An Coimisiún um
Rialáil Cumarsáide
Commission for
Communications Regulation

Information Notice

Market Review

Physical Infrastructure Access (PIA) Market Review

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

Information Notice

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Additional Information

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1. This Information Notice concerns the Commission for Communications Regulation's ('**ComReg**') publication and parallel notification to relevant European authorities of its '**Draft Decision**' concerning its market review of the Physical Infrastructure Access ('**PIA**') markets in Ireland**.** A non-confidential copy of the Draft Decision is attached at Appendix 1 of this Information Notice.
2. In accordance with the requirements of Article 23 of the of the European Electronic Communications Code ('EECC')),1 which is mirrored at Regulation 101 of the EECC Regulations, ComReg carried out a public consultation ('Consultation') on its analysis of the PIA market in Ireland over the period 9 January to 3 March 2023.[2]
3. Prior to the adoption of a final decision, Article 32(3) of the EECC now requires ComReg to publish and, at the same time, make draft measures accessible to the European Commission ('**EC**'), the Body of European Regulators for Electronic Communications ('**BEREC**') and National Regulatory Authorities ('**NRAs**') in other Member States (the '**Article 32 Notification**').
4. The Article 32 Notification has today been made by ComReg on the basis of the draft measures set out in the Draft Decision.
5. Please note that this Information Notice, including the Draft Decision in Appendix 1, does not constitute a national public consultation and should therefore not be construed as an invitation to make submissions to ComReg.
6. Having completed the Article 32 Notification, ComReg will take utmost account of any views expressed by the EC, BEREC and NRAs in other Member States before adopting its final decision.

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

[2] On 9 January ComReg published its Physical Infrastructure Access (PIA) Market - Consultation and Draft Decision, ComReg Document 23/03 ('**Consultation**') available at: https://www.comreg.ie/publication/physical-infrastructure-market-review

Appendix 1: PIA Market Draft Measure

A 1.1 A copy of ComReg's Draft Decision is attached below.

An Coimisiún um
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Market Review

Physical Infrastructure Access (PIA) Market Review

Note this is a DRAFT DECISION

Response to Consultation and Draft Decision

Reference: ComReg 24/XX

Decision: DXX/24

Date: XX/XX/2024

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Approval

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Acronyms

Acronym	Full Title
3CT	Three Criteria Test
AC	Alternating Current
AFI	Additional Financial Information
ANM	Access Network Model
ARO	Access Reference Offer
AS-A	Access Seeker 'A'
AS-B	Access Seeker 'B'
BAFO	Best and Final Offer
BAU	Business As Usual
BEREC	Body of European Regulators for Electronic Communications
BU	Bottom-up
BU-LRAIC+	Bottom Up Long-run Average Incremental Cost plus a contribution towards common corporate costs
CAM	Copper Access Model
CBP	Countervailing Buyer Power
CCA	Current Cost Accounting
CCPC	Competition and Consumer Protection Commission
CEI	Civil Engineering Infrastructure
CG SABB	Current Generation Standalone Broadband
CIÉ	Córas Iompair Éireann
ComReg	Commission for Communications Regulation's
CPI	Consumer Price Index
CRU	Commission for Regulation of Utilities
DAM	Duct Access Model
DAO	Distribution Asset Operators
DC	Direct Current
DP	Distribution Point
DOCSIS	Data Over Cable Service Interface Specification
DSO	Distribution System Operators
EA	Exchange Area
EC	European Commission
ECN	Electronic Communications Networks
ECS	Electronic Communications Services
ED	Electoral Divisions
EECC	European Electronic Communications Code
EoI	Equivalence of Inputs
EoO	Equivalence of Output
EPMU	Equi-proportional Mark-up
FAC	Fully Allocated Cost
FAR	Fixed Asset Register
FCM	Financial Capital Maintenance
FNI	Fibre Networks Ireland Limited

