and current health and safety regimes.

### **Service installation and repair - Primacy of the Electricity service**

A 2.55 The ESB operates the LV and MV systems under a Distribution System Operators ('DSO') license issued by the Commission for Regulation of Utilities ('CRU') and is mandated under its sector specific regulation to maintain the primacy of the electrical network<sup>346 347</sup>, over any fibre service. The FTTH service is not, in the same manner as the electrical service is, viewed as being as an essential service by the CRU (and therefore the ESB). The ESB must ensure that any disruption to the electricity service is kept to a minimum. Its mandate is to develop a safe and secure electricity network. The installation of fibre on the network creates additional issues that must be considered when making network development decisions – e.g. maintenance schedules, size of poles etc. The primacy of the electrical network will consequentially impact directly on installation and repair times to the “secondary” fibre-based service and would likely result in more extended fix times than would apply to FTTP deployed in telecoms specific PI.

---

<sup>346</sup><https://mk0cruieqdjtk6utoah.kinstacdn.com/wp-content/uploads/2014/07/CER14065-Letter-to-Jerry-O-Sullivan-ESBN-Networks-Re-Installation-of-Fibre-Optic-Network-on-Electricity-Distribution-System-Signed.pdf>

<sup>347</sup><https://www.cru.ie/wp-content/uploads/2014/07/CER14066-ESBN-notification-to-CER-on-FTTB.pdf>



- A 2.56 Additionally, repair work on overhead fibre and associated plant must in many instances, be undertaken in a hazardous environment, close to live conductors or in electrical switching stations. Hence in addition to requiring the usual specialised telecoms staff, all staff require specialised training and equipment for working in a hazardous environment. Repair work on the electrical system is undertaken by ESB staff who also repair the fibre network. They may complete repairs to both networks concurrently or may have to prioritise the electrical repair and return to the repair the fibre at a later time. There is also the added complexity of the cross-country routing of overhead cables over agricultural land and obstacles such as waterways, ditches, dykes, etc. can make access extremely difficult. This applies particularly in poor weather when land may be saturated and where livestock may have to be relocated to facilitate access. Contrarily, access to traditional PI is usually gained from the roadway which doesn't require any such specialised arrangements other than normal traffic management procedures.
- A 2.57 Similarly, as stated previously, outages are usually required on the overhead services to allow installation work to be completed and this adds delays and cost to fibre deployment. Importantly, this also applies in repair and maintenance situations where such outages can only be undertaken during daylight working hours and this applies even in emergency situations. These challenges and restrictions do not normally apply to the underground electrical PI routes.

#### Directly buried cable means no duct availability

- A 2.58 For an electricity service that is supplied to premises via underground connections there are three main network scenarios:
- (a) ducted and vaulted PI<sup>348</sup>, which means there is a chamber<sup>349</sup> close to, and duct all the way into the premises so installing a fibre cable is relatively easy, (assuming there are no blockages);
  - (b) ducted and unvaulted PI, which requires the building of an access chamber and so attracts additional cost associated with civil works and introduces delays and complexity to installation; and
  - (c) direct buried cable, meaning no PI is present in this scenario, and such premises would require new PI to reach such premises.

---

<sup>348</sup> Footway chamber or pillar is outside or close to a number of premises and so no civil works are usually required to route a fibre cable.

<sup>349</sup> Usually a footway chamber.

A 2.61 [REDACTED]  
[REDACTED] <sup>350</sup>. The areas and premises connected by directly buried cable would therefore require entirely new PI build to support the provision of fibre services and this introduces a significant obstacle to the use of the LV system to carry fibre services. Each portion of a prospective new build must be surveyed in detail to determine what PI is present, if any. Some deployment has been impacted and [REDACTED]  
[REDACTED] [REDACTED].

### Extensive surveys are required

A 2.62 Apart from the issues with directly buried cable and the requirement to investigate if electrical pole “furniture” needs to be moved, in practice, the ESNB has also found that a significant number of poles required replacement in order to meet that additional load demanded to carry fibre and associated equipment. Additional, (extra) new poles, rather than replacement of existing poles was also required in some areas. Such requirements can only be established following extensive surveys which must be undertaken by specialised staff experienced in electrical distribution systems, before any build can be costed or planned, and this can contribute significantly to time delays.

### ESBT

A 2.28 ESBT<sup>351</sup> has largely used the ESB’s electrical PI for its fibre network [REDACTED]  
[REDACTED] [REDACTED].

A 2.29 ESBT was established in 2001 as a wholly owned subsidiary of the ESB and is solely a wholesale SP. It received government funding for the construction of a fibre network under the then Government National Development Plan. ESBT built and still runs a 2,000 km fibre optic network, constructed in a “figure of 8” around Ireland with a northern spur to Letterkenny, Co. Donegal (see Figure 20 below).

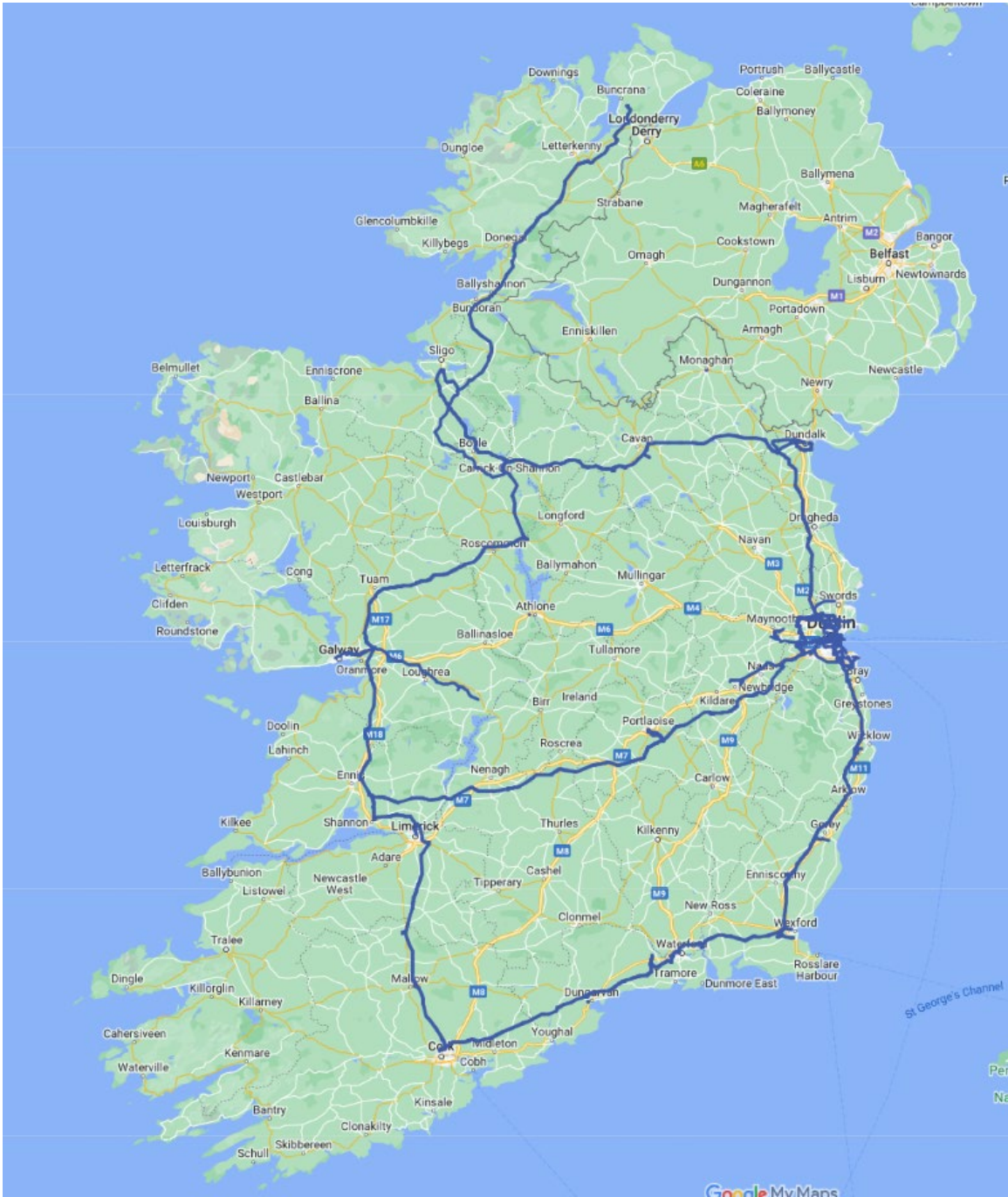
---

<sup>350</sup> Detailed records on the nature of its electrical cable deployment are not available for all areas of its network by the ESNB.

<sup>351</sup> <https://www.ESBN.ie/our-businesses/telecoms/telecoms-overview>



Figure 20: ESBT's Figure of 8 national fibre network<sup>352</sup>

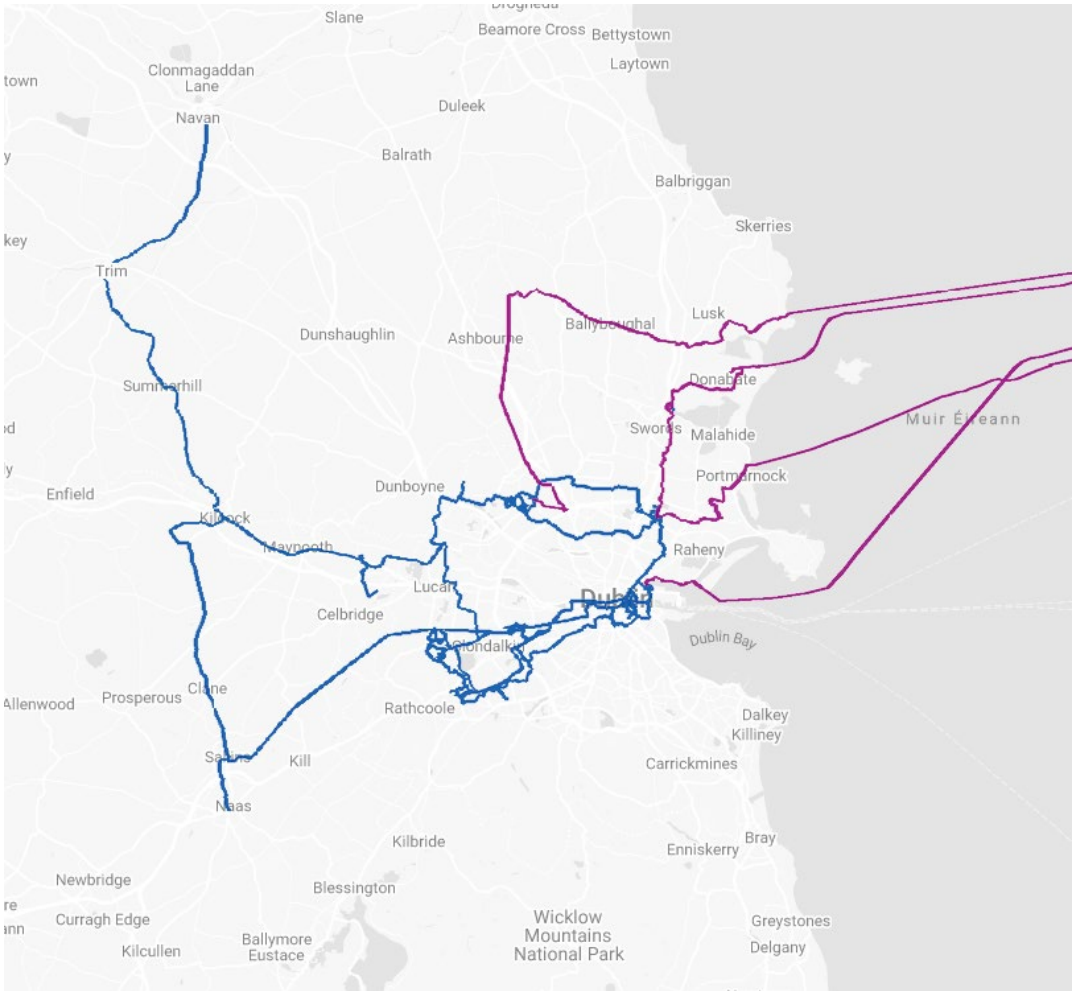


<sup>352</sup> <https://ESBN.ie/our-businesses/telecoms/national-network>

**euNetworks**

A 2.68 euNetworks is an international carrier with connectivity to MANs in many countries in western Europe. Its Irish PI network is mainly in the Dublin area connecting many business parks and commercial districts, with spurs into Kildare and Meath (Figure 21 below). Its core product offerings are dark fibre and high bandwidth wavelength and ethernet services. It is classified as a LL Type SP above, so the restrictions to its speed and ease of deployment, breakout and capacity, etc. also apply to it as to other LL type SPs.

**Figure 21: EU Networks Irish network showing undersea international connectivity<sup>353</sup>**



<sup>353</sup> <https://map.eunetworks.com/> - Accessed 13<sup>th</sup> October 2022.

## GTT

A 2.69 GTT is an international operator which targets major business customers. It has connectivity to over 700 points of presence worldwide spread across more than 140 countries. It is classified as a LL Type SP above (see paragraphs A 2.9 to A 2.17 above), so the restrictions to its speed and ease of deployment, breakout and capacity apply to it.

A 2.70 Its “on-island” Irish backhaul network connects various international landing points to Belfast, Derry and Cork and to a Dublin PI MAN (see Figure 22 below). It offers various higher value business voice and data services and also dark fibre and large international bandwidth services. Its network has limited geographic coverage and is not dense and as a LL Type SP, its network faces the same issues cited previously.

Figure 22: GTT Irish Network international connectivity<sup>354</sup>



<sup>354</sup> <https://www.gtt.net/us-en/our-network>

## Iarnród Éireann / Irish Rail and LUAS light railway

- A 2.71 The key issue in relation to PI on the rail network is that the fibre laid along the rail network [redacted] and so cannot be used by any third party for telecoms purposes.
- A 2.72 Iarnród Éireann is a subsidiary of Córas Iompair Éireann ('CIE') and provides and maintains the national railway infrastructure network in the Republic of Ireland. The network and infrastructure estate includes approximately 2,400 km of operational track, c.4,440 bridges, c.1,100 point ends, c.970 level crossings, 144 stations, 3,300+ cuttings and embankments, 372 platforms and 13 tunnels. The network incorporates the national mainline network, the Dublin suburban and commuter passenger routes and some freight-only routes. There is also a redundant non-rail route connecting Limerick to Tralee via Rathkeale, Newcastle West, Abbeyfeale and Listowel which supports fibre cable.
- A 2.73 BT Ireland laid<sup>355</sup> a fibre optic cable on the national rail network installed originally in the late 1990s [redacted] and eNet has access to CIE dark fibre since c.2015, on the same rail network footprint.
- A 2.74 The rail network map in Figure 23 below, while stylised, shows the limited geographic nature of the national rail network which the [redacted] fibre network follows (even if the redundant Limerick-Tralee branch-line were to be included). This is highlighted by the absence of any national rail network in the counties of Donegal, Cavan and Monaghan. Additionally, the associated fibre network is effectively sterilised between stations as it cannot be accessed along the track for the most part. Breakouts for network or customer connections, even for those premises adjacent to the railway, can only be achieved with great difficulty and at high cost and so are extremely rare.

---

<sup>355</sup> This cable [redacted] in many portions of the rail network.

A 2.75 As the fibre is effectively “sterilised” between stations, it is mostly suitable for backhaul services between the connected towns and cities but not for any local distribution. This was also the position taken by ComReg in its review of the WHQA market in its 2020 WHQA Decision<sup>356</sup>. In addition, the rail network also lacks local density with the average distance of residential dwellings to the nearest rail station being 15.7 km<sup>357</sup>, and for rail commuters (those who regularly use rail services), who live outside Dublin, the average distance from their closest station is 5.2 km

A 2.76 As stated above, the fibre on the railway network [X] [redacted] [redacted] in the case of CIE/Irish Rail fibre network.

Figure 23: Irish Rail national network<sup>358</sup>



<sup>356</sup> ComReg Document 20/06, Decision D03/20, WHQA Market Review, Response to Further Consultation and Final Decision (‘2020 WHQA Decsion’).

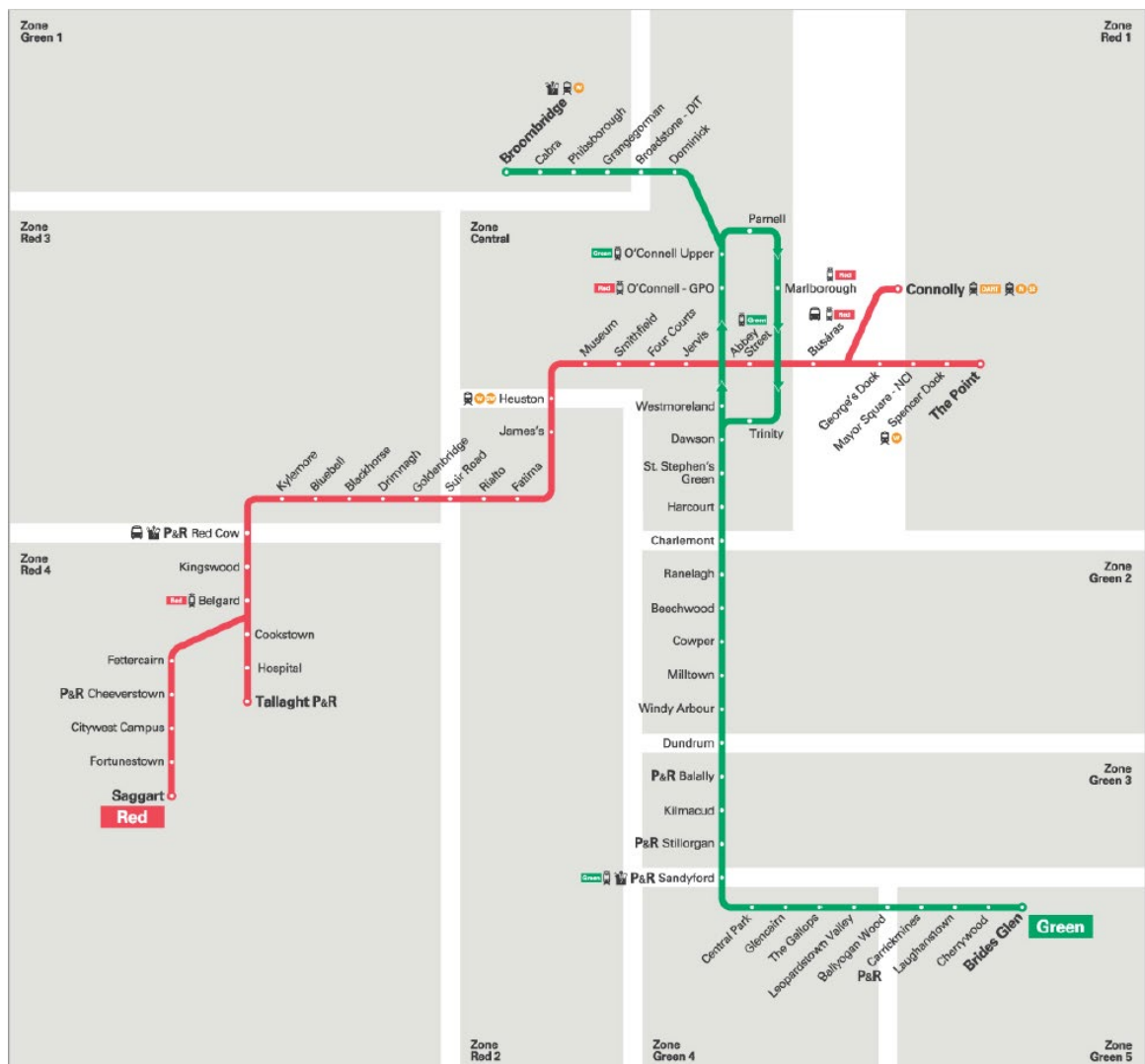
<sup>357</sup> <https://www.cso.ie/en/releasesandpublications/ep/p-mdsi/measuringdistancetoeveryday-servicesinireland/generalresults/>

<sup>358</sup> <https://www.irishrail.ie/en-ie/travel-information/station-and-route-maps/ireland-rail-map>



A 2.77 The LUAS light-rail network offers access to telecoms specific duct which it installed on its red and green line routes in the Dublin area, see Figure 24 below. It can provide connectivity between the city centre and some suburbs, and it has associated access chambers every few hundred metres along its track. Its track is limited geographically and also it has restricted opportunity for working close to its track. Special permission is required from Transdev, who operates the LUAS, over and above those needed from Dublin City Council to work on the carriageway. This limits the use of the LUAS network in relation to the characteristics of local density or capillarity, speed and ease of deployment, ability and ease of breakout, repair times. It is used by a limited number of SPs.

Figure 24: Map of LUAS light railway<sup>359</sup>



<sup>359</sup> [https://luas.ie/assets/files/Luas\\_Map.pdf](https://luas.ie/assets/files/Luas_Map.pdf)

## Irish Water

- A 2.78 As Ireland's national water utility, Irish Water ('IW') is responsible for providing water and wastewater services throughout Ireland. It does not install additional duct or pipework to support any other services and is not used by any ECNs to support services. IW is engaged in an extensive programme to repair and replace much of the existing aged and leaky water network<sup>360</sup> where up to 40% of its supply is lost through leakages and to also upgrade or install new waste treatment plants<sup>361</sup>. Although fibre optic cables can be installed in water and wastewater pipes, there has been limited such rollouts internationally, though one was undertaken in the Paris sewage system<sup>362</sup> and the U.K. government recently offered £4m to bidders for trials to use water pipes in rural areas<sup>363</sup> for fibre rollout. There are no plans for any such initiatives or tests in Ireland.
- A 2.79 IW has received no approaches from SPs to route cables through its infrastructure and it has no plans to attempt this itself. Additionally, there are many once off houses who have private wells<sup>364</sup> or are attached to private water schemes which have not yet been taken in charge by IW.
- A 2.80 For these reasons, ComReg considers that the IW network(s) cannot support ECNs networks.

## Local Authority Duct Networks

- A 2.81 Local Authorities ('LA(s)') use underground ducts to carry fibre used to connect traffic control plant (traffic lights and traffic monitoring cameras) and to route electrical cables for public lighting purposes. Some LAs have allowed limited portions of their traffic control duct to be used by SPs. They have sold or rented duct when approached by some SPs but usually only where this duct is surplus to their own requirements i.e., they do not normally share duct space. The duct used for traffic purposes is not dense and is generally only deployed on major traffic routes. Many lighting poles are connected with buried cable and the duct routes for both traffic and lighting are not contiguous, and do not connect into any premises passed.

---

<sup>360</sup> <https://www.water.ie/projects/national-projects/leakage-reduction-programme/>

<sup>361</sup> <https://www.water.ie/projects/>

<sup>362</sup> <https://www.lightwaveonline.com/fttx/ftth-b/article/16668908/frances-free-telecom-sets-off-ftth-revolution>

<sup>363</sup> <https://www.gov.uk/government/news/broadband-rollout-trial-to-target-hard-to-reach-homes-through-uks-water-pipes>

<sup>364</sup> <https://www.gov.ie/en/publication/1d9d8-private-wells/>

A 2.82 LA's each have different approaches to allowing third parties access to their duct, while many do not have any SPs using their infrastructure, those that do allow access and corresponding rules of engagement separately and on an ad-hoc basis. LA duct has been used in various urban centres by a limited number of SPs, usually for road or bridge crossings or to remedy gaps in their networks. DCC has recently created a telecoms group to coordinate access to its PI and it has published maps of its limited duct network<sup>365</sup> which is sparse and non-contiguous.

A 2.83 The use of LA networks is restricted in relation to the characteristics of local density or capillarity, speed and ease of deployment, and ability and ease of breakout. They are used by various SPs to a limited extent.

### Local Authority Storm Drains

A 2.84 Local Authorities have in many instances, maintained responsibility for storm drains and these are not maintained by Irish Water. By their nature they are non-contiguous and many drains in older parts of our cities are directly connected into sewers. They are therefore by design, not dense and non-contiguous and have not been used in any instances in Ireland to support telecoms services.

### Magnet Networks

A 2.85 Magnet Networks provides various business voice and data services and has a Dublin PI MAN connecting the major business parks and districts in the Dublin area. It is classified as a LL Type SP above, so the restrictions to its use of PI in terms of speed and ease of deployment, breakout and capacity etc. apply equally to it as all other such SPs. It was recently acquired by the IIF and is part of the Speed fibre Group.

### National Broadband Ireland

A 2.86 National Broadband Ireland ('**NBI**') was awarded the government contract in 2019<sup>366</sup> to make high speed broadband available to circa 560,000 premises<sup>367</sup> in the State. The majority of NBI's network rollout will be routed via Eircom's duct and pole PI and it will also use the eNet MANs for regional PoPs<sup>368</sup>. Its own PI will be limited to infill and some customer drops.

---

<sup>365</sup> <https://data.gov.ie/dataset/telecoms-underground-infrastructure-dcc>

<sup>366</sup> <https://www.gov.ie/en/publication/c1b0c9-national-broadband-plan/>

<sup>367</sup> Currently estimated to connect almost 560,000 premises, <https://www.gov.ie/en/publication/c1b0c9-national-broadband-plan/>, last updated on 31 May 2022.

<sup>368</sup> <https://nbi.ie/news/latest/2021/01/22/nbi-connects-the-first-premises-under-the-national-broadband-plan/>

## Rivers & canals

- A 2.87 A very limited amount of fibre cable, circa 70Km, was installed over 10 years ago in duct laid within the tow paths of some canals between Dublin, Kildare and Meath. This infrastructure has been used by a number of SPs for backhaul connectivity between a small number of urban centres, with some also purchasing dark fibre from upstream providers. Rivers and canals form obstacles to network expansion and networks must be routed via bridges or poles, in order to transverse them or, alternately, routed beneath them using directional drilling techniques or tunnels.
- A 2.88 There has been no expansion of this tow-path PI network since these routes were completed and ComReg is not aware of any other such developments or using waterways by other methods, in the intervening period.

## SIRO

- A 2.89 SIRO is a joint venture ('JV') formed in 2015 between the ESB and Vodafone Ireland, and, therefore from an economic perspective, enjoys "vertical" relationship with the ESB<sup>369</sup>. It is solely a wholesale SP and is deploying FTTH network to deliver high speed broadband in various districts around the country, primarily using the ESB's underlying electrical physical infrastructure (ESB poles and duct). Its broadband products are mostly targeted at the wholesale broadband market and its rollout has passed 450K<sup>370</sup> premises to date, though it has launched and is actively selling some LL products<sup>371</sup>.
- A 2.90 It has recently announced a new second phase to this rollout to bring this coverage up to 770K premises<sup>372</sup>. As part of this programme, it recently announced a plan to rollout fibre in Longford<sup>373</sup>.
- A 2.91 There are various challenges for SIRO in using the ESB PI as detailed in the description of the ESB's PI network above. However, the key point regarding SIRO's fibre network, is that the volume of its self-supplied PI is low, mainly built for infill such as road crossing etc. The majority of the PI it uses is wholly owned by the ESB, so it cannot offer PIA to other SPs.

---

<sup>369</sup> It should be noted that ESB is bound by state aid rules and must offer access to its infrastructure to any access seeker on an equal basis.

<sup>370</sup> <https://siro.ie/roll-out/>, date accessed 21<sup>st</sup> September 2022.

<sup>371</sup> [Launching 10Gb Network Upgrade for Galway Enterprises - SIRO](#)

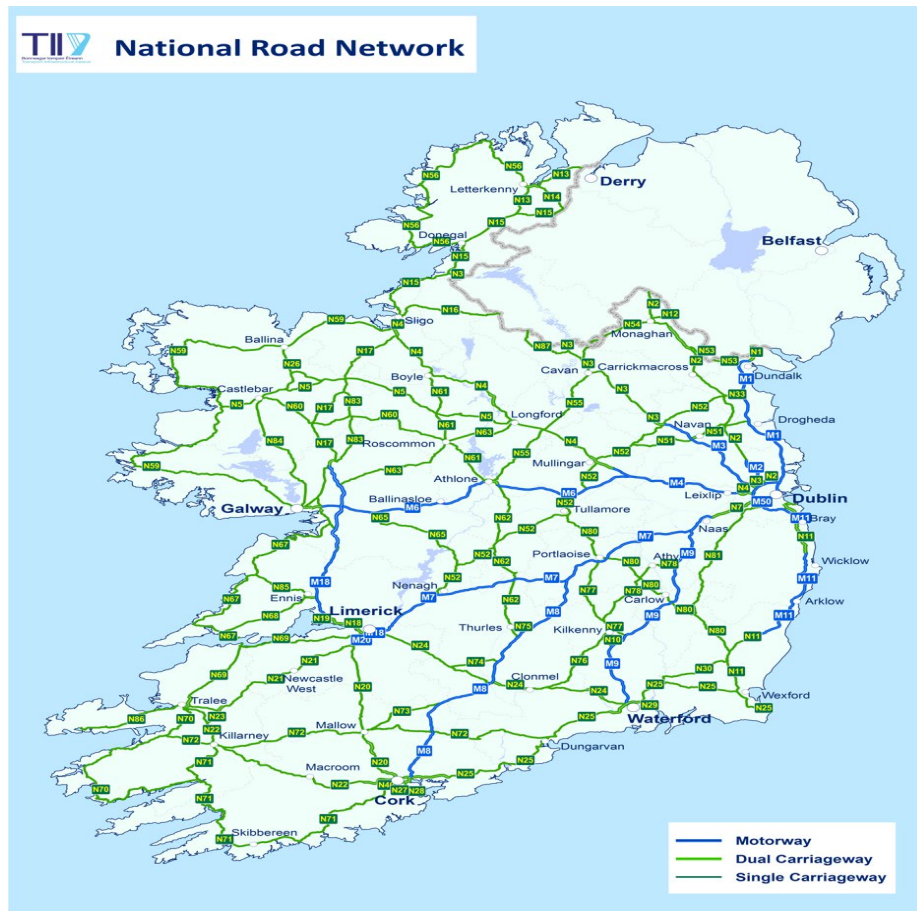
<sup>372</sup> <https://siro.ie/news-and-insights/expansion-of-our-gigabit-broadband-network/>

<sup>373</sup> [Launching SIRO 100% Fibre Broadband in Longford town - SIRO](#)

### TII National Road Network

- A 2.92 Transport Infrastructure Ireland (**TII**) duct network has limited geographic coverage and restricted opportunity for breakout as its motorways traverse countryside and do not connect directly into urban centres.
- A 2.93 The former National Roads Authority (**NRA**) was amalgamated with TII which has therefore, assumed responsibility for the building and maintenance of the motorway and national road network (the “M” and “N” routes). The motorway network has telecoms duct installed on parts of it, to which third parties are allowed access, but TII has received only a limited number of requests for access to it.
- A 2.94 As can be seen in Figure 25 across, the national road network connects major towns, but the NRA has not as a matter of course installed duct on the “N” routes. Hence, there is no coherent duct network connecting between the towns on these national routes. While a number of telecoms networks have built their own duct on some stretches of N routes, the TII does not offer duct access on its N route network. It is also worth noting that “N” routes have a different road opening process that apply to local roadways under the control of local authorities. TII requires a three-month notification period to obtain road opening licenses for any work undertaken on N routes.

Figure 25: TII National Road Network<sup>374</sup>



Virgin Media

A 2.94 The main feature of Virgin Media’s telecoms network is that it contains relatively limited volumes of PI (duct) in relation to the overall size of its service footprint, as demonstrated in Figure 26 Figure 29, Figure 30, Figure 31 and Figure 32 below.

<sup>374</sup> [https://www.tii.ie/roads-tolling/our-road-network/NationalMap\\_Motorway2017-Updated.png](https://www.tii.ie/roads-tolling/our-road-network/NationalMap_Motorway2017-Updated.png) accessed 13th October 2022.

- A 2.95 Virgin Media's network is a Hybrid Fibre-Coax ('HFC') cable TV network using Data Over Cable Service Interface Specification ('DOCSIS') data transmission standards to provide digital TV<sup>375</sup>, broadband and VoIP services. The fibre is used to connect the central head-end to multiple distributed fibre nodes which are electrically powered, often situated on the surface of dwellings. Each fibre node services multiple premises which are connected by coaxial cable over which the Radio Frequency ('RF')<sup>376</sup> signal is transmitted. Amplifiers may be deployed in the coaxial cable path to ensure the signal is distributed in a "no loss" manner to each individual end customer.
- A 2.96 The main fibre routes from the head-end<sup>377</sup> are often installed in underground duct while the coax cable to the premises is usually surface, or fascia mounted on the eaves of surfaces of premises. This fascia mounted methodology was adopted by the first cable TV companies in Ireland operating in the 1970s. These legacy routes have been maintained in much of Virgin Media's network, although the network components, both cable and active equipment, have been replaced and upgraded in various largescale network improvement programmes.
- A 2.97 This also highlights a feature of Virgin Media's duct network in that it is not directly connected to customers' premises. Even if a third party were to access portions of its disaggregated duct network, it would still need to complete the "last mile", i.e., the final duct connection into the end users' premises.
- A 2.98 The fibre and coax can intermingle to some extent in that fibre can also be surface mounted along buildings, and in turn the coax cable can occasionally be pulled through duct. The routing of cables depends on the topology and nature of the original network which may need additions, due to possible expansion of the housing stock in some areas. Network planners will arrange the most efficient deployment of network assets and always attempt to minimise the amount of new PI, as this is always the most expensive and time-consuming part of any network build or expansion.
- A 2.99 The original deployment method and the "organic" nature and expansion of the of the HFC network over time, has resulted in the VM duct network having a highly disaggregated and non-continuous character. The exceptions here are towns where more recently it has established some FTTH MANs, as explained in paragraph A 2.103 below.

---

<sup>375</sup> Standard and high definition TV (the analogue signal was discontinued in 2012).

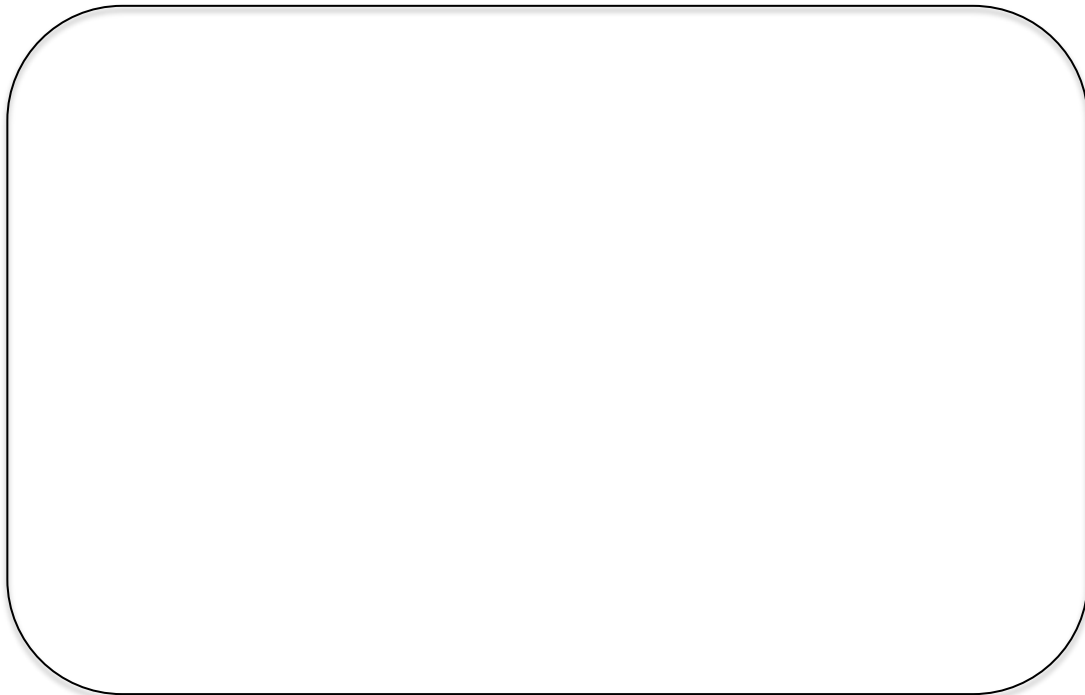
<sup>376</sup> The terms Coax cable and RF cable can be used interchangeably.

<sup>377</sup> A head-end is a major network node on a Cable TV network from which the TV and other signals are distributed.

A 2.100 This feature of non-contiguity applies to the majority of the Virgin Media network as is apparent in random examples chosen from Limerick City in Figure 26, Figure 27 and Figure 28 below, and the Liberties area in Dublin shown in Figure 29 Figure 30 and Figure 31, below.

A 2.101 Even in portions of its network, such as Tallaght in Dublin, which underwent significant upgrading of its physical network in the 1990's, many customer connections were achieved by facia mounted coaxial cable being attached to the eaves of rows of house as demonstrated in Figure 32 below. In such cases the underground duct has been routed along the main arterial roads in housing estates and connected only to the first house on each row of houses on adjoining roads, while the coax cable then connected along the eaves of houses on these adjoining roads.