FTTC	Fibre to the Cabinet
FTTH	Fibre to the Home
GBV	Gross Book Value
GIS	Geographical Information Systems
GNI	Gas Networks Ireland
H&S	Health and Safety
HCA	Historical Cost Account
HFC	Hybrid Fibre-Coax
HLD	High-Level-Design
HM	Hypothetical Monopolist
HMT	Hypothetical Monopolist Test
HSA	Health and Safety Authority
HV	High Voltage
IFF	Irish Infrastructure Fund
IOB	Independent Oversight Body
IW	Irish Water
JV	Joint Venture
KPI	Key Performance Indicator
LA	Local Authority
LL	Leased Line
LLD	Low-Level-Design
LLU	Local Loop Unbundling
LRAIC	Long Run Average Incremental Cost
LRIC	Long Run Incremental Cost
LV	Low Voltage
MAN	Metropolitan Area Network
MDF	Main Distribution Frame
MEA	Modern Equivalent Asset
MGA	Modified Greenfield Approach
Modified LEA	Modified Larger Exchange Area
MSE	Management Services Entity
MTBF	Mean Time Between Failures
MV	Medium Voltage
NBP	National Broadband Plan
NBP IA	National Broadband Plan Intervention Area
NBV	Net Book Values
NRA	National Regulatory Authority
NRA*	National Roads Authority
OCM	Operating Capital Maintenance
ODF	Optical Distribution Frame
OSS	Operational Support Systems
PAM	Pole Access Model
PAR	Passive Access Record
PDW	Product Development Workshop
PI	Physical Infrastructure
PIA	Physical Infrastructure Access

PIARO	Physical Infrastructure Access Reference Offer
PIB	Provide Infrastructure Build
QIB	Quote for Infrastructure Build
QQ	PIA Qualitative Questionnaire
RAB	Regulatory Asset Base
RGM	Regulatory Governance Model
RF	Radio Frequency
RFO	Ready for Order
RIA	Regulatory Impact Assessment
SAAS	Software as a Service
SLA	Service Level Agreement
SLU	Sub Loop Unbundling
SMP	Significant Market Power
SoC	Statement of Compliance
SP	Service Provider
SQL	Structured Query Language
SSNIP	Small but Significant Non-transitory Increase in Price
TD HCA	Top Down Historic Cost Accounting
TFEU	Treaty on the Functioning of the European Union
TII	Transport Infrastructure Ireland
TRCEN	Technical Requirements for Communications on ESB Distribution Network
UUB	Underground Utility Boxes
WACC	Weighted Average Cost of Capital
WAN	Wide Area Network
WCA	Wholesale Central Access
WDC	Wholesale Dedicated Capacity
WHQA	Wholesale High Quality Access
WI	Waterways Ireland
WLA	Wholesale Local Access

Chapter 1

1 Executive Summary

1.1 This decision ('**Decision**') presents Commission for Communications Regulation's ('**ComReg**') 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 and downstream 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**') as transposed into Irish law in the Electronic European Union (Electronic Communications Code) Regulations 2022, SI No. 444 of 2022 (the '**ECC Regulations**').

1.1 Relevant Market, Three Criteria Test and Significant Market Power

1.2 In January 2023 ComReg issued a Consultation[1] setting out its proposals for the regulation of a PIA market. ComReg received seven submissions to this Consultation and has also consulted with the Competition and Consumer Protection Commission ('**CCPC**')[2] , the European Commission ('**EC**') and other relevant authorities.

1.3 In summary, ComReg has defined 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.

1.4 Eircom to date has been 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 PIA market.

1.5 In the telecoms value chain, PIA is the most upstream input to the provision of ECS services. ComReg, in keeping with best regulatory practice, is moving its

[1] Physical Infrastructure Access (PIA) Market Review, Consultation and Draft Decision, ComReg 23/04, 9 January 2023 ("**Consultation**").

[2] See further details in Sections 2.6 and 2.7 below.

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 for assessing the need for ex ante regulation.

1.6 PIA is not a market included by the European Commission ('**EC**') in its 2020 Recommendation[3] on markets susceptible to ex ante regulation. Therefore, ComReg is required to demonstrate in accordance with Regulation 49(3) of the ECC Regulations 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 (iii) 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 PIA 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.