**Figure 26: Virgin Media duct network Limerick City, duct (black)**  
[REDACTED]





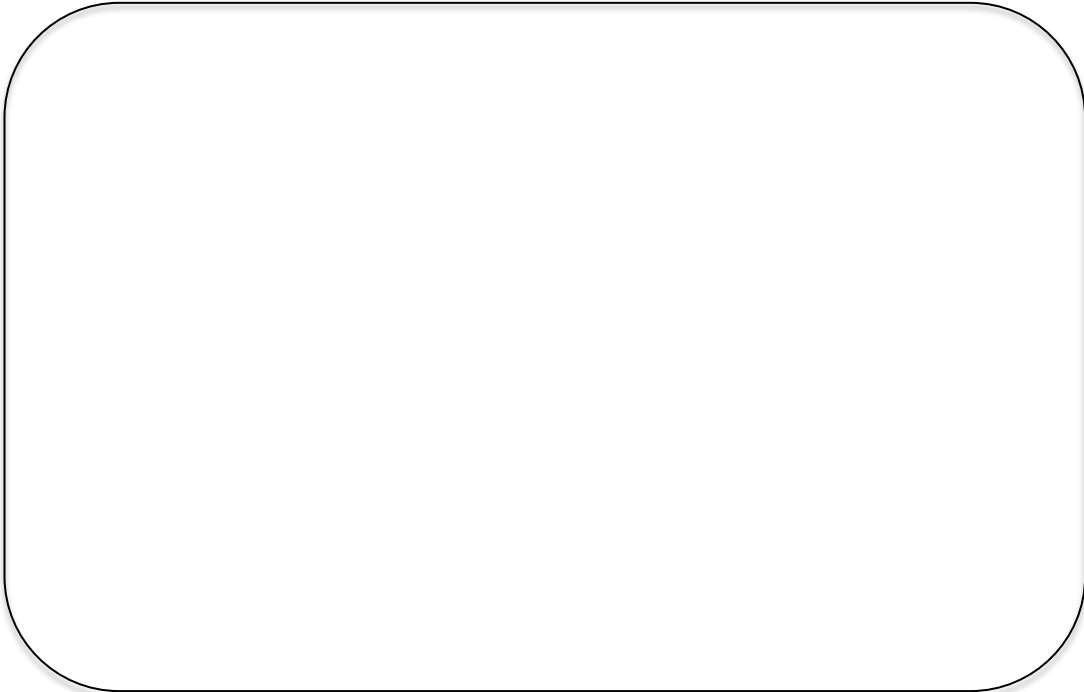
**Figure 27: Virgin Media network Limerick City, duct black & fibre cable blue [REDACTED]**



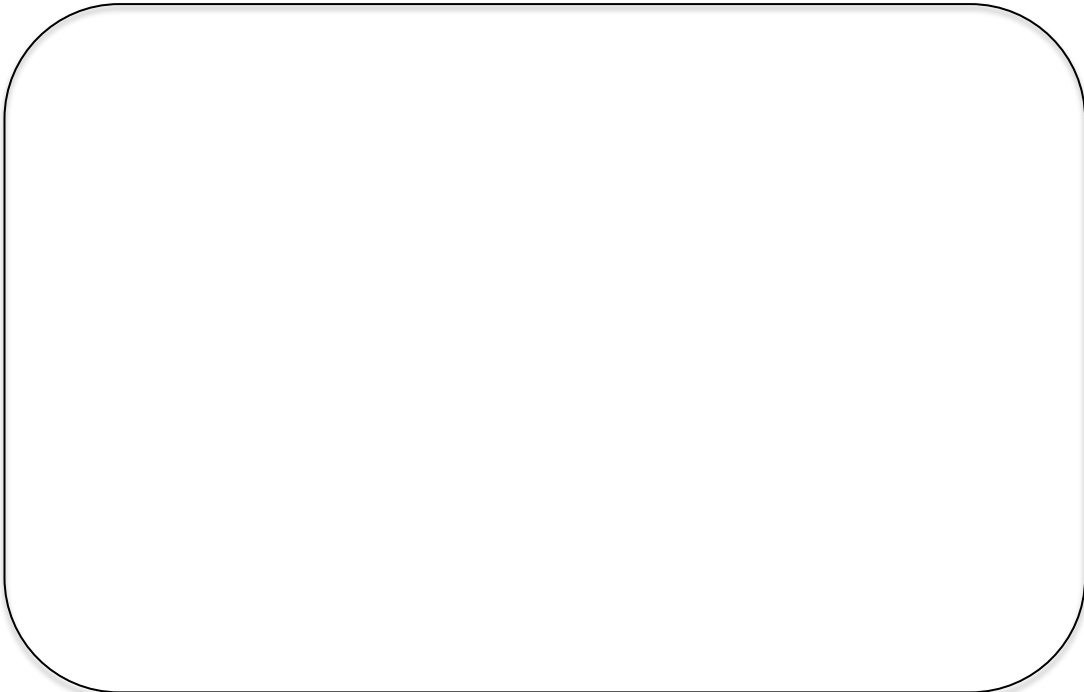
**Figure 28: Virgin Media network Limerick City, duct (black), fibre (blue) and coax cable (red) [REDACTED]**



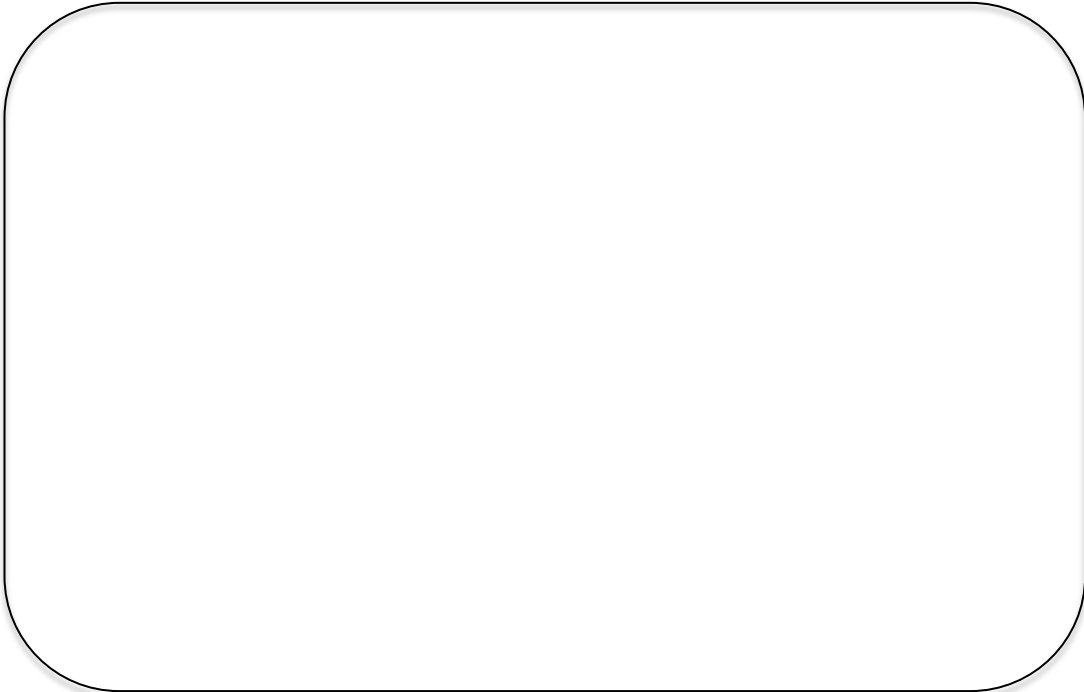
**Figure 29: Virgin Media network Dublin, Liberties area, duct (black) [REDACTED]**



**Figure 30: Virgin Media network Dublin, Liberties area, duct (black) and fibre (blue) [REDACTED]**



**Figure 31: Virgin Media network Dublin, Liberties area, duct (black), fibre (blue) and coax cable (red) [REDACTED]**



**Figure 32: Virgin Media duct network in part of Tallaght, Dublin duct (black), fibre (blue) and coax cable (red) [REDACTED]**



A 2.102 Its cable network is present in most urban centres in the country, and it passes 958,700 premises nationally<sup>378</sup>. Even in areas where it has concentrated or dense cable network, there are some gaps or “not-spots” where it has been unable to extend its cabled network. These are often due to historical network reasons, where groups of households in the 1970s and 80s were able to obtain cross-channel TV signals using roof mounted terrestrial TV aerials and did not take cable TV subscriptions, and so were omitted from future network developments. There were also other instances where cable was run to the rear of properties and subsequently, became inaccessible due to building extensions, and finally, where new estates were developed some distance from the existing network and proved too costly to establish connectivity.

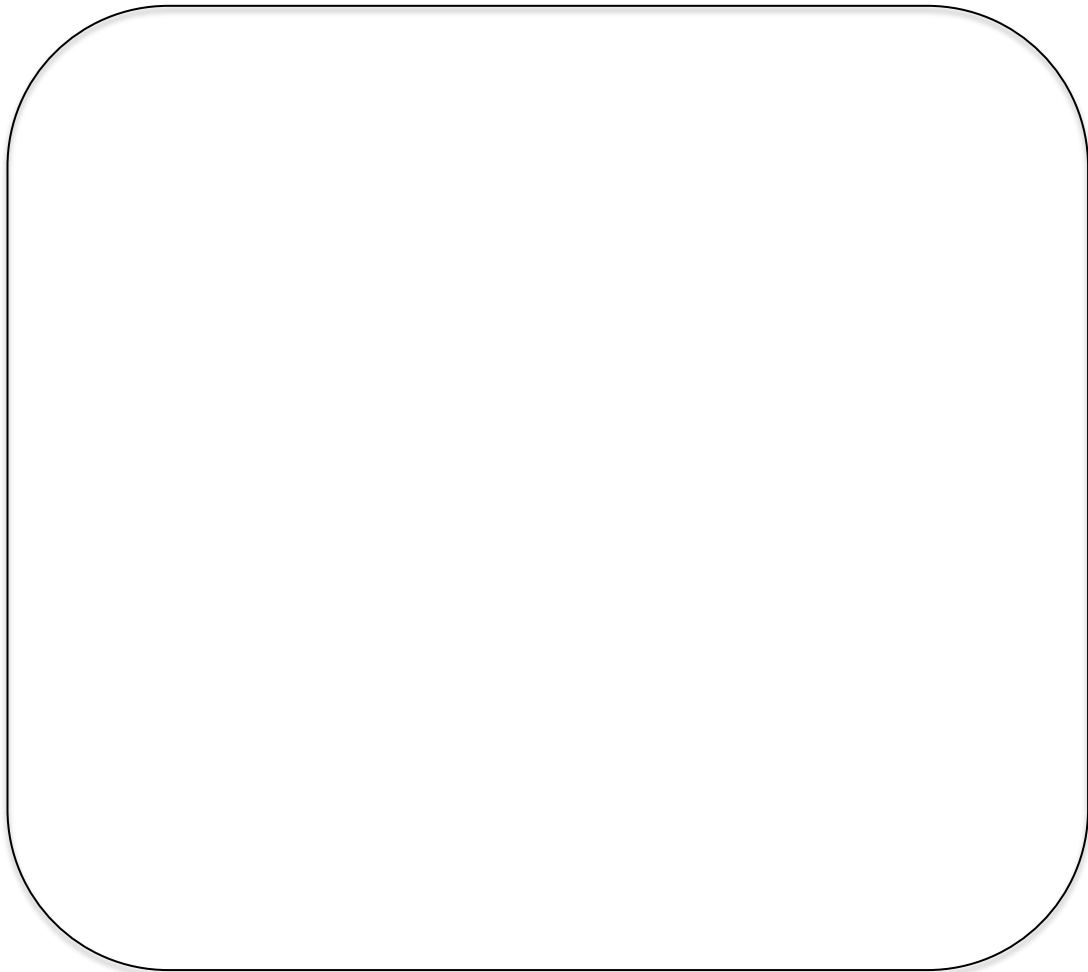
A 2.103 It is also worth noting that where Virgin Media has rolled out new, exclusively ducted FTTH MANs in towns where it previously did not have any cable TV network, its [REDACTED] [REDACTED]. It has installed a total of [REDACTED]

[REDACTED] [REDACTED]. An example of this is its network in [REDACTED] [REDACTED], as shown in Figure 33 below.

---

<sup>378</sup> Liberty Global's Q2 2022 Fixed Income Release: Virgin Media Ireland Preliminary Q2 2022 Results [Ex 99.1 Fixed Income Q2 2022 Release \(libertyglobal.com\)](#).

**Figure 33: Virgin Media FTTH network coverage Wexford Town**  
[REDACTED]



A 2.105 The volume of Virgin Media duct coverage per county is shown in Table 21 below, measured against the total roadway based on Ordinance Survey ('OSI') maps. Dublin has the highest volume being c. <55% but it is important to recall that even in areas where the overall duct lengths are reasonably substantial, the duct is non-contiguous. More importantly, this duct is not directly connected into customers' premises in the majority of instances - and so would require additional build by any third party if they were to seek to use this duct to access premises. Table 22 below shows a similar analysis with the percentages of Virgin Media duct measured against total roadway lengths, using geographical units of both Electoral Divisions ('ED') and Eircom Exchange Area ('EA'). This table broadly concurs with the county level analysis and shows low numbers of EDs and EAs containing high penetration of duct and many with very low volumes or zero duct present.

**Table 21: Virgin Media duct length and percentage of road coverage per county [~~PARTIALLY REDACTED~~]<sup>379</sup>**

County	Km of Virgin Media Duct	Km of Roads* (OSI)	Virgin Media Coverage of Roads* (OSI)	Virgin Media Coverage of Roads* (OSI)
Dublin				
Louth				
Kildare				
Limerick				
Wicklow				
Waterford				
Meath				
Carlow				
Westmeath				
Clare				
Wexford				
Laois				
Cork				
Galway				
Kilkenny				
Offaly				
Sligo				
Mayo				
Tipperary				
Roscommon				
Cavan				
Donegal				
Kerry				
Leitrim				
Longford				
Monaghan				
<b>Totals</b>				

\* Excluding motorways

<sup>379</sup> Based on 2019 Virgin Media mapping data submitted to ComReg.

**Table 22: Virgin Media duct length percentage coverage of road per EA and EEA geographic units [~~PARTIALLY REDACTED~~]<sup>380</sup>**

Virgin Media - % Duct Coverage of roads*	No. of Electoral Divisions	No. of Eircom exchange areas
≥90%≤100		
≥80%<90%		
≥70%<80%		
≥60%<70%		
≥50%<60%		
≥40%<50%		
≥30%<40%		
≥20%<30%		
≥10%<20%		
≥0%<10%		
<b>Totals</b>		

\* Excluding motorways

A 2.106 It is worth noting that it is unlikely that either of VM's recently announced initiatives<sup>381</sup> of November 2021, to upgrade to a fully fibre network (i.e., to replace its coax cable network with fibre) and to launch a wholesale service, will change the nature and scope of its duct network. Any additional fibre will most likely substitute its existing coax cable portions of its cabling network.

### Vodafone

A 2.28 Vodafone has a PI MAN in the greater Dublin area, which is skeletal in nature, mainly connecting many of the major business parks and some commercial areas. It has a limited geographic footprint and is classified as a LL Type SP above, so the restrictions to its speed and ease of deployment, breakout, density or capillarity, and capacity equally apply to it.

<sup>380</sup> Ibid.

<sup>381</sup> <https://www.virginmedia.ie/about-us/press/2021/virgin-media-ireland-announces-national-fibre-network-upgrade>

## Verizon

A 2.106 Verizon [§<

§>].

## Waterways Ireland

A 2.107 Waterways Ireland ('WI') maintains the following waterways: Barrow Navigation, Lower Bann Navigation, Royal Canal, Erne System, Shannon-erne Waterway, Grand Canal and the Shannon Navigation system. This constitutes over 1,000 km of waterways which are chiefly used for recreational use.

A 2.108 A small portion of the canal system has fibre routes installed in adjacent towpaths (see paragraph A 2.84 above), but given the footprint and nature of the majority of the adjacent topology and limitation of access to these water courses (e.g. Shannon River), they are not suitable for routing of fibre and they have major challenges for breakout and connecting premises which they pass.

## Wireless PI (PI associated with P2P, FWA and Satellite)

A 2.109 The PI associated with wireless platforms, namely poles, masts, towers etc. which support antennae installations and other equipment associated with wireless services, are considerably different in both their nature, and scope of deployment to that of fixed PI (duct and pole). The functionality and purposes for which each type of PI is designed, built and used for, are entirely divergent and so they cannot be used interchangeably to any appreciable extent. Wireless PI can be installed in most locations assuming proper planning rules and regulations are adhered to, but such locations are chosen to fulfil different requirements and criteria to those when choosing locations to install fixed PI.

## ZAYO

A 2.110 ZAYO is an international operator with network in western Europe and the U.S.A. It offers data, voice and cloud services and also dark fibre and high bandwidth metro and international services. Its Dublin PI MAN connects major business parks and is connected to international sub-sea cables as shown in Figure 34 below. It is classified as a LL Type SP in Table 19 above, so the restrictions outlined above (see paragraphs A 2.9 to A 2.17 above) to speed and ease of deployment, breakout and capacity, etc. equally apply to it as to other similar networks.



Figure 34: ZAYO Dublin network and international connectivity<sup>382</sup>



<sup>382</sup> <https://www.zayo.com/global-network/buildings-kmz>

# Annex 3: Summary of responses to Qualitative Questionnaire

## Introduction

- A 3.1 In Q1 2021 ComReg met with and informed a range of potential stakeholders operating or with a potential interest in the Physical Infrastructure Access ('PIA') market that ComReg was commencing a review of the PIA<sup>383</sup> market. These included a range of service providers ('SP(s)') engaged in the supply of Electronic Communications Networks ('ECN(s)') and/or Electronic Communications Services ('ECS(s)') providers<sup>384</sup>, as well as entities not active in the supply of ECN/ECS but which had physical infrastructure ('PI') which could potentially be used for this<sup>385</sup>. ComReg also met with the Commission for the Regulation of Utilities ('CRU'), that regulates certain utility companies such as ESB, SSE Airtricity, and Bord Gáis Energy, as well as with certain National Regulatory Authorities ('NRAs') in other jurisdictions<sup>386</sup> having experience in the regulation of PIA. At the time, ComReg also informed stakeholders that information would subsequently be sought via questionnaires (including based on statutory information gathering powers).
- A 3.2 In May 2021, ComReg issued non-statutory based qualitative questionnaire (QQ) to 15 SPs Aurora, BT, Colt, Eircom, eNet, ESBT, euNetworks, GTT, Magnet, NBI, SIRO, Viatel, Virgin Media, Vodafone & Zayo of wholesale and/or retail ECS to obtain information and solicit views (based on experience) on a range of topics, ultimately to inform ComReg's PIA market analysis.
- A 3.3 10 SPs responded to the May 2021 Questionnaire, although in some cases responses were not provided on specific questions.
- A 3.4 The May 2021 Questionnaire asked 32 specific questions under the headings set out below:
- (a) Demand for PIA (Q1-Q16);

<sup>383</sup> The PIA market is not identified in the European Commission's 2020 Recommendation as a market deemed susceptible to *ex ante* regulation at a European level. ComReg can, nonetheless, review this market based on national circumstances and in doing so is required to carry out the so-called Three Criteria Text ('3CT') identified in Article 67 of the EECC.

<sup>384</sup> [redacted]

[redacted].

<sup>385</sup> Irish Water and ESBN (Q3 2021).

<sup>386</sup> Ofcom, U.K. and ARCEP, France.

- (b) Supply of PIA (Q17-Q22);
- (c) Geographic Market Considerations (Q23-Q24);
- (d) Expansion of PIA or other relevant Infrastructure (Q25-Q26);
- (e) Market Dynamics (Q27);
- (f) Most important aspects of a well-functioning PIA product (Q28);
- (g) International Experience (Q29);
- (h) Broadband Cost Reduction Regulation (BCRR) (Q30–Q31); and
- (i) Other issues (Q32).

A 3.5 The specific questions asked and a summary of responses received is set out below. The responses to these questions have, for the purpose of this Consultation, informed both the PIA product and the geographic market definitions, as well as the assessment of competition within the defined Relevant PIA Market.