1.7 ComReg further finds, that Eircom, due to its ubiquitous telecom-specific PI network which is capable of being used to access almost every premises in the country, and the lack of an effective existing or potential rival PI, has significant market power ('**SMP**') in the national PIA market ('**Relevant PIA Market**').

1.8 In designating 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 fibre to the home ('**FTTH**') network.

1.9 ComReg has considered whether, following the Transaction, for the purpose of the market analysis, there ought to be a demarcation of two networks; one

[3] 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 (the '**2020 Recommendation**').

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.

1.10 There are two broad - albeit interlinked - types of demand for PIA, namely Service Providers (**'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.

1.11 The first requires ubiquity of PI within specific locations or local density/capillarity[4] for rollout of broadband to a town or a suburb. The second requires PI to reach a specific premise or a set of premises that may be dispersed nationally, therefore requiring PI that is nationally ubiquitous.

1.12 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 broadband or dedicated lease line type services.

1.13 Other infrastructure networks that are or could be used to support the deployment of ECNs are not effective substitutes for telecom-specific PI. In particular the ESB network[5] is not specifically designed for the deployment of ECNs and there are *inter alia* restrictions on its capacity and use that renders it unlikely to be an effective substitute for telecoms-specific PI. The limitations include the fact that in general, only one fibre cable can effectively be housed on ESB poles[6], 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

[4] 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.

[5] See paragraphs 3. to 3. for an assessment of electricity PI as a substitute to telecom PI.

[6] Specifically poles carrying Low Voltage ('**LV**') electrical cables.

secondary to that of the repair of the electricity transmission/distribution system.

1.14 Given Eircom's position of SMP, ComReg has decided to impose a suite of obligations on Eircom to ensure wholesale access to PI is provided in an effective and efficient manner, ultimately to support the development of effective competition in downstream wholesale and retail fixed electronic communications markets.

1.2 Access Remedies

1.15 ComReg has decided that Eircom is required to provide access to its pole[7] network (Pole Access) and to its duct[8] network by way of Duct Access, Sub-Duct Access and Direct Duct Access.[9] Also required for the purpose of access to the pole and duct networks, is access to ingress and egress points, to a PI Tie 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**,** to co-location for PIA and to its Passive Access Records ('**PAR**'). ComReg also requires Eircom to provide, where access to PIA 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.

1.16 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 ('**SLA(s)**') and requirements regarding timeliness of product development. ComReg has decided in this regard to impose a maximum period of 10 months (or 14 months in certain circumstances) to launch a new or amended product.

1.17 The access remedies are outlined in detail in subsection 6.4 below.

1.3 Non-Discrimination Remedies

1.18 ComReg has decided to impose on Eircom 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 is requiring Eircom to provide to Access

[7] Pole means an Eircom pole which can be used to support cables and equipment.

[8] 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.

[9] Capitalised terms, of the various access remedies, are explained in Section 6.4.6 below.

Seekers, access to the same systems and processes as Eircom provides to itself including for the purpose of pre-ordering, ordering, provisioning, fault reporting and repair of PIA, within seven months of the Effective Date.

1.19 The non-discrimination remedies are outlined in detail in subsection 6.5.

1.4 Transparency Remedies

1.20 ComReg has imposed obligations on Eircom requiring it 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 Physical Infrastructure Access Reference Offer ('**PIARO**'). Eircom is also required to provide advance notice of price and non-price changes to ComReg and to Access Seekers and to have a change management process for changes to the PIARO. The transparency remedies include a requirement to publish a PI rollout plan and a requirement to publish Information as regards performance, including by reference to Key Performance Indicators. In May 2023, ComReg separately consulted in respect of a further specification of Key Performance Indicators ('**KPI(s)**') relating to PIA[10] and has issued a Decision[11] with respect to same in parallel with this Decision. Additionally, the transparency remedies include a requirement with respect to the making available to Access Seekers (both those availing of PIA and those with a demonstrable intention to avail of PIA from Eircom) Eircom's Engineering, Planning and Design Rules and further, 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.

1.21 Having considered respondents Submissions, ComReg has in general maintained its position on transparency obligations, as proposed in the Consultation. ComReg has however, following consideration of Eircom's Submission, amended its position in terms of the detail of the requirements as to how Eircom is to provide its PI rollout plan.

1.22 The transparency remedies are outlined in detail in subsection 6.6.

[10] Key Performance Indicator (KPI) Metrics: Physical Infrastructure Access (PIA): Consultation and Draft Decision, ComReg Document 23/41, May 2023 ('**KPI Consultation**').

[11] ComReg Document Physical Infrastructure Access (PIA): Key Performance Indicator (KPI) Metrics, ComReg reference YY/XX published nn Month 2023.

1.5 Price Control, Cost Accounting and Accounting Separation Remedies

1.23 ComReg is imposing a price control obligation on Eircom with respect to PIA which is largely consistent with the existing price control for ducts and poles set under the 2018 WLA Market Decision[12]. The table below provides a summary of the main elements of the price control obligation, including the changes relative to the existing price control obligation which are highlighted in red.

Table 1: Summary of the main price control obligations

	2018 approach	2023 approach
Price control	Cost Orientation	Cost Orientation
Cost methodology	BU-LRAIC+[13] and TD HCA[14]	BU-LRAIC+ and TD HCA
Cost sharing approach	Poles: Per operator Duct: Per metre of cable	Poles: Per operator Duct: Per metre of duct access equivalents
Pricing approach	Poles: Deaveraged prices Ducts: Deaveraged prices	Poles: Single national averaged price Ducts: Deaveraged prices

1.24 As noted in Table 1, the main changes include ComReg setting 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 has changed 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'. This approach means that Eircom is required to 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

[12] 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**').

[13] Bottom Up Long-run average incremental cost plus a contribution towards common corporate costs ('**BU-LRAIC+**') applied to non-reusable PIA assets.

[14] Top Down Historic Cost Accounting ('**TD HCA**') applied to reusable PIA assets.

combined cross-sectional area above the minimum cross-sectional area (of 25mm) will be subject to higher prices.

1.25 Since the Consultation, the main change made by ComReg with regards to pricing is in relation to duct where prices are no longer set based on Eircom exchange areas or split by surface type, and now reflect the costs for the geographic footprints of the National Broadband Plan Intervention Area ('**NBP IA**') and Commercial Areas for the specific purpose of setting differentiated prices according to the costs associated with these particular footprints.[15] Please refer to Section 7 for the details of the price control obligation for PIA.

1.26 The maximum prices for Pole Access, calculated based on the Pole Access Model ('**PAM**'), are set out at Table 2. The maximum prices for Duct Access and Direct Duct Access are set out in Table 3 and the incremental costs per metre for Sub-Duct Access are included in Table 4, calculated in the Duct Access Model ('**DAM**'). ComReg has updated the costing/ financial data in the PAM and DAM, as well as the revised weighted average cost of capital ('**WACC**') rate, since the Consultation, in order to reflect the most up-to-date information in the prices set in this Decision.

Table 2: Maximum annual national rental prices for Pole Access

Pole Access	1 [month] 2024 – 31 December 2024 €	1 January 2025 – 31 December 2025 €	1 January 2026 – 31 December 2026 €	1 January 2027 – 31 December 2027 €	1 January 2028 – 31 December 2028 €
National pole price*	21.31	22.51	24.53	24.59	24.63

**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*

[15] These areas are described in Section 7. In summary, the NBP IA corresponds to the target areas for state intervention under the NBP based on circa 560k premises, while the Commercial Area includes both the area where Eircom has already passed circa 340k premises with high speed broadband (Rural Commercial Area) and the remaining footprint of circa 1.5m premises where commercial operators are delivering or have indicated plans to deliver high speed broadband (Urban Commercial Area).