## (a) Demand for PIA

A 3.6 The May 2021 Questionnaire sought respondents' views on its demand for PIA in response to specific questions that were broken down into the following themes:

- (a) Consumption of PIA Products (Q1-Q4);
- (b) Which product characteristics<sup>387</sup> are most important when sourcing ECN specific PIA (that built specifically to provide wired telecommunication services) (Q5-Q8);
- (c) Alternatives sources to ECN specific PI (other than that built specifically for wired telecommunication services) (Q9-Q13); and
- (d) Other ECNs (Q14-Q16).

## Consumption of PIA Products

A 3.7 The following questions enquired about SPs current demand for PIA and its use in wholesale ECS markets they operate in.

Q 1.	Please indicate whether you currently purchase, lease or rent PIA to provide the following services?
a)	Wholesale High Quality Access;
b)	Wholesale Local Access;
c)	Wholesale Central Access;
d)	Installation of own Dark Fibre; and/or
e)	Other wholesales services (please list).

A 3.8 All 10 respondents answered this question. 2 [X] respondents stated that they don't purchase, lease or rent PIA and another respondent [X] stated it did not provide wholesale services but instead self-supplies PIA for its own retail services.

A 3.9 Out of the remaining seven respondents who purchase, lease or rent PIA to provide wholesale ECS (and noting respondents may be active in several areas), six [X] use it to install dark fibre, four [X] operate in the WHQA market, three [X] operate in the WLA market and two [X] operate in the WCA market.

<sup>387</sup> These characteristics were identified as key by ComReg following meetings with various stakeholders and other NRAs (Ofcom, U.K. and ARCEP, France).

A 3.10 Overall, seven respondents purchased, leased or rented PIA provide services in at least one downstream wholesale market. In total nine out of the ten respondents operate in these downstream wholesale markets. The responses to the subsequent questions assist the understanding of the relationship between the PIA market and related downstream, markets.

Q 2.	Please indicate if you plan to purchase, lease or rent PIA to provide any of the services listed in Q1 above, within the next 2 years?
------	--

A 3.11 All ten respondents answered this question. Five [X ██████████ ██████████ X] indicated that they plan to purchase, lease or rent PIA to provide wholesale ECS over the next two years. All of these five respondents' replies to question 1 shows that they currently engaged in this activity. Two [X ██████████ X] respondents indicated that they might acquire PIA for this purpose while three [X ██████████ X] respondents indicated that they had no plans to do so.

Q 3.	Within the last 3 years, within any geographic area that you have an ECN presence, have you changed your lease or rental of PIA by:
a)	switching supplier from one external provider(s) of PIA (either in part or in whole) to another external provider(s); and / or
b)	switching supplier from an external provider(s) to self-supply of PIA (either in part or in whole); or
c)	switching supplier from self-supply to an external provider(s) of PIA (either in part or in whole)?
If so, for each of the above categories of switching, please provide details of:	
i.	List the suppliers you switched from/to,
ii.	The specific geographic area(s) involved,
iii.	The reason for switching (e.g., price, quality/reliability, location/ presence of infrastructure, delivery times, product information etc.)
iv.	Any costs/problems you incurred in switching your lease/rental between these products (e.g., any contract penalties etc.); and
v.	The length of time taken to complete switching.

A 3.12 Only one of the nine respondents to this question had any experience of switching their purchases of PIA in this jurisdiction. This respondent [X [REDACTED] X], stated that it usually signed long term PIA contracts to connect customers and so would not readily change supplier. It had instigated a programme to change from 3rd party active services (e.g. WHQA, WCA or WLA) to self-supply (using its own physical infrastructure) but that this was proving very difficult to execute. The obstacles identified were due to retail customer inertia (wanting to avoid potential disruption and downtime associate with the move), and landlord resistance to allowing building access for the associated civil works. It also stated that there was a lack of alternative PI available limiting its ability to roll out its own ECN.

Q 4.	Over the medium term; i.e.; the next 3 – 5 years, do you anticipate:
a)	moving from one external provider(s) of PIA (either in part or in whole) to another external provider; and / or
b)	moving from an external provider to self-supply of PIA (either in part or in whole); or
c)	moving from self-supply to an external provider(s) of PIA (either in part or in whole)?
Please explain your reasoning for considering doing so.	

A 3.13 There were ten responses to this question. Two [X [REDACTED] X] respondents indicated that they plan to switch (a-c inclusive and c) PIA to provide wholesale ECS over the medium term. One of these respondents' replies to question 1 shows that they are currently engaged in the downstream provision of WHQA, WLA and dark fibre and the other is involved in the provision of dark fibre. Two [X [REDACTED] X] other respondents indicated that they might acquire PIA to provide wholesale ECS while six [X [REDACTED] X] respondents indicated that they had no plans to do so.

- (a) **Comments on option (a):** one respondent [X [REDACTED] X], who is a WHQA provider, stated they would be unlikely to migrate to another PIA provider unless there were a compelling reason to do so because it has a number of successful and mature arrangements in place.

- (b) **Comments on option (b):** one respondent [redacted], who is a WHQA provider, stated that the returns from a typical WHQA contract would not justify an investment in PI and they are therefore limited to its existing PI network. It also noted that building out PI to facilitate entry into the WLA market would also be financially prohibitive and that existing networks such as Eircom and Virgin Media would make market share difficult to acquire.
- (c) **Comments on option (c):** one respondent [redacted] who is a WHQA provider, stated that self-supply of PIA is typically a lower cost option than migrating it to external PIA suppliers. Another respondent [redacted] noted that some SPs may have localised monopolies for access to new PI at the level of new housing developments and new business parks. Another respondent [redacted] that is a WHQA supplier stated it would consider moving to an external provider of PIA if it is commercially advantageous to do so without compromising operational excellence.

**Importance of characteristics when sourcing ECN specific PIA (that built specifically to provide wired telecommunication services)**

Q 5.	What duration of contracts are optimal for utilising PIA built for wired telecommunications services?
------	---

A 3.14 Eight [redacted] respondents replied this question. One [redacted] respondent stated a preference for short term contracts, two [redacted] respondents stated a preference for medium term contracts i.e. 3-5 years or a duration that would match the length of a contract for the associated downstream service, and the remaining five [redacted] respondents stated a preference for long term contracts ranging from 10 to 40 years. There were a mix of WHQA and WLA providers across these responses.

Q 6.	Can you identify the key advantages and disadvantages for each approach below to sourcing PIA built for wired telecommunications services?
a)	Self-built;
b)	Co-Investment;
c)	Purchased (not rented or leased);
d)	Swapped;

e)	Rented/ Leased; and
f)	Indefeasible Right of Use.

A 3.15 There were six [redacted] responses to this question with a summary set out in Table 23 below.

**Table 23: Key advantages and disadvantages for each approach to sourcing PIA**

Contract Type	Advantages	Disadvantages
a) Self-built	<ul style="list-style-type: none"> <li>Ownership and control of duct space.</li> <li>Control of access and timeliness for repair.</li> <li>Can manage for efficiency such as using a lot of fibres for backbone or core services.</li> <li>Once install costs are covered ongoing costs will be lower.</li> <li>Addresses areas where infrastructure is not available</li> </ul>	<ul style="list-style-type: none"> <li>High cost to initially deploy.</li> <li>Takes time to plan and install.</li> <li>Pressure to make a return on investment.</li> <li>Often must pay for ongoing wayleaves on private land.</li> <li>Responsible for upkeep on private and public land.</li> <li>Required to maintain to local authority standards.</li> <li>Little to no interest from others for most of the estate.</li> </ul>
b) Co-Investment	<ul style="list-style-type: none"> <li>Shared installation and operations &amp; maintenance costs.</li> <li>Good access to ducts for installation and self-repair.</li> </ul>	<ul style="list-style-type: none"> <li>Rollout maybe less optimal for all parties.</li> <li>More competition may lower the probability of deployment.</li> <li>Upfront commitment so could be difficult for smaller operators.</li> <li>Possible restrictions on access/ use/ breakouts by co-investors.</li> </ul>
c) Purchased (not rented or leased)	<ul style="list-style-type: none"> <li>Time / Immediate access – No build project management costs.</li> <li>Full ownership, control and unrestricted use of asset.</li> </ul>	<ul style="list-style-type: none"> <li>O&amp;M costs, network may not be designed for specific use or in the exact location required</li> <li>Low availability of PI for sale.</li> </ul>
d) Swapped	<ul style="list-style-type: none"> <li>Keeps capital requirement down.</li> <li>No build project management costs.</li> <li>Immediate access.</li> <li>Access to portions of networks in specific locations.</li> <li>Make use of excess capacity in other locations.</li> </ul>	<ul style="list-style-type: none"> <li>Lack of ownership, control and possible restrictions on use of asset.</li> <li>Giving access to valuable networks in specific locations.</li> <li>Low probability of deployment.</li> <li>Finding like for like swaps may be difficult.</li> <li>Timing of the swaps may not be optimal for both operator’s network rollout programmes.</li> <li>The US Sarbanes Oxley Act (2002) does not allow this type of trading arrangement for US Corporations.</li> </ul>

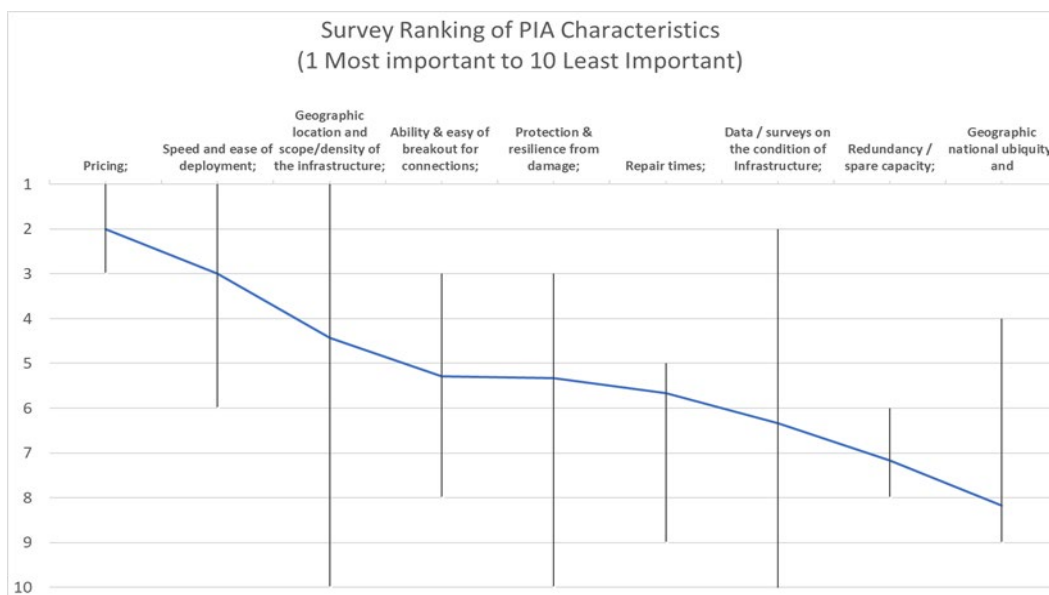


Contract Type	Advantages	Disadvantages
e) Rented/ Leased	<ul style="list-style-type: none"> <li>• Fast or immediate access to infrastructure once the access process is optimised.</li> <li>• Lower capital cost. No upfront one off capital payment. No build project management costs.</li> <li>• Suitable for shorter or lower value or routes where the return does not justify larger initial capital outlay.</li> <li>• Currently the standard solution for PIA, as you know where you stand.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of ownership, control and possible restrictions on use of asset.</li> <li>• Higher operational costs.</li> <li>• Depending on the product description, it may not be flexible enough to rollout out an access network.</li> <li>• Ongoing maintenance of the infrastructure and fibre also needs to be considered.</li> <li>• Longer-term contract desired – 10yrs plus for network certainty.</li> </ul>
f) Indefeasible Right of Use	<ul style="list-style-type: none"> <li>• Immediate access.</li> <li>• Security for 15 to 25 years.</li> <li>• Access to portions of networks in specific locations.</li> <li>• No build project management costs.</li> <li>• Upfront one off capital payment which can be capitalised.</li> <li>• May be more cost effective for long term contracts than traditional leasing.</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of ownership, control and possible restrictions on use of asset.</li> <li>• Paid up-front which can be costly in rolling out a network.</li> </ul>

Q 7.	Please rank in order of descending importance, 1 being the most important, the different characteristics of a PIA product for use in the deployment of a wired ECN, identified below (please provide reasoning for your rankings):
a)	Pricing;
b)	Speed and ease of deployment;
c)	Protection & resilience from damage;
d)	Ability & easy of breakout for connections;
e)	Repair times;
f)	Redundancy / spare capacity;
g)	Data / surveys on the condition of Infrastructure;
h)	Geographic location and scope/density of the infrastructure;
i)	Geographic national ubiquity; and
j)	Other (please specify and rank).

A 3.16 Seven respondents completed or partially completed the rankings of the characteristics, including two responses that provided some additional characteristics. Figure 35 below provides a summary of these rankings displaying 3 statistics for each ranking, the maximum (top of the vertical lines), the average (where the blue horizontal line intersects with the vertical lines) and the minimum rankings (bottom of the vertical lines). The top 3 ranked characteristics in order are pricing; speed and ease of deployment; and geographic location and scope /density of the infrastructure. Each of these three characteristics had at least one response that ranked it 1 which sets them apart from the other characteristics.

**Figure 35: Survey Ranking of PIA Characteristics**



A 3.17 A number of respondents provided additional comments on the characteristics, including:

- (a) **Pricing:** [X ■ X] stated that the value and stability of PI pricing is very important as this is a product normally used over the long term. It noted that switching PI is expensive, so once installed it is likely to be kept there for the life of the product.
- (b) **Speed and ease of deployment:** [X ■ X] noted that the importance of this characteristic depends on the intended use of the deployment. When building out networks, small delays are tolerable but if, for example, a competitive tender needs to be met, delays are not acceptable. When carrying out a large rolling out of broadband, connecting customers quickly is also critical, as it aids in funding the investment.

[REDACTED] (solely a WHQA supplier), noted that this characteristic can be poor when another characteristic, (g) data/surveys on the condition of Infrastructure, is low quality. It noted that the opposite did not hold, high quality data/surveys on the condition of Infrastructure does not guarantee speed and ease of deployment. [REDACTED] noted that this characteristic is an important aspect of a well-functioning PIA product and [REDACTED] [REDACTED] [REDACTED].

- (c) **Protection & resilience from damage:** [REDACTED] stated that risk to damage can be reduced with good network design and that duct was its preferred type of PIA because of this. It stated that route resilience is incorporated into the core network and key routes but this it is often not viable for local access. [REDACTED] (solely a WHQA supplier), noted that this is a characteristic of PIA that are considered quite standard and not one that varies much across different providers of PIA.
- (d) **Ability & easy of breakout for connections:** [REDACTED] noted that this is an important part of connecting to a customer and that facilities such as lead-in ducts are critical.
- (e) **Repair times:** [REDACTED] stated that Service Level Agreements ('SLAs') with business customers requires that mean time between failures ('MTBF') is very long and duration of outages are very short. Some its SLAs require same day repair if there is a service failure. It noted that residential consumers are becoming more dependent on high speed data access and less tolerant of outages. It noted that Eircom offers a 5 day duct repair. [REDACTED] (solely a WHQA supplier), noted that repair times are considered quite standard and not a characteristic that varies much across different providers of PIA.
- (f) **Redundancy / spare capacity:** [REDACTED] noted that PIA can facilitate the deployment of additional fibres along key network spines for connection into local access networks, which aids capacity planning. This generates economies of scale, allows capacity expansion as well as the ability to swap a faulty fibre with another without having to remove an entire cable.

- (g) **Data / surveys on the condition of Infrastructure:** [X ■ X] stated this is of particular important for poles as there are public safety and service reliability issues (exposure to the weather). Ducts are more resilient than poles and therefore require less frequent inspections. [X ■ X] (solely a WHQA supplier), noted that this characteristic is a component of one of the other characteristics, Speed and ease of deployment.
- (h) **Geographic location and scope/density of the infrastructure:** [X ■ X] noted that density is important for the access network, getting close to customer premises, and less so for the core part of a network. [X ■ X] (solely a WHQA supplier) stated that the geographic location of PIA was critically important to it but density had no importance. [X ■ X] noted that each of the characteristics are important both individually and collectively in order to have a well-functioning PIA product. It also stated that [X ■ X] [X ■ X].
- (i) **Geographic national ubiquity:** [X ■ X] stated that this characteristic is essential for local access but not so much for a core network, as there can be more options for diverse routing.

A 3.18 Two respondents [X ■ X] suggested additional characteristics.

A 3.19 [X ■ X] suggested **cost of deployment** as one of its highest ranked PIA characteristics. When pricing a retail leased lines contract, this cost can have an important influence on who wins the bid. When rolling out to broadband customers, there will be a certain percentage of households passed who won't sign up, which makes this cost a critical component to commercial viability.

A 3.20 **Contract duration** was another characteristic that [X ■ X] suggested and ranked it in its top 3. It suggested that it needed to be long term, to match the life of the service it is used for or longer. It stated that short term contracts would provide supply or pricing risks that would undermine confidence to investing.

A 3.21 **Effective Penalties** were the final characteristic suggested by [X ■ X] and stated that penalties on PIA operators needed to be commensurate to the impact that PIA failures have on purchasers.

A 3.22 [X [REDACTED] X] listed a number of additional factors when considering the use of third-party PIA, including: the ability to support service integrity; the ability to support existing levels of customer experience; the ability to deliver existing service delivery metrics.

Q 8.	Based on the list of product and other characteristics listed below please state whether you consider the wired ECN specific PIA controlled by non-telecom providers (e.g.; local authorities, motorway networks, etc.) as an effective substitute for the wired ECN specific PIA of telecom providers?  Please provide a supporting rationale with your response for each characteristic making reference to the following where appropriate:
a)	Pricing;
b)	Speed and ease of deployment;
c)	Protection & resilience from damage;
d)	Ability & ease of breakout for connections;
e)	Repair times;
f)	Redundancy / spare capacity;
g)	Data / surveys on the condition of Infrastructure;
h)	Geographic location and scope/density of the infrastructure;
i)	Geographic national ubiquity; and
j)	Other (please specify and rank).

A 3.23 No respondents ranked the characteristics with respect to ECN specific PIA controlled by non-telecoms providers, while two respondents made comments on some or all of them, as follows:

- (a) **Pricing:** [X [REDACTED] X] noted that pricing from these type of PIA owners are typically not published and that rules on use of their PIA are likely to vary and result in additional costs when compared to using Eircom’s products.
- (b) **Speed and ease of deployment:** [X [REDACTED] X] stated that using PIA from different providers will add delays and costs to any roll out. It also noted that telecom operators typically need PIA that connects to Eircom’s exchanges and this typically isn’t the case with these type of PIA owners.
- (d) **Ability & ease of breakout for connections:** [X [REDACTED] X] stated that this characteristic is critical for an existing service provider in order for it to connect its network to that of the PIA provider. It noted that Eircom’s PIA would be most efficient for it to use.

- (e) **Repair times:** [X [REDACTED] X] noted that repairs to some this type of PI, i.e., along motorways, may be delayed, due to requirements for lane closures and result in a more hazardous working environment for engineers to operate in.
  - (f) **Redundancy / spare capacity:** [X [REDACTED] X] stated that some this type of PI i.e. along motorways, can offer diversity to legacy networks and can be expected to have sufficient spare capacity
  - (g) **Data / surveys on the condition of Infrastructure:** [X [REDACTED] X] noted that better knowledge of telecom infrastructure is typically more available relative to that of telecom infrastructure owned by non-telecom providers.
  - (i) **Geographic national ubiquity:** [X [REDACTED] X] noted the limited geographic location of such infrastructure means that it could not be viewed as an effective substitute for wired ECN-specific PIA provided by telecoms providers in general.
- A 3.24 [X [REDACTED] X] noted that around 2012, the then Government proposed a one stop shop approach to buying/using PI but this initiative never materialised. This respondent was of the opinion that local authorities lacked the marketing skills to advertise their PIA to telecom operators.
- A 3.25 [X [REDACTED] X] suggested that these owners of telecom PI could potentially form a viable substitute to telecom owned PIA, but these owners currently lack experience and this segment of the PIA market is therefore under developed. While some local authorities have specified the provision of open access infrastructure by developers, they have failed to demonstrate how this infrastructure would be operated or maintained in the future, most specifically when the development has been 'taken in charge' by the local authority. They have also not specified the conditions, terms and conditions for its use.
- A 3.26 [X [REDACTED] X] stated it considered this type of ECN specific PIA controlled by non-telecoms providers to be a substitute where it is available and would consider it preferable to telecom owned PI, when all else being equal, it is more likely to provide you with unique routing which could be used as a differentiation point in the market. It noted that there can be a wide variety of in terms of infrastructure quality, process and pricing from these non-telecom owners of ECN PI.
- A 3.27 [X [REDACTED] X] noted that this category of PIA is a suitable substitute to telecom owned PI from a technical perspective and may even be superior, but cautioned that these type of PIA providers may over value its PIA and therefore price it in a way that can undermine its commercial use.

A 3.28 [X [REDACTED] X] noted that it had a preference for using telecom providers PIA because of transparency and clarity around processes. The processes for accessing PI controlled by non-telecoms are unclear.

**Alternatives sources to ECN specific Physical Infrastructure (other than that built specifically for wired telecommunication services)**

**Electricity Infrastructure**

Q 9.	Based on the list of product and other characteristics listed below please state whether you consider electricity poles and ducts as an effective substitute to wired ECN specific PIA?  Please provide a supporting rationale with your response for each characteristic making reference to the following where appropriate:
a)	Pricing;
b)	Speed and ease of deployment;
c)	Protection & resilience from damage;
d)	Ability & easy of breakout for connections;
e)	Repair times;
f)	Redundancy / spare capacity;
g)	Data / surveys on the condition of Infrastructure;
h)	Geographic location and scope/density of the infrastructure;
i)	Geographic national ubiquity; and
j)	Other (please specify and rank).

A 3.29 9 of the 10 respondents answered this question. 2 of such respondents [X [REDACTED] X] stated that it was not relevant to them so did not offer any insights. 2 other respondents [X [REDACTED] X] said that electricity infrastructure was a viable substitute but neither supported their answer by reference to the suggested characteristics or provided a rationale. [X [REDACTED] X] stated that it engaged with ESB to trial using its PI for telecom’s ECS but found ESB reluctant to engage and the trial never proceeded. It also noted that SIRO is rolling out its FTTH network extensively relying on the electricity PI which would strongly suggest that such infrastructure is an effective substitute to wired ECN PIA.

- A 3.30 [X [REDACTED] X] stated that it sees electricity PI as a substitute to wired ECN PIA, [X [REDACTED] X]. It stated that the lack of a centralised database of infrastructure is an impediment to the planning and design of a network. Alternative PIA is usually the result of survey work.
- A 3.31 Five other respondents [X [REDACTED] X] did not think it was an effective substitute. [X [REDACTED] X] observed that the SIRO joint venture between Vodafone and the ESB uses the electricity network but that this is limited to outside of Dublin, with deployment in areas patchy e.g. in Kilkenny City. It is also observed that the use of overhead infrastructure appears to be limited for additional providers given the electricity poles look to be near full of streetlamp furniture, power cables, fibre cables and associated frames and DPs.
- A 3.32 [X [REDACTED] X] stated that it did not consider electricity PI as a substitute to wired ECN specific PI. It lacked expertise for dealing with live electricity infrastructure, and noted that the supply of power will understandably always take precedent over the telco asset. [X [REDACTED] X] noted that it does not believe that electricity poles and ducts are an effective substitute to wired ECN specific PIA. [X [REDACTED] X].
- A 3.33 [X [REDACTED] X] noted that while ESB's network has the geographic scale and reach to match Eircom's, this does not mean that electricity poles and ducts are an effective substitute to wired ECN-specific PI. In practice, the lack of a defined PI product from ESB, coupled with restrictions on network access and likely costs, mean that the likelihood of ESB's PI becoming an effective substitute for Eircom's PI remains a remote one.
- A 3.34 Finally, [X [REDACTED] X] stated that it has not accessed the electricity network to date however it may consider this, as required, into the future as the electricity network has the advantage of ubiquitous coverage and could be a useful network if there is capacity. One potential barrier it foresaw was in the area of safety regulations. It thought that given existing regulations, access seekers may always be reliant on the electricity network operator in order to access the infrastructure or to make repairs etc., and another consideration was the lack of clarity regarding end-to-end process for access.
- A 3.35 Only one respondent [X [REDACTED] X] ranked these characteristics, while four [X [REDACTED] X] respondents made comments on some or all of them, as follows:



- (a) **Pricing:** [X [REDACTED] X] noted no pricing is currently publicly available but that additional costs are likely to arising due to additional safety measures that are likely to be required when working with electricity PIA. [X [REDACTED] X] suggested that in new developments ESB is not charged by the developer for the PI provided for electricity infrastructure and that ESBN receives a payment for connection. It is unclear how the capital cost of the infrastructure would be attributable to ECN operators. [X [REDACTED] X] stated that any work around the installation or repair of ECN on electricity infrastructure needs to be incorporated around planned electricity network outages and this adds more time and some uncertainty around when these can take place, compared to wired ECN specific PIA. This in turn adds to the costs to using this infrastructure, which can be prohibitive in cases.

[X [REDACTED] X] stated that during the [X [REDACTED] X] [X [REDACTED] X] with some indicative prices for its proposed point-to-point dark fibre solutions. These prices were well in excess of the costs it would face using, where available, Eircom's PI or self-supplying PI. This means that ESB's access charges would be significantly in excess of [X [REDACTED] X] [X [REDACTED] X]. From a cost point of view, therefore, it considered that the use of ESB's infrastructure – to the extent ESB would be prepared to make such access available at all – would not be a viable alternative to Eircom's PIA.

- (b) **Speed and ease of deployment:** [X [REDACTED] X] questioned the capacity within electricity street furniture to support multiple operators, while also keeping a safe distance from power lines. [X [REDACTED] X] both noted that the critical nature of the electrical network, the needs of the electricity customer will always have precedence over a telecoms customer. Outages required for the installation of ECN on the electricity network will take a considerable time to arrange and any change in circumstances regarding the needs of electricity customers will override previous arrangements. This lack of predictability delivers far less to telecoms customers than would be expected from wired specific PIA.

[REDACTED] highlights that in light [REDACTED], even if [REDACTED] were able to access ESB's pole infrastructure by means of a PIA product, it would need to access poles carrying both MV and low voltage ('LV') lines. The restrictions it would face and the interruptions in domestic electricity services that would result would make widespread deployment using those poles untenable, [REDACTED] for ESB.

- (c) **Protection & resilience from damage:** [REDACTED] stated that risks to network and staff safety would need to be understood before considering this PIA.
- (d) **Ability & easy of breakout for connections:** [REDACTED] stated that it doesn't see this as viable unless such work could be carried out by ESB staff.
- (e) **Repair times:** [REDACTED] noted that it would expect repair times to be longer compared to those of a traditional telecom's environment due to health and safety issues involved in working with electricity. [REDACTED] stated that due to the nature of the electrical network and the requirement for electrical outages, the minimum time to repair would be approx. 3 weeks in all cases. This is less suitable than that which is expected for repair times on wired ECN specific PIA. [REDACTED] noted that due to the primacy of electricity supply, in the event of damage to ESB ducts/poles causing interruptions in power supplies to end-users, ESB repair crews will give priority to the re-establishment of the electricity service. As a result, this is likely to mean that there would be a material interval between when a damaged power line and a damaged fibre cable deployed on the same aerial route would be repaired. The impact of this would be prolonged service outages for end-users served by such routes and, in [REDACTED] case, such protracted delays in completing network repairs would not be consistent [REDACTED].

- (g) **Data / surveys on the condition of Infrastructure:** [X ■ X] noted that a working assumption would be that ESB maintains the network in good working order. This is even more important for an electricity network given the safety consequences if it is not. [X ■ X] stated the requirement to ensure the integrity of the electrical network is maintained following the installation of telecoms infrastructure, the pre-installation assessment of the electricity network must be thorough and complete. This can drive costs in the survey and planning stage. These costs would typically be passed through to the telecoms operator. The cost of survey is high and there can be additional make ready charges to ensure that electrical PI can carry the telecoms cable(s) with minimal impact to the electricity customer.
- (h) **Geographic location and scope/ density of the infrastructure:** [X ■ X] stated in very rural areas where [X ■ X] is predominantly rolling out fibre, the majority of the ESB network infrastructure is MV and runs across farmland. This raises several practical challenges, including access, wayleaves, cost and health and safety considerations. In light of this, it is [X ■ X] opinion that this infrastructure, despite its nationwide reach, is not an effective substitute to wired ECN-specific PIA
- (i) **Geographic national ubiquity:** [X ■ X] noted that the ESB network can be considered ubiquitous, although more difficult and costly than a ubiquitous telecoms network to use. [X ■ X] observed that of all the possible alternatives to Eircom's PIA, none comes closer as an effective substitute to Eircom's PIA than the electricity infrastructure owned and operated by ESB. Its network has a national presence, and its pole network has an equivalent reach and scale in rural areas as that of Eircom's.

### Water Infrastructure

Q 10.	Based on the list of product and other characteristics listed below please state whether you consider access to water and wastewater/stormwater pipes and drains as an effective substitute to wired ECN specific PIA?  Please provide a supporting rationale with your response. making reference to the following where appropriate:
a)	Pricing;
b)	Speed and ease of deployment;
c)	Protection & resilience from damage;
d)	Ability & easy of breakout for connections;
e)	Repair times;
f)	Redundancy / spare capacity;
g)	Data / surveys on the condition of Infrastructure;
h)	Geographic location and scope/density of the infrastructure;
i)	Geographic national ubiquity; and
j)	Other (please specify and rank)

A 3.36 Nine of the ten respondents replied to this question. One respondent [X [REDACTED] X] agreed that water infrastructure could be an effective substitute to wired ECN specific PIA, in theory. This respondent noted that it had not used this type of PIA. Four respondents [X [REDACTED] [REDACTED] X] stated that they did not consider water infrastructure as an effective substitute to wired ECN specific PIA. Finally, five respondents [X [REDACTED] X] stated they were not in a position to make a comment or have not considered water infrastructure.

A 3.37 Only one respondent [X [REDACTED] X] ranked these characteristics, while three [X [REDACTED] X] respondents made comments on some or all of them, as follows:

- (a) **Pricing:** Both [X [REDACTED] X] noted that there was no published pricing list for access to this type of infrastructure. [X [REDACTED] X] suggested there would be significant other costs in training, qualifications, and considerably different work practices required to build a network within sewers.

- (b) **Speed and ease of deployment:** [X [REDACTED] X] considered that the lack of Local Authority records and network drawings would be the biggest drawback for programme planning and deployment in such PI. [X [REDACTED] X] view is that the sewer solutions are not mainstream and raise a raft of different issues and costs particularly in comparison to the use of existing telecoms specific PI, which is optimised for deploying telecoms services, and connects to existing telecoms hubs where networks already meet such as telephone exchanges or cabinets. The level of environmental issues to address using a telecoms network are far fewer than those of a sewer network. It would envisage a much more complex deployment taking far longer than using the telecoms network PIA.

[X [REDACTED] X] commented on the health and safety concerns that arise in relation to water quality. Possible contamination of potable water supplies is likely to be a primary concern in this regard, as would general concerns about security of supply should any third-party using the water infrastructure cause damage or create leaks that resulted in interruptions to service. In light of these many concerns, it remains far from clear if widespread deployment of ECNs within water infrastructure might be feasible.

- (c) **Protection & resilience from damage:** [X [REDACTED] X] mentioned potential risks of damage from chemicals and machinery when using the waste and drinking network. [X [REDACTED] X] suggested there was a risk of using the sewer network in poor weather, such as heavy rain, where the water pressure can build. In addition, when foul and rainwater share the same sewer, this increases the risk of damage.

- (d) **Ability & easy of breakout for connections:** [X [REDACTED] X] considered this to be difficult and liability for leaks at required break out points would rest with the carrier. [X [REDACTED] X] noted that the sewer network is not physically aligned with the telecoms network and it will therefore be more difficult to breakout connections from one network to another. In traditional telecoms duct designs, the aim would be to stay away from sewers where possible as these can cause an environmental hazard, limiting the ability of engineers to repair the telecoms infrastructure. Hence, it seems that breakouts between the sewer network and the telecoms network would need to have some form of interlock to prevent the accidental contamination of the telecoms platform.

[redacted] stated that a significant issue standing in the way of utilising water infrastructure for the deployment of an ECN is the absence of information about how authorised undertakings might access this infrastructure to deploy their fibre optic cables. The absence of information on water infrastructure ingress and egress is also relevant in assessing the suitability of using this infrastructure for the deployment of ECNs. Even where such information is available, the kind of water infrastructure that is typically found in rural areas within the NBP IA would still largely be inaccessible from an ECN deployment perspective.

- (e) **Repair times:** [redacted] stated that the more environmentally hazardous nature of the sewer system combined with its susceptibility to the weather conditions such as flood water would be expected to increase repair times particularly at times of poor weather which is an undesirable outcome.
- (f) **Redundancy / spare capacity:** [redacted] noted that surveys of the sewers in any target locations would need to be carried out but thought the physical size of the sewers may limit people access into the sewers and thus may not offer any manageable capacity.
- (g) **Data / surveys on the condition of Infrastructure:** [redacted]  
[redacted]  
[redacted]. [redacted] stated that the water industry in Ireland has struggled to replace old water pipes and to upgrade sewer plants and hence anticipate the same situation is occurring for the sewers. Indeed, the continuous increase in housing is likely to be putting the existing sewer network under greater stress.

(h) **Geographic location and scope/ density of the infrastructure:**

[redacted] [redacted]. [redacted]

[redacted] noted that if this type of infrastructure is capable of use for ECN deployment, it is most likely only feasible (cost and ease of access) in urban areas. It noted that within the NBP IA many premises are still not served by a mains sewer network, but have instead an own-use septic tank installed. Moreover, many rural premises within the IA get their water supply from infrastructure that was originally put in place by local community-based group water schemes, resulting in water networks which tend to be disjointed in nature and far from contiguous, with some premises still getting their water service from individual drill wells.

(i) **Geographic national ubiquity:** [redacted] [redacted] noted that given the relatively small size of the population and the dispersed housing once outside major dwelling areas, the sewer pipes are not expected to be of a sufficient size to mount fibres to their ceilings - hence it is unlikely that sewers can provide geographic national ubiquity.

A 3.38 More generally, [redacted] [redacted] noted that trials and some testing of this solution have taken place around the world. However, after reviewing these, it did not consider this to be an economically viable solution. One observation is that the solution maybe better suited to very large sewers, such as Victorian sewers where there is sufficient headroom to walk through the sewer. In these cases, the fibres can be fixed to the ceiling of the sewer thereby minimising the impact on the flow within the sewer and the risk of damage to the fibre. However, this type of sewer network is largely not available where it could deploy.

A 3.39 [redacted] [redacted] stated that it considers water infrastructure, including wastewater and stormwater pipes, not to be an effective substitute to wired ECN-specific PIA. It noted discussions that have been taking place in the UK to develop technical standards for the deployment of fibre optics cables in sewers<sup>388</sup>, and that it is are still far from clear if such infrastructure is capable of being used in practice or what the cost might be to access it. In summary, several practical issues currently stand in the way of water infrastructure being used as an effective substitute to wired ECN-specific PIA. While this may change in the future, it is unlikely to do so within [redacted] [redacted] area of operations in [redacted] [redacted].

<sup>388</sup> <https://www.computerweekly.com/news/252479479/Industry-group-launched-to-develop-standards-for-fibre-deployment-in-sewer-network>

## Railways

Q 11.	Based on the list of product and other characteristics listed below please state whether you consider access through railways and tramways as an effective substitute to wired ECN specific PIA?  Please provide a supporting rationale with your response, making reference to the following where appropriate:
a)	Pricing;
b)	Speed and ease of deployment;
c)	Protection & resilience from damage;
d)	Ability & easy of breakout for connections;
e)	Repair times;
f)	Redundancy / spare capacity;
g)	Data / surveys on the condition of Infrastructure;
h)	Geographic location and scope/density of the infrastructure;
i)	Geographic national ubiquity; and
j)	Other (please specify and rank)

A 3.40 Nine of the ten respondents replied to this question. One respondent [X [REDACTED] X] stated that ducts along the railway lines would be a useful option but did not state if it considered railway infrastructure to be an effective substitute to wired ECN specific PIA. This respondent noted [X [REDACTED] X]. Four respondents [X [REDACTED] X] stated that they did not consider railways and tramways as an effective substitute to wired ECN specific PIA. Finally, four respondents [X [REDACTED] X] stated they were not in a position to make a comment or have not considered railways and tramways for network rollout.

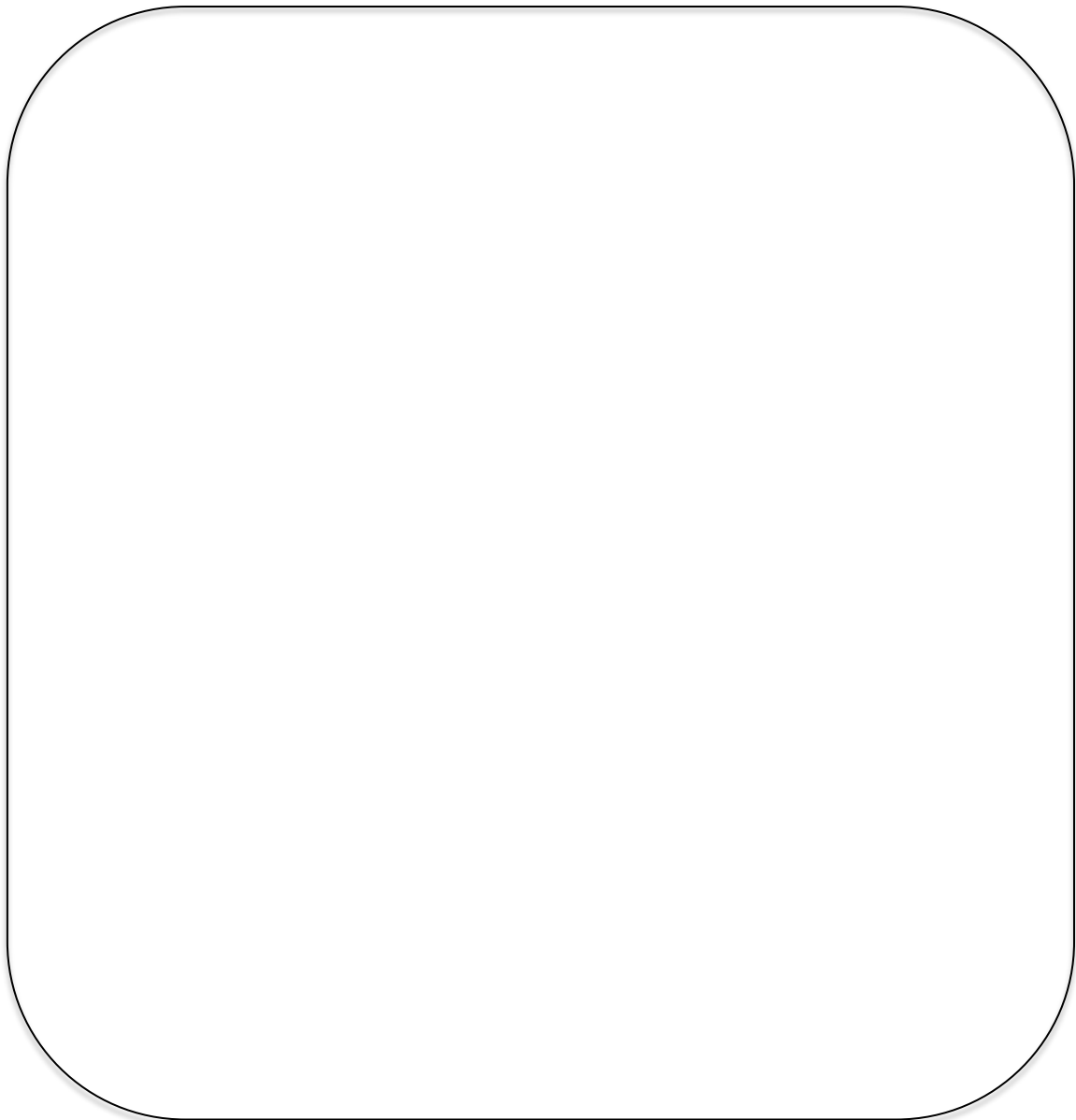
A 3.41 Only one respondent [X [REDACTED] X] ranked these characteristics, while three [X [REDACTED] X] respondents made comments on some or all of them, as follows:

- (a) **Pricing:** [X [REDACTED] X].
- (b) **Speed and ease of deployment:** [X [REDACTED] X] stated that as most of the CIE ECN service is [X [REDACTED] X], the speed and ease of deployment for future services would appear poor. [X [REDACTED] X] envisaged that there would be health and safety considerations around such access to the mainline rail but did not outline what they might be.



- (c) **Protection & resilience from damage:** [X [REDACTED] X] was of the opinion that the direct buried approach adds a layer of protection as the cables are out of sight to vandals etc. However it stated that it does experience several outages due to workman incidents damaging the cable. The rings nature of key parts of the network allows it to re-route traffic over different parts of the rings for resilience. [X [REDACTED] X].
- (d) **Ability & easy of breakout for connections:** [X [REDACTED] X].
- (e) **Repair times:** [X [REDACTED] X] noted that repairs cannot be carried out whilst the trains are running so are largely done through the night. [X [REDACTED] X].
- (f) **Redundancy / spare capacity:** [X [REDACTED] X] stated that it is not aware that duct has even been deployed along the railways (its understanding is that the fibre optic network originally deployed along CIE's trunk lines pursuant to the Esat Telecom/ CIE Agreement was directly ploughed in and that no ducting was installed at that time or since) or along the tramways. Absent such duct being in place and being available for use, there is no PI on either infrastructure to access and therefore there is no product which might be seen to be an effective substitute to wired ECN-specific PIA.
- (g) **Data / surveys on the condition of Infrastructure:** [X [REDACTED] X].
- (h) **Geographic location and scope/ density of the infrastructure:** [X [REDACTED] X] provided a map of the fibre routes [X [REDACTED] X].

Figure 36: BT National Rail &amp; Road Network [REDACTED]



[REDACTED] observed that the areas covered by railways and tramways are not at all extensive. While this infrastructure might be available to be used in instances where operators are seeking to deploy networks - which, in the case of railways, would be for inter-urban connectivity links or, in the case of tramways, would be for metro fibre links - it is not certain that this would be possible. As such, railways and tramway infrastructure would fall into the same category as motorway infrastructure (although, in the latter case, there is more ducting in place and it is, in the main, accessible) in that whatever PIA exists would be a complement to rather than an effective substitute for wired ECN-specific PIA.

- (i) **Geographic national ubiquity:** [X ■ X] noted that the use of railway infrastructure in the deployment of ECNs is of greater relevance in terms of crossing the infrastructure than it is in deploying network elements along the infrastructure. NBI's planned network contains several hundred crossings of the CIE network – over and under bridges, under level crossings and on aerial routes that traverse rail lines – with NBI obliged to obtain wayleave access from CIE for these crossings.

A 3.42 More generally, [X ■ X] noted that the CIE network provides a national backbone network. Whilst it is suitable for a national core network as the rail network is national in-coverage it's not appropriate for local access solutions, although it can at times be used to backhaul traffic into and out of a town.

A 3.43 [X ■ X] noted that gaining access to this infrastructure, and similar infrastructure such as waterways and canals, for the purposes of crossing on terms that are not burdensome (both in relation to cost and lead-times for securing access) is an important factor [X ■ X]. This means that, rather than being seen as a substitute for Eircom's PIA, access to railway and analogous infrastructure, specifically to secure crossings readily and on reasonable terms, should instead be viewed as a key enabler of effective access to Eircom's PI. Overall, access through railways and tramways is not an effective substitute to wired ECN-specific PIA.

## Waterways

Q 12.	Based on the list of product and other characteristics listed below please state whether you consider access to rivers and canals as a substitute to wired ECN specific PIA?  Please provide a supporting rationale with your response, making reference to the following where appropriate:
a)	Pricing;
b)	Speed and ease of deployment;
c)	Protection & resilience from damage;
d)	Ability & easy of breakout for connections;
e)	Repair times;
f)	Redundancy / spare capacity;
g)	Data / surveys on the condition of Infrastructure;
h)	Geographic location and scope/density of the infrastructure;
i)	Geographic national ubiquity; and
j)	Other (please specify and rank).

A 3.45 Nine of the ten respondents answered to this question. One respondent [X [REDACTED] X] agreed that access to rivers and canals could be an effective substitute to wired ECN specific PIA, in theory, but did not explain why or providing any supporting evidence. This respondent noted that it had not used this type of PIA. Four respondents [X [REDACTED] [REDACTED] X] stated that they did not consider access to rivers and canals as an effective substitute to wired ECN specific PIA. Finally, four respondents [X [REDACTED] [REDACTED] X] stated they were not in a position to make a comment or have not considered access to rivers and canals for network rollout.

A 3.46 Only one respondent [X [REDACTED] X] ranked these characteristics, while two (Aurora and BT) respondents made comments on some or all of them, as follows:

- (a) **Pricing:** [X [REDACTED] [REDACTED] X]. [X [REDACTED] X] stated that there is little in the way of pricing available and it considers that any solution using rivers and canals would have to be costed on a case by case basis. However, it noted that generally canals and rivers are limited in Dublin and would be limited to bringing trunk level cables to an area.

- (b) **Speed and ease of deployment:** [X [REDACTED] X]. [X [REDACTED] X] anticipate lots of issues with using rivers and canals such as getting through the series of canal locks. [X [REDACTED] X] stated that in theory canal towpaths and the like could be useful for the deployment of backhaul networks, but it was not aware of any PI installed along (or in) rivers and canals and so in both cases there is no product which might be seen to be an effective substitute to wired ECN-specific PIA.
- (c) **Protection & resilience from damage:** [X [REDACTED] X] was of the opinion that waterways would have very good protection & resilience from damage. [X [REDACTED] X] noted that the rivers and canals in Dublin are very shallow in places creating a greater risk of the cables becoming exposed to boats, such as canal boats causing them damage. Clearly any cable would have to be buried below the surface which could substantially increase the costs of such a venture. The dredging of both rivers and canals from time to time would be a concern.
- (d) **Ability & easy of breakout for connections:** [X [REDACTED] X]. [X [REDACTED] X] stated that a good network design for a telecoms network would try to keep it away from water. However, in Dublin it is likely that break-out to the local telecoms duct network should be possible as it's likely the telecoms ducts run close to the shoreline given the shortage of space in the city.
- (e) **Repair times:** [X [REDACTED] X] stated it is up to the carrier to undertake the repairs, but supervision is required from the governing body. [X [REDACTED] X] noted that repairs could be longer given the cable is probably buried, or if the river or canal is in flood due to poor weather.
- (f) **Redundancy / spare capacity:** [X [REDACTED] X] was of the view that waterways redundancy was poor. [X [REDACTED] X] stated redundancy is possible but will depend on cost as it would expect the Dublin City Council to apply considerable charges for permission to install cables in the rivers and canals.
- (g) **Data / surveys on the condition of Infrastructure:** [X [REDACTED] X].

- (h) **Geographic location and scope/ density of the infrastructure:** [X [REDACTED] X] stated it is limited and most areas covered by waterways are now served by open access carriers. [X [REDACTED] X] noted that this solution may be used for a core solution/backhaul or as a network feed to an area. However, given there are already several national core/backhaul networks this solution would not appear to be competitive even for core/backhaul networks.
- (i) **Geographic national ubiquity:** [X [REDACTED] X] noted that this solution is only useful for core type networks and maybe an element of bringing services to a general location hence (i.e. rivers and canals are not ubiquitous). It did not see this as providing a geography national ubiquity to customer premises. [X [REDACTED] X] stated that as is the case with crossing railway lines, the need to traverse rivers and canals arises in deploying networks and, in at least in some instances, there will be a need to obtain a wayleave licence from Waterways Ireland to enable this. Overall, [X [REDACTED] X] was of the view that access to rivers and canals is not an effective substitute to wired ECN-specific PIA.

Q 13.	<p>In relation to the supply of PIA, is it your view that PIA other than those that are specific to wired ECNs or those identified in Q 7 to Q 12 could be utilised effectively to roll-out wired ECNs in the near term, e.g. the next 2 years?</p> <p>Please explain your answer and provide examples of where this has been explored or achieved.</p>
-------	---

- A 3.47 All ten respondents answered this question. Two respondents [X [REDACTED] X] suggested that in theory there could be other forms of PIA but did not suggest what they were. [X [REDACTED] X] noted that utilising pre-existing duct will always be cheaper than a new build, but knowing the location and number of all existing ducts is the biggest challenge to utilising other sources of PIA for wired ECN. Five respondents [X [REDACTED] X] to this question did not think that there were other types of PIA to facilitate wired ECN available in the short term - over the next 2 years.
- A 3.48 One respondent [X [REDACTED] X] noted that utilising PI that is not dedicated to ECNs can be more difficult to incorporate into a telecommunications network and that the primary use of the infrastructure takes priority when the infrastructure is being installed It also highlighted that selecting a PI supplier brings challenges from a technical, deployment, Health and Safety and operational perspective. Finally, two respondents [X [REDACTED] X] stated that this was not applicable to their businesses.

## Other Electronic Communications Networks

### Point-to-Point Radio Link Networks

Q 14.	Based on the list of product characteristics below please state whether you consider microwave radio links could be used to provide wholesales services which in turn could act as a substitute to wired ECN specific PIA?  Please provide a supporting rationale with your response making reference to the following where appropriate:
a)	Pricing;
b)	Quality of ECN service;
c)	Speed and ease of deployment;
d)	Protection & resilience from damage;
e)	Ability to connect to customer;
f)	Repair times;
g)	Redundancy / spare capacity;
h)	Geographic location and scope/density of the infrastructure;
i)	Geographic national ubiquity; and
j)	Other (please specify and rank).

A 3.49 All ten respondents provided an answer to this question. Five respondents [X ██████████ X] agreed that point-to-point radio links were a substitute to wired ECS. Although four of these respondents [X ██████████ X] qualified this by suggesting it is only considered when fibre is not available or when diversity of supply is needed, or that it is limited to a substitute for broadband services due to a range of drawbacks to this technology.

A 3.50 Two respondents [X ██████████ X] stated that this was not a substitute to wired ECS. Finally, two respondents [X ██████████ X] stated they had no experience of using point-to-point radio links or that this technology was not applicable to its business.

A 3.51 No respondent ranked these characteristics, while four (BT, ESBT, NBI and Virgin Media) respondents made comments on some or all of them, as follows:

- (a) **Pricing:** [X ██████████ X] was of the opinion that point-to-point was an uneconomic substitute to fibre, with the high costs of radio equipment and accessing appropriate sites needed to achieve line of sight. On the other hand, ESBT stated that point-to-point was a cost effective substitute to fibre deployment in almost all circumstances.

- (b) **Quality of ECN service:** [X [REDACTED] X] noted a number of drawbacks with this technology including degradation of performance under certain weather conditions (heavy rain & snow); frequency interference; loss of line of sight due to new construction and excessive foliage etc. NBI also noted quality of service issues related to the use of microwave radio links.
- (c) **Speed and ease of deployment:** [X [REDACTED] X] stated that initial costs such as towers etc are once off but that install costs on a per customer basis is high and slow per customer order. Virgin Media had a contrasting view believing that deployment would be easier than other solutions and would be useful in areas with dispersed populations.
- (d) **Protection & resilience from damage:** [X [REDACTED] X] highlighted that the systems tend to be mounted high from the ground so are fully open to the weather. The service can also deteriorate in poor weather conditions. [X [REDACTED] X] stated that protection and resilience from damage would mitigate against the use of microwave radio links for its deployment of the NBP network.
- (e) **Ability to connect to customer:** [X [REDACTED] X] noted that point to point was OK where existing infrastructure exists but not easy when new towers are required in isolated locations as fibre backhaul can be an issue.
- (f) **Repair times:** [X [REDACTED] X] stated that service can be weather dependent as equipment mounted high from ground and not easy to access in poor weather – so repair in these situations can be longer. Maintenance costs can be high such as maintaining radio towers is expensive. [X [REDACTED] X] stated that repair times would mitigate against the use of microwave radio links for its deployment of the NBP network.
- (g) **Redundancy / spare capacity:** [X [REDACTED] X] both noted that this depends on licenced spectrum which is scarce so expensive to add redundancy/capacity. NBI also raised the time limited nature of spectrum. [X [REDACTED] X] stated that throughput could be a drawback and there may be a cap on the amount of data that can be delivered. Virgin Media noted that this might limit the service to broadband only products.



- (h) **Geographic location and scope/ density of the infrastructure:** [X [REDACTED] X] was of the opinion that this technology works best in more rural less dense areas and density of customer based needs to be low.
- (i) **Geographic national ubiquity:** [X [REDACTED] X] noted that this product is not suitable for dense built-up areas, so it does not offer Geographic national ubiquity. It is good for rural less dense areas.

**Fixed Wireless Networks**

Q 15.	Based on the list of product characteristics below please state whether you consider Fixed Wireless Access ('FWA') could be used to provide wholesales services which in turn could act as a substitute to wired ECN specific PIA?  Please provide a supporting rationale with your response, making reference to the following where appropriate:
a)	Pricing;
b)	Quality of ECN service;
c)	Speed and ease of deployment;
d)	Protection & resilience from damage;
e)	Ability to connect to customer;
f)	Repair times;
g)	Redundancy / spare capacity;
h)	Geographic location and scope/density of the infrastructure;
i)	Geographic national ubiquity; and
j)	Other (please specify and rank).

A 3.52 All ten respondents answered this question. Four respondents [X [REDACTED] X] agreed that point-to-point radio links were a substitute to wired ECS. Two of these respondents [X [REDACTED] X] qualified this by stating it is a substitute only if fibre availability is restricted or as a method of diversity/protection. Another one of these respondents [X [REDACTED] X] noted that FWA was not required by customers in any of the markets it operates in, and also was not aware of any wholesale or white label offering in the Irish market. Finally one of these respondents [X [REDACTED] X] noted limitations in bandwidth from FWA and this may limited it to broadband services only.

A 3.53 Four respondents [X [REDACTED] X] stated that FWA is not a substitute to wired ECS. One of these respondents [X [REDACTED] X] noted the benefits of FWA in rural areas where deployment of fibre or copper is uneconomic. Another respondent [X [REDACTED] X] stated that FWA couldn't provide high speed broadband (500Mbps) on a large scale with a similar performance to fibre based services. Finally one of these respondents [X [REDACTED] X] highlighted the limitations of this technology including achievable capacity and contention due to shared spectrum.

A 3.54 Finally, two respondents [X [REDACTED] X] stated they had no experience of using FWA or that this technology was not applicable to its business.

A 3.55 No respondent ranked these characteristics, while three [X [REDACTED] [REDACTED] X] respondents made comments on some or all of them, as follows:

- (a) **Pricing:** [X [REDACTED] X] noted that the cost for this is in the purchasing the radio equipment and appropriate sites to locate it. It's difficult to price as such only becomes clear when planning a real build.
- (b) **Quality of ECN service:** [X [REDACTED] X] stated that it would have reservations around using FWA due to the achievable capacity of the technology, contention due to the spectrum being shared, and the technology's inability to deliver speeds demanded by customers. [X [REDACTED] X] noted that such networks have possible limitations on bandwidth. In terms of end-user services this would be limited to a broadband solution only.
- (c) **Speed and ease of deployment:** [X [REDACTED] X] noted certain costs are once off, such as deployment of towers etc., but customer install costs are high and on a per customer basis. Hence its slow per customer order. Virgin Media was of the opinion that deployment than would be easier especially in areas with dispersed populations.
- (d) **Protection & resilience from damage:** [X [REDACTED] X] highlighted that the systems tend to be mounted high from the ground so are fully open to the weather. The service can also deteriorate in poor weather conditions.
- (e) **Ability to connect to customer:** [X [REDACTED] X] noted that this is OK where existing infrastructure exists but not easy when new towers are required in isolated locations as fibre backhaul can be an issue.

- (f) **Repair times:** [X █████ X] stated that service can be weather dependent as equipment is mounted high from the ground and is not easy to access in poor weather – so repair in these situations can be longer. Maintenance costs can be high such as maintaining radio towers is expensive.
- (g) **Redundancy / spare capacity:** [X █████ X] noted that this depends on licenced spectrum which is scarce so expensive to add redundancy/capacity.
- (h) **Geographic location and scope/ density of the infrastructure:** [X █████ X] stated that this technology is best suited in more rural less dense areas.
- (i) **Geographic national ubiquity:** [X █████ X] noted that this product is not suitable for dense built-up areas, so it does not offer geographic national ubiquity. It is good for rural less dense areas.

**Satellite Networks**

Q 16.	Based on the list of product characteristics below please state whether you consider satellite services could be used to provide wholesales services which in turn could act as a substitute to wired ECN specific PIA?  Please provide a supporting rationale with your response for each characteristic.
a)	Pricing;
b)	Quality of ECN service;
c)	Speed and ease of deployment;
d)	Protection & resilience from damage;
e)	Ability to connect to customer;
f)	Repair times;
g)	Redundancy / spare capacity;
h)	Geographic location and scope/density of the infrastructure;
i)	Geographic national ubiquity; and
j)	Other (please specify and rank).

A 3.55 All ten s respondents answered this question. No respondent stated that satellite services could be used to provide wholesales services which in turn could act as a substitute to wired ECN specific PIA.

- A 3.56 Two respondents [X [REDACTED] X] viewed satellite ECS as a substitute for wired ECS in certain edge cases, e.g. remote locations such as windfarms, marine etc. The performance of satellite ECS is constrained and would therefore only be effective as a substitute in specific geographic locations.
- A 3.57 [X [REDACTED] X] did not see satellite networks as a substitute for wired ECS and did not see any market demand for it.
- A 3.58 [X [REDACTED] X] believe that a more suitable Satellite Network technology than previously available will be required before this type of service can be an effective alternative to a wired ECN.
- A 3.59 [X [REDACTED] X] did not consider that satellite services could be used to provide wholesale services, which in turn could act as a substitute to wired ECN-specific PIA. Issues relating to available bandwidth, as well as latency and jitter, that are relevant in the case of the performance of satellite services make it even less likely that such services could ever emerge as an effective substitute to wired ECN-specific PIA.
- A 3.60 [X [REDACTED] X] did not consider satellite networks as a viable option as they are severely curtailed by bandwidth availability.
- A 3.61 Finally, two respondents [X [REDACTED] X] stated they had no experience of using satellite services or that this technology was not applicable to its business.
- A 3.62 No respondent ranked these characteristics, while five [X [REDACTED] X] respondents made comments on some or all of them, as follows:
- (a) **Pricing:** [X [REDACTED] X] noted that traditionally Satellite technology has been expensive given the high cost of launching satellites. [X [REDACTED] X] stated that it has no plans to deploy this type of solution and have not costed it, although it is aware of SpaceX and the evolution of space technology in recent years. Virgin Media are of the view that cost of utilising satellite networks would be very large.

- (b) **Quality of ECN service:** [X █████ X] noted that the performance of satellite ECS is constrained. [X █████ X] stated that the number of satellite connections in Ireland has been steadily reducing over time as other technologies delivered faster speeds with less onerous usage limits. [X █████ X] stated that issues relating to available bandwidth, as well as latency and jitter, that are relevant in the case of the performance of satellite services make it even less likely that such services could ever emerge as an effective substitute to wired ECN-specific PIA. [X █████ X] was of the opinion that satellite may be used occasionally as a broadband substitute in very remote areas, but not as wholesale product. Virgin Media stated that satellite networks are not currently a viable option as they are severely curtailed by bandwidth availability. The processes are unclear and cost would be very large.
- (c) **Speed and ease of deployment:** [X █████ X] stated that launching the satellite is time consuming and expensive but once in place connectivity to the customer is through the installation of a two-way dish and associate equipment on the home. Hence adding new customers' needs specialist equipment to align the dish. [X █████ X] was of the opinion that satellite networks offer a speed and ease of deployment that was as equivalent of that of wired ECS.
- (d) **Protection & resilience from damage:** [X █████ X] noted that the protection of the satellites is key as it would take considerable time (months to fix) unless there are spares in space. The dish in the house is clearly exposed to the weather but should last many years. [X █████ X] was of the opinion that satellite networks do not offer an equivalent level of protection & resilience from damage as that of wired ECS.
- (e) **Ability to connect to customer:** [X █████ X] noted that international break-out will be needed but the number of breakout points will be low. [X █████ X] was of the opinion that satellite networks offer an ability to connect to customers that is as equivalent of that of wired ECS.

- (f) **Repair times:** [X █████ X] stated that protection of the satellites is key as it would take considerable time (months to fix) unless there are spares in space. The dish in the house is clearly exposed to the weather but should last many years. [X █████ X] was of the opinion that satellite networks offer repair time that are as equivalent of that of wired ECS.
- (g) **Redundancy / spare capacity:** [X █████ X] noted that this will be needed in case the Satellite fails. [X █████ X] was of the opinion that satellite networks do not offer an equivalent level of redundancy / spare capacity as that of wired ECS.
- (h) **Geographic location and scope/ density of the infrastructure:** [X █████ X] stated that there are likely to be bandwidth restrictions so this is much better suited to low density rural areas where alternative PIA carrying fibre is not available. This is largely how the product is used today. [X █████ X] was of the opinion that satellite networks can offer geographic location and scope/ density of the infrastructure that are as equivalent of that of wired ECS.
- (i) **Geographic national ubiquity:** [X █████ X] noted that this product is not suitable for dense built up areas, so it does not offer Geographic national ubiquity. It is good for rural less dense areas.

## (b) Supply of PIA

A 3.63 This section of the survey asks the respondents' questions on its supply of PIA (Q17-Q22).

### Sales

Q 17.	Do you self-supply PIA for your own ECN requirements? If so, please state/explain:
a)	the share of your own ECN requirements for PIA that are self-supplied;
b)	If there is any particular geographic differentiation between self-supplied and purchased PIA; and
c)	Your rationale for using self-supply over the rental or lease of PIA.

A 3.64 There were ten responses to the main question and nine [redacted] full or partial responses to the sub-questions a-c. 6 respondents [redacted] stated that they self-supply PIA for their own requirements and 4 [redacted] stated that they didn't.

(a) **Share of PIA self-supplied:** Nine respondents [redacted] replied to this question, as follows:

- (i) 95% plus – 4 respondents [redacted]
- (ii) 80% - 1 response [redacted]
- (iii) Limited - 1 response [redacted]
- (iv) 5-10% - 1 response [redacted]
- (v) <1% - 2 responses [redacted]

(b) **Geographic differentiation between self-supplied and purchased PIA:** Eight [redacted] respondents replied to this question, and all stated there was no geographic differentiation in the decision between self-supplied and purchased PIA.

(c) **Rationale for using self-supply PIA:** Nine [redacted] respondents replied to this question. Responses included:

- (i) Absence of any existing telecoms infrastructure [X ██████ X];
- (ii) Historical absence of a suitable purchase/rental PIA service [X ██████ X];
- (iii) A last resort as it's expensive and slow and unlikely to meet retail bid timescale [X ██████ X];
- (iv) It is part of the core business to provide wholesale ECN products [X ██████ X];
- (v) It is part of the organisation's model to build/self-supply [X ██████ X];
- (vi) When long term benefits of capital investment exceed the costs of rental [X ██████ X]; and
- (vii) When technology requirements require self-build [X ██████ X].

Q 18.	Do you supply PIA to other SPs or infrastructure providers?  If you answer yes to this question, please answer questions Q 19 to Q 22 below, if no, skip to Section 4.
-------	--

A 3.65 There were ten responses to this question. Five respondents [X ██████ X] indicated they supply PIA to other SPs or infrastructure providers, while the remainder do not.

A 3.66 One respondent [X ██████ X] noted that it doesn't generally supply PIA to other SPs or infrastructure providers partly because it rarely receives requests for such and it doesn't have a sales channel or business set up for such sales. It also noted that its existing PIA is randomly located geographically and limited in scope.

Q 19.	Is there any part (product or geographic area) of your PIA that is not available for lease or rental to other SPs? If so, please give the reasoning for this?
-------	--

A 3.67 Out of the five respondents Q18 that stated that they offer PIA to others three [X ██████ X] indicated they did so on a case-by-case basis, two [X ██████ X] make all PIA generally available.



Q 20.	Do the product characteristics of your PIA differ between geographic areas or parts of your network?  If so, please outline how you geographically define distinct areas, also identifying overground and/or underground provision, of your PIA and explain the rationale for any differences in the following characteristics across these areas:
a)	Pricing;
b)	Speed and ease of deployment;
c)	Protection & resilience from damage;
d)	Ability & ease of breakout for connections;
e)	Repair times;
f)	Redundancy / spare capacity;
g)	Data / surveys on the condition of Infrastructure;
h)	Density of the local access infrastructure in the area; and
i)	Other (please specify and rank).

A 3.68 Of the five respondents to Q18 that stated that they offer PIA to others, two [X ██████████ X] stated that there was no geographic differentiation in the characteristics of the PIA they offer. The other three [X ██████████ X] suggested that the characteristics of the PIA offered to others are determined on a case-by-case basis. None replied to the follow questions on the aspects of geographic differentiation.

Q 21.	Is there choice available to purchasers of PIA in terms of product specifications and are prices negotiable?
-------	--

A 3.69 Of the five respondents to Q18 that stated that they offer PIA to others four [X ██████████ X] did do so on a case by case basis, one [X ██████ X] is open to negotiation on PIA product specification.

Q 22.	Are there any capacity constraints on your network which impact your ability to supply PIA services (e.g. no spare duct capacity, etc.)?  If so, please explain the nature of any such constraints, including how such network capacity constraints are managed and use the following examples where possible:
a)	The approximate length of time it would take to increase the capacity;
b)	How long it would take to make this capacity available;
c)	The costs that may be incurred in making such capacity or infrastructure available to additional wholesale customers (e.g., any additional network, technology, equipment, know-how, marketing, distribution or other investments, any forgone revenue, etc.);
d)	Any plans that you might have to make such infrastructure available to additional customers over the next 3-5 years, if the prices of one or more of the PIA products you currently sell were to increase.

A 3.70 There were five [redacted] responses to the main question and two [redacted] responses to the sub-questions a-d.

A 3.71 Four respondents indicated that there are local capacity constraints on their own networks, and one [redacted] noted that it had no capacity constraints.

- (a) **Time to increase capacity:** One respondent [redacted] indicated that it may not be possible for it to increase capacity at some locations including crossing rivers or where our ducts are full. Any expansion would have to be negotiated. Another respondent [redacted] stated that it was able to estimate the time to increase capacity as this would require trenching to install additional ducts, thus equivalent to a complete reinstall of ducts.
- (b) **Time to make this capacity available:** Two respondents [redacted] stated that this was unknown and it would depend on the situation.
- (c) **Costs to increase capacity:** Two respondents [redacted] suggested that the costs would have to be determined on a case by case basis.
- (d) **Plan for the next 3-5 years if PIA prices increased:** Two respondents [redacted] indicated that they would consider requests for PIA access on a case by case basis but don't have plans to develop a productised PIA offering.

## (c) Geographic Market Considerations

A 3.72 This section of the survey asks the respondents' questions regarding geographic considerations in the PIA Market (Q23-Q24).

Q 23.	<p>Do you consider that the conditions of competition for PIA differs in different parts of the country i.e. geographic differences?</p> <p>The conditions of competition would refer to market conditions such as the number of suppliers, the level of demand, prices, demand for ECS, etc.</p> <p>When considering this question, it would be helpful if you could use the CSO's urban and rural classification , set out below as a demarcation of broad geographic area types.</p>
a)	Cities;
b)	Satellite urban towns;
c)	Independent urban towns;
d)	Rural areas with high urban influence;
e)	Rural areas with moderate urban influence; and
f)	Highly rural/remote areas.
	However, please use another geographic classification if it is more intuitive, together with a justification for its use.

A 3.73 All ten respondents replied to these questions on the geographic nature of the market, though one stated that is did not use PIA and therefore, felt it could not offer an informed opinion.

A 3.74 Two respondents [X ██████████ X], thought that conditions of competition did not vary across the country (i.e. the market was national in scope). One [X ██████ X] thought that there was competitive PIA available throughout the country, while the other respondent [X ██████ X], thought that the entire country was uncompetitive and that a mass deployment of self-build PI was not viable commercially though it may be possible using a well-functioning product from Eircom.

A 3.75 Six other respondents [redacted], all thought that there were some differences in conditions of competition in different parts of the country. Four [redacted] thought competition was mostly limited to particular areas in cities. Another respondent, [redacted] said that there should not be differing condition (apparently assuming the presence of regulation), and then goes on to say that there may be “less need” for regulation in any areas with multiple infrastructure options available. One other respondent [redacted], a leased lines operator, thought that there was competition in some areas in cities and in Government MAN towns, but not in areas not where there was a single supplier.

A 3.76 Finally, one respondent [redacted], did not clearly indicate if it considered the PIA market national or sub national. It stated that there were alternative network operators such as Virgin Media and SIRO, who are deploying their ECN in urban environments, while ESB infrastructure is present nationally. It also questioned the willingness of these providers to make available such infrastructure in a competitive context.

A 3.77 Only three respondents [redacted] provided any answers to the CSO area classification types identified by ComReg:

(a) **Cities** – one respondent [redacted] was of the view that conditions for competition don't exist. It emphasised the need for PIA to provide competition in the downstream of WHQA and WLA markets. Another respondent [redacted] was of the opinion that cities had the greatest set of PIA options but noted that it was also the most expensive area to roll-out PI, which results in parts of cities with only one provider of PIA. A third respondent [redacted] stated that PIA competition is greatest in Dublin, in those parts of the city where multiple providers have laid duct (major business parks etc).

(b) **Satellite urban towns** - one respondent [redacted] expressed the view that many businesses are in these towns with demand for WHQA and PIA is needed to enable operators to reach them, especially in Zone A but that the cost of self-build of PI was non-viable. It also noted that there was uncertainty around the viability of a PI roll-out for broadband customers in these towns. It concluded that there will be a reliance on Eircom's PI to reach some customers even when new PI is being rolled-out from the likes of SIRO. Another respondent [redacted] reiterated the above comments, stating these areas are typically uncompetitive dominated by Eircom's PIA.

- (c) **Independent urban towns** - one respondent [X ■ X] questioned the whether the density of customers would make a mass use of Eircom PIA for a broadband deployment to be viable, as less than 20% of people working in the cities could limit demand. Another respondent [X ■ X] was of the opinion that for those towns with MANs, there would be PIA competition that wouldn't exist in (b) Satellite urban towns.
- (d) **Rural areas with high urban influence** - one respondent [X ■ X] was of the view that a survey would be needed to determine the level of demand given the number of people living in this area but working in urban areas as such could suggest a return on investment in using PIA for broadband is viable. It also noted two other issues need to be considered:
- (i) the issues for WHQA will still exist as per b and c above.
  - (ii) An adjacent urban commercial broadband rollout may include a boundary overlap in some locations making some use of Eircom PIA broadband WLA viable in these limited locations.
  - (iii) Expect the State Aided NBI solution to eventually use the Eircom PIA to provide FTTH services.

Another respondent [X ■ X] was of the opinion that these areas are typically uncompetitive and are dominated by Eircom's PIA.

- (e) **Rural areas with moderate urban influence** - one respondent [X ■ X] questioned the justification of a broadband rollout using PIA in this area. However its use to provide WHQA is still required and should either be regulated through WHQA or PIA. It noted that PIA will still be required to support the State Aided NBI deployment. Another respondent [X ■ X] was of the opinion that these areas are typically uncompetitive dominated by Eircom's PIA.
- (f) **Highly rural/remote areas** - one respondent [X ■ X] noted that this area is dependent on Eircom PIA to support NBI's rollout of residential BB to customers. Another respondent [X ■ X] stated that it saw little demand for PIA in this area.

A 3.78 On respondent [X ■ X] proposed an alternative geographic breakdown, as follows:

- (i) Dublin

- (ii) Urban Cities/Towns where MAN PIA is available to compete with an Eircom's PIA offering;
- (iii) Other urban areas or rural areas where MAN PIA is not available to compete with the Eircom's product; and
- (iv) A limited footprint of duct running along major roadways.

Q 24.	Do you consider that the conditions of competition (e.g. number of customers and suppliers of PIA, prices of PIA etc) for PIA differs within cities?  When considering this question, it would be helpful if you could use the following demarcation of broad urban area types:
a)	Central business districts;
b)	Suburban residential areas;
c)	Business parks; and
d)	3rd level campuses.
	However, please use another geographic classification if it is more intuitive, together with a justification for its use.

A 3.79 All ten respondents provided answers to this question, though one [X [REDACTED] X] of these responses was that it was "not applicable" to it. Four respondents [X [REDACTED] X] thought that there were some differences in competition between different areas within cities. One of these respondents [X [REDACTED] X] stated that locations of high-value customers such as business parks and Central Business Districts would attract SPs. It added that there were network shortfalls for the last mile, even in areas where there were multiple networks. This gap was difficult to address due to costs and wayleave issues and these issues also applied to suburban area. [X [REDACTED] X] said that Virgin Media and SIRO were deploying in urban areas but was unaware if access to their PI was available.

A 3.80 Four respondents [X [REDACTED] X] did not see the conditions of PIA competition varying within cities.

A 3.81 Three respondents [X [REDACTED] X] replied to some or all of the list of broad urban area types:

- (a) **Central business districts** – one respondent [X █████ X] noted that most operators provide wholesale WHQA services where they have networks hence it's only the areas where alternative operators cannot viably reach that should be deemed to need PIA. To provide PIA everywhere in this area would potentially undermine the investments of the other operators and thus reduce infrastructure competition. It assumed there will be few residential customers in these districts. It also was of the opinion that deregulation of Zone A in the WHQA market will increase demand for PIA in central business districts. Another operator [X █████ X] stated that Central business districts are often difficult areas for the roll out of infrastructure and PIA offerings are therefore limited.
- (b) **Suburban residential areas** - one respondent [X █████ X] was of the opinion that demand for PIA will come from providers of MI WHQA in Zone A and also from WLA wholesale markets, but that self-build is unlikely. Another operator [X █████ X] was not aware of any significant level of competition in suburban residential areas.
- (c) **Business parks** - one respondent [X █████ X] expressed a need for greater research into these zones. It noted that while some business parks are already providing relatively open PIA, others appear to support exclusive Eircom PIA. It stated that some business parks are poorly managed and the owner or even a contact person cannot be located. This is an effective barrier to entry. It also questioned the remit of telecom regulation in business parks, where the land is privately owned.

Another respondent [X █████ X] noted that within cities there are specific areas that charge significant and sometimes unviable prices to access the network. This has resulted in black spots for fibre competition, in particular within certain business parks. A third respondent [X █████ X] expressed a contrary opinion, stating that the greatest competition exists in Business Parks.

- (d) **3rd level campuses** - one respondent [X █████ X] expressed a preference for PIA routes to be made available to the campuses and the various student accommodation.

## (d) Expansion of PIA or other relevant Infrastructure

A 3.82 This section of the survey asks the respondents' questions regarding potential obstacles to and expectations to expansion in the PIA Market (Q25-Q26).

Q 25.	Do you believe that there are obstacles preventing potential supplier(s) from entering and/or expanding in the PIA market(s)?  If so, please explain your response and provide evidence to support your view.
	In addition, are you of the opinion that these can be overcome in a timeframe of 12 months? Please explain.

A 3.83 All respondents answered this question, although two [X [REDACTED] X] were unable to provide any input as they said it was not relevant to them. Three respondents [X [REDACTED] X] were unaware of any obstacles to entering the PIA market.

A 3.84 Five respondents [X [REDACTED] X] stated that there were obstacles to entering into the PIA market.

A 3.85 One respondent [X [REDACTED] X] stated that one and obstacle to investment was the risk that the incumbent could reduce downstream prices prevent or squeeze any major investment in widespread use of its PIA by an access seeker, if there is downstream deregulation. It noted that the Irish government was unwilling to invest in its own PI for the NBP and opted for the incumbents PI. It welcomed the SIRO rollout but thought that its pace had slowed and did not cover entire exchange areas. [X [REDACTED] X].

A 3.86 [X [REDACTED] X] also noted the failure of large-scale self-install PI roll-out was evidenced globally, by the bankrupting of Cable TV companies involved in the major network rollouts of the 1980s and 1990s. These networks were later consolidated into larger corporations. Since then, no large-scale self-supply PI deployments have been undertaken as they are not economically viable.

A 3.87 Two respondents [X [REDACTED] X] highlighted high capital expenditure and time or local authority wayleaves as obstacles.



A 3.88 Another respondent [X ██████ X] stated that the processes surrounding access to non-telecoms infrastructure were unclear compared to those for telecoms PIA.

A 3.89 Two respondents [X ██████ X] were of the opinion that did not expect significant expansion of PIA over the next 12 months.

Q 26.	In relation to the building of new infrastructure to support ECNs, do you expect to see significant deployment in the next five years?  If so, do you expect to see such infrastructure to be built and to be able to support:
a)	Fixed residential services;
b)	Mobile (5G) services;
c)	Commercial data services, such as data centres, business connectivity, etc.; and
d)	Others.
	Please provide reasons for your answers

A 3.90 Nine of the ten respondents answered to this question, although one [X ██████ X] stated it was not relevant to them.

A 3.91 Three respondents [X ████████████████████ X] were of the opinion that there would be significant deployment in the next five years. One of these respondents [X ██████ X] stated that in an ever more connected world, new infrastructure will continue to be deployed over the coming years, but did not provide any supporting evidence.

A 3.92 The five remaining respondents [X ████████████████████ X] did not expect to see the building of new infrastructure to support ECNs in the next five years. Despite this they all expected some new build. Two respondents [X ██████████ X] mentioned PIA deployment to support NBI’s fibre roll-out. One respondent [X ██████ X] expected a small amount of PIA to facilitate SIRO’s continued use of ESB’s electricity network and the connection of mobile base stations as part 5G roll-out. Another respondent [X ██████ X] saw new PI deployment to support new business and residential developments. It noted that there are three commercial operators [X ████████████████████ X] currently investing in the rollout of FTTH networks. It also observed that there may be issues with gaining access to existing facilities to deploy fibre access, e.g. obtaining access to Multi-Dwelling Units.

A 3.93 Four respondents [X ████████████████████ X] commented on the topics listed in the above question, as follows:

- (a) **Fixed residential services** – one respondent [X [REDACTED] X] was of the opinion that SIRO, Virgin Media and Eircom will continue to exploit their existing PIA and Eircom PIA platforms with new build limited to drop wires to residential premises or duct access to customer premises boundaries.

Another respondent [X [REDACTED] X] expects the rollout of FTTx services to continue. The delivery of the NBP will require the erection of new PI in addition to using existing infrastructure. Other fibre network operators such as Virgin Media and SIRO may expand beyond their current footprint. FWA using 5G technology may also make inroads into the residential market – requiring new infrastructure to support the base stations delivering these services.

A third respondent [X [REDACTED] X] expected to the National Broadband Plan to dominate PI investment over the coming years.

- (b) **Mobile (5G) services** – one respondent [X [REDACTED] X] predicts a huge increase in the amount of data being delivered by mobile networks due to the rollout and subsequent take-up of 5G services. This will result in the need to deliver fibre to the majority (if not all) of transmitting towers in both urban and rural areas. In addition, the expected proliferation of small cells in urban areas will require additional infrastructure rollout for wired data backhaul purposes.

Another respondent [X [REDACTED] X] considered that there may be new PIA for mobile (5G) services but that is still a bit unclear. Two respondents [X [REDACTED] X] were of the opinion that deployment of fibre backhaul to more mobile base stations will take place but that this will not necessitate significant new PI build.

- (c) **Commercial data services, such as data centres, business connectivity, etc** – one respondent [X [REDACTED] X].

Another respondent [X [REDACTED] X] considered there would be a continued need for additional infrastructure to support the ever-growing Irish data centre market. In addition to significant growth in the number of Dublin based data centres, it is predicted that data centre clusters will also form outside the capital to be closer to sustainable energy sources. These clusters will occur where there is a convergence of multiple dark fibre providers with the availability of green energy generation. [X [REDACTED] X] also predicts the extension of fibre into business parks outside Dublin as alternative network providers see an opportunity to compete with the existing duopoly.

## (e) Market Dynamics

A 3.94 This section of the survey asks the respondents' questions regarding buyer power in the PIA Market (Q27).

Q 27.	In your view, do any customers, or potential customers, have sufficient buyer power to negotiate prices for PIA services. Please give reasons for your answer?  In particular, please refer to the following:
a)	Availability of sources for supply of PIA;
b)	Size of the undertaking(s);
c)	Volumes being purchased;
d)	Financial resources;
e)	Others.

A 3.95 All respondents answered this question, although two [X ██████████ X] stated it was not applicable.

A 3.96 Three respondents [X ██████████ X] were of the general opinion that buyers had the power to negotiate access for PIA services. One respondent [X ██████████ X] noted in most built up areas (with some exceptions) there are two or more suppliers. It highlighted that there are some regulations and pricing rules mandated on some of the suppliers that limit the level or negotiation power that the customer have somewhat but that probably keeps the market in balance overall.

A 3.97 Five respondents [X ██████████ X] were of the opinion that customers or potential customers, do not have sufficient buyer power to negotiate prices for PIA services. Two respondents [X ██████████ X] noted that given some prices are regulated there is no scope for negotiation on them. One of these respondents [X ██████████ X] also stated that non-ECN specific PIA comes with additional costs due to enhancements that must take place to render it suitable for multi-purpose usage. Buyers have little chance of driving down costs in this environment.

A 3.98 Only one [X ██████████ X] respondent commented on the different categories listed in this question, as follows:

- (a) **Availability of sources for supply of PIA** - one respondent [X ██████████ X] was of the opinion that location is the key determinant in the negotiation of PIA prices and there is often no competition for the supply of PIA.
- (b) **Size of the undertaking(s)** - one respondent [X ██████████ X] noted that undertakings are often small, such as the business park owners.
- (c) **Volumes being purchased** – no relevant comments were received.

- (d) **Financial resources** – one respondent [X [REDACTED] X] stated that investment is never easy and has to be fully costed and returns calculated.

## (f) Most important aspects of a well-functioning PIA product

A 3.99 This section of the survey asks the respondents' questions regarding the most important aspects of a well-functioning PIA product (Q28).

Q 28.	What in your opinion, are the most important attributes of an efficient and well-functioning PIA offering, such as:
	<ul style="list-style-type: none"> <li>• flexibility of ingress and egress points;</li> </ul>
	<ul style="list-style-type: none"> <li>• SLAs;</li> </ul>
	<ul style="list-style-type: none"> <li>• access to established building entry points; access to business parks/campuses;</li> </ul>
	<ul style="list-style-type: none"> <li>• speed to deployment;</li> </ul>
	<ul style="list-style-type: none"> <li>• access to route/capacity information;</li> </ul>
	<ul style="list-style-type: none"> <li>• access to duct in the local access/backhaul portion of networks; etc</li> </ul>
	Please provide as much detail as possible citing real world experience where possible.

A 3.100 Nine of the ten respondents answered this question, although one [X █████ X] stated it was not relevant to them. Three [X █████ X] respondents agreed with a number of the suggested attributes listed in the question. Another respondent [X █████ X] also agreed with the attributes provided in the question but was of the opinion that negotiating the commercial and legal agreements would be the most difficult aspect of developing a PIA product.

A 3.101 One respondent [X █████ X] suggested that newer the duct was better, as they suffer less congestion, silting, experience fewer collapses etc.. It also suggested ubiquity and diversity between main business centres, as features of well-functioning PIA product. Another respondent [X █████ X] was of the opinion that there was a fundamental lack of demand for open eir's PIA outside of the National Broadband Plan Intervention Area.

A 3.102 One respondent [X █████ X] outlined three desirable attributes for a sustainable product offering:

- (a) **Availability of product:** pre-existing PIA in the desired location.
- (b) **Product Suitability:** This encompasses an existing product without the need for upgrades; established robust and friendly customer service processes (indicate product availability, provide timely quotations, allow self-provisioning etc); and an aggressive and achievable time to repair SLA.

- (c) **Price:** should be significantly less than the self-build alternative.

A 3.103 The final respondent [X █████ X] stated that the following issues needed to come together for well-functioning PIA to work:

- (a) **Well-functioning regulatory regime:** Appropriate enforcement powers are critical to a well-functioning regulatory. Otherwise, it will be difficult to drive out poor behaviour and any regulation of PIA products will struggle. These shortcomings in ComReg's enforcement powers were identified by the Irish Law Reform Commission, back in 2018.
- (b) **Environment that creates and supports investment:** Regulatory certainty is one of a number of conditions needed to promote investment in the large-scale roll-out of PI.
- (c) **Product Issues:** There are three key issues that needed to be addressed to create a well-functioning regulated PIA product, as follows:
- (i) **Pricing:** A well-functioning regulated PIA product needs complete pricing transparency as well as cost orientated prices.
- (ii) **Performance:** Wholesale operators require confidence that the PIA supplier will provide its facilities and repair faults in a timely and predictable timeframe. This is normally achieved through Service Level Agreements with Service Level Guarantees. Both parties need to negotiate in order to agree a workable SLA. This does arise where one party is very dominant and regulatory enforcement is poor.
- (iii) **Product Issues:** The timely and efficient provision of available facilities deemed essential to the consumption of the PIA product for access seekers. Examples include the following:
- The provision of good information in the form of Passive Access Records (**PARs**) will allow Access Seekers to avail of the most efficient and effective routes.
  - The scope to make requests for network expansion in limited scenarios. This may cover, say, where a duct or pole is full, that the PIA provider could be requested to install a new path to provide capacity.

- Equivalence of inputs (**Eoi**) – that PIA providers treat their own downstream arms in the same way as they treat their external PIA customers.
- Customer updates - updates on delivery containing useful information on the real progress of delivery or repair.
- Faults - the PIA provider provides a temporary solution where possible and endeavours to cause minimal disruption in the delivery of a permanent solution.
- Transparent & efficient processes - the PIA provider has a well-resourced support for the delivery of and repair of the product. The product should be reasonable in its apportionment of reinstatement and liability responsibilities; and a duty of care obligation on both buyer and seller of the PIA service.
- Hoarding – buyer and sellers should not be allowed to hoard PIA product.

## (g) International Experience

A 3.104 This section of the survey asked the respondents' questions regarding any international experience they have in the consumption of PIA products (Q29).

Q 29.	Please provide details of where you have used PIA services in other jurisdictions and the most important attributes of these offers. In each case, please indicate if the services were purchased through:
a)	Regulated offer under ex-ante regulation:
b)	Commercial arrangement; or
c)	Under the national transposition of the Broadband Cost Reduction Directive (' <b>BCRD</b> ').

A 3.105 Only one respondent [X [REDACTED] X] provided any feedback on this question suggesting that the details (pricing transparency, SLAs, and product details) of PIA products offered by Openreach in the UK can be found on its website, [www.openreach.com](http://www.openreach.com).



## (h) Broadband Cost Reduction Regulation (BCRR)

A 3.106 This section of the survey asks the respondents' questions regarding the use and effectiveness of the BCRR in Ireland (Q30-Q31).

Q 30.	Have you used the BCRR in Ireland to gain access to infrastructure? Please provide detail of any applications and results
-------	---

A 3.107 Nine of the ten respondents stated that they had not utilised the BCRR in Ireland to gain access to infrastructure. The remaining respondent [X [REDACTED] X] did not reply.

A 3.108 One respondent [X [REDACTED] X] noted that it has referenced the BCRR in discussions with owners of PI [X [REDACTED] X] but had not formally made use of it.

Q 31.	What is your view of the effectiveness of the BCRR in Ireland?
-------	--

A 3.109 Nine of the ten respondents replied to this question, although six [X [REDACTED] X] of these stated it was not applicable to them or they had no knowledge of it or of its use.

A 3.110 One respondent [X [REDACTED] X] was of the opinion that the BCRR has had no material impact on operators access to infrastructure in Ireland. This respondent suggested that it could be useful in accessing none telecom infrastructure required to get across bottle necks such as railway tracks, canals etc.

A 3.111 Another respondent [X [REDACTED] X] was of the opinion that the BCRR is not effective in Ireland because it has not been promoted and the range of organisations that are likely to be involved, each with a separate process creates too much complexity and cost. As the designated single point of contact, ComReg's webpage with a list of contacts does little to mitigate these difficulties. It noted that the European Commission has raised concerns as to the effectiveness of BCRD and support its attempt to understand and address the inherent problems with it.

A 3.112 Finally, one respondent [X [REDACTED] X] noted that the low utilisation suggests that agreements can be reached on a commercial basis or that the BCRR is not fit-for-purpose.

**(i) Other issues**

A 3.113 Finally, this section of the survey asks the respondents' to raise any other views or opinions on PIA products or markets not previous raised (Q32).

Q 32.	Are there any other issues or views you would like to put forward that are not mentioned in this questionnaire?  If so, please cite these and provide detail on each
-------	--

A 3.114 One respondent [X [REDACTED] X] expressed concern over the lack of ComReg's enforcement and fining powers. This undermines its ability to regulate Eircom and could result in sub-optimal PIA regulated products been offered to the market.

## **Annex 4: Real World Systems Technical Feasibility Study**

A 4.1 This report is published as a separate document as part of this Consultation, Document No. 23/04a entitled: Real World Systems Technical Feasibility Study.

# Annex 5: Questions

<b>Section</b>	<b>Page</b>
Q. 1 Do you agree with ComReg’s definition of the Relevant PIA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.....	73
Q. 2 Do you agree with the SMP assessment above and that Eircom is likely to have SMP in the Relevant PIA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.....	87
Q. 3 Do you agree that the competition problems and the associated impacts on competition end-users identified are those that could potentially arise in the related markets downstream of PIA? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views.....	98
Q. 4 Do you agree with ComReg’s proposed non-pricing remedies in the PIA Market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views. ....	160
Q. 5 Do you agree with ComReg’s view that a cost orientation price control is appropriate for deriving the prices for Eircom’s PIA? Please provide reasons for your response.....	169
Q. 6 Do you agree with ComReg’s view that a combination of BU-LRAIC+ and TD HCA costs should continue to be used as the costing methodology for determining the prices for Eircom’s PIA? Please provide reasons for your response.....	178
Q. 7 Do you agree with ComReg’s view that PIA Reusable Assets should be valued based on a RAB which is set by reference to Eircom’s HCAs and PIA Non-Reusable Assets should be valued on the basis of a RAB which is set based on replacement costs of non-reusable duct and poles assets to make them 100% NGA ready? Please provide reasons for your response.	

Q. 8 Do you agree with ComReg’s view that a straight-line depreciation approach should be applied in the context of Pole Access and Duct Access (including Direct Duct Access) while a tilted annuity depreciation approach should be used for sub-duct? Please provide reasons for your response.

190

Q. 9 Do you agree with ComReg’s view that the existing regulatory asset lives for Eircom’s poles and ducts should be maintained at 30 years and 40 years respectively, while the asset life for sub-duct should be set at 30 years? Please provide reasons for your response. .... 193

Q. 10 Do you agree with ComReg’s proposed cost modelling approach in the PAM and DAM to determine the per unit costs for pole and duct related access, as described in section 7.5? Please provide reasons for your response. .... 213

Q. 11 Do you agree with the proposed financial threshold for duct remediation costs of [€11,000] per kilometre of duct? Please provide reasons for your response. .... 213

Q. 12 Do you agree with ComReg’s view that the ‘per operator’ approach should continue to be used to allocate / share the relevant Pole Access costs among all of the Pole Access Seekers, including Eircom? Please provide reasons for your response. .... 215

Q. 13 Do you agree with ComReg’s view that the 'per metre of duct access equivalents' approach should be used to allocate / share duct related access costs among all Access Seekers, including Eircom, and that the minimum threshold in terms of the diameter space should be set at 25mm? Please provide reasons for your response. .... 219

Q. 14 Do you agree with ComReg’s view that Pole Access rental prices should be set as a single national price based on a national average cost of providing Pole Access in all three geographic footprints (Urban Commercial Area, Rural Commercial Area and Intervention Area)? Please provide reasons for your response. .... 222

Q. 15 Do you agree with ComReg’s view that Duct related access rental prices should be set as deaveraged (geographic) prices to reflect the geographic costs in the DAM and converted into the geographic footprints of the Urban exchange area and the Non-Urban exchange area scheduled to the Decision Instrument at Schedule 1 and Schedule 2, respectively? Please provide reasons for your response. .... 227

- Q. 16 Do you agree with ComReg’s view that PIA prices, should be fixed per year for a period of five years, but monitored annually with reference to Eircom’s HCAs and AFIs? Please provide reasons for your response. .. 229
- Q. 17 Do you agree with ComReg’s proposal that the process related costs for PIA should be recovered by Eircom as an upfront payment, which should be calculated and pre-notified in advance by Eircom based on the template described at 7.266-7.267? Please provide reasons for your response. .. 230
- Q. 18 Do you agree with ComReg’s view that Eircom should recover any additional costs of replacing a pole with pole furniture located on it by means of a one-off charge levied at the time the pole is replaced, and calculated and pre-notified in advance by Eircom based on the template described at paragraphs 7.266-7.267? Do you agree that the cost of pole furniture removal and replacement should be capitalised against the asset that the furniture is associated with, in its cost accounting systems? Please provide reasons for your response..... 233
- Q. 19 Do you agree that (i) tree trimming costs associated with ongoing pole replacement should be recovered in the recurring pole rental price and (ii) tree trimming costs to prepare aerial cable routes in advance of cable deployment should be recovered by means of a one-off charge (calculated and pre-notified in advance based on the template referred to at paragraphs 7.266-7.267)? Please provide reasons for your response..... 235
- Q. 20 Do you agree with the proposed pricing options that Eircom should make available to PI Access Seekers, as presented above, for Duct Access / Direct Duct Access services and for Sub-Duct Access? Please provide reasons for your response..... 241
- Q. 21 Do you agree with ComReg’s views that Eircom should be subject to an obligation of cost accounting (Section 7.8 above) and an obligation of accounting separation (Section 7.9 above) for PIA? Do you agree that Eircom should be subject to additional requirements to provide specific PIA information in its HCAs and AFIs to allow ComReg to monitor Eircom’s price control obligations for PIA and to allow ComReg to assess differences between modelled PIA Prices and the average costs reported by Eircom, as set out at Section 7.97.9? Please provide reasons for your responses. . 252
- Q. 22 Do you agree with ComReg’s proposed Regulatory Governance Obligations for the PIA market? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your views..... 262

Q.23 Do you agree with ComReg’s preliminary conclusions on the Regulatory Impact Assessment? Please explain the reasons for your answer, clearly indicating the relevant paragraph numbers to which your comments refer, along with all relevant factual evidence supporting your position. .... 283