Table 3: Maximum annual prices for Duct Access / Direct Duct Access by geographic footprint

Duct Access / Direct Duct Access prices* *Per metre*	1 [month] 2024 – 31 December 2024 €		1 January 2025 – 31 December 2025 €		1 January 2026 – 31 December 2026 €		1 January 2027 – 31 December 2027 €		1 January 2028 – 31 December 2028 €	
	CA[16]	IA[17]	CA	IA	CA	IA	CA	IA	CA	IA
Standard price**	0.50		0.49		0.49		0.47		0.46	
Reduced price	0.37	0.29	0.36	0.29	0.35	0.28	0.34	0.27	0.33	0.26

**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 are subject to higher prices.*

***Access Seekers are liable to pay for duct remediation costs above a financial threshold of €11,000 per kilometre.*

Table 4: Incremental annual cost per metre for Sub-Duct Access*

Per metre	1 [month] 2024 – 31 December 2024 €	1 January 2025 – 31 December 2025 €	1 January 2026 – 31 December 2026 €	1 January 2027 – 31 December 2027 €	1 January 2028 – 31 December 2028 €
Sub-Duct supplemental costs*	0.06	0.06	0.07	0.07	0.07

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

1.27 Eircom shall 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 is also maintained for PIA, and ComReg has decided on more

[16] Commercial Area.

[17] Intervention Area.

extensive reporting requirements for PIA as part of Eircom's Historical Cost Accounts ('**HCAs**'), as discussed later in Section 7.9.

1.6 Regulatory governance obligation

1.28 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 is requiring that Eircom ensures that it has in place effective regulatory governance arrangements to ensure compliance with its SMP obligations, including as regards its arrangements, and the implementation of those arrangements, with FNI. ComReg is further requiring that this obligation be further specified for the time being by reference to a requirement for Eircom to prepare and provide to ComReg, a Statement of Compliance as discussed in Section 8 below.

1.7 Next steps

1.29 This Decision has been published on ComReg's website www.comreg.ie and has, in parallel, been notified to Eircom Limited.

Chapter 2

2 Introduction

2.1 Overview

2.1 The 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.

2.2 This Decision sets out ComReg's analysis of the PIA market and its decision to regulate the PIA market on the basis that Eircom has been designated as having SMP, along with the need to address competition problems associated with Eircom's ability and incentive to potentially behave anti-competitively, ultimately to the detriment of downstream competition.

2.3 From the outset, it should be noted that although a PIA market has not been defined and regulated in its own right by ComReg before, access to ducts and poles has been subject to regulation under obligations imposed on Eircom in 2018 following its then designation with SMP in the downstream WLA market under the 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.

2.2 Background

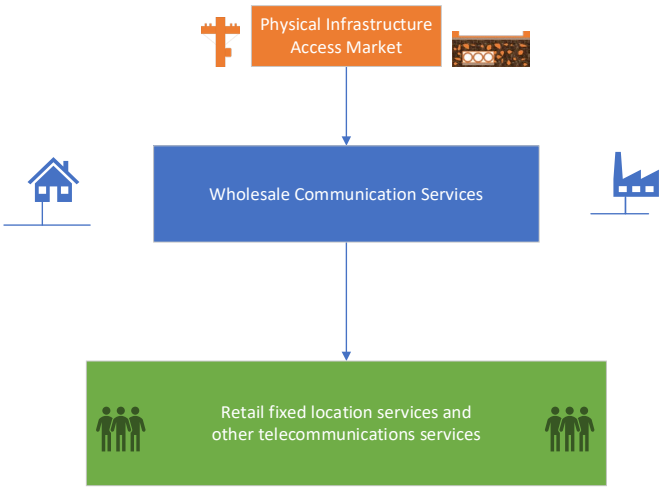
2.4 In general, PI consists of the poles, ducts and other equivalent conduits (and associated facilities) that are capable of supporting wired ECNs, which in turn supply ECS's. The term PI is also synonymous with CEI. Access to Eircom's PI is currently regulated under the 2018 WLA Market Decision. The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

> *"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"[18].

2.5 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[19]



2.6 There are 13 SPs with appreciable volumes of fixed telecoms specific PI deployed in Ireland which are active in various ECS markets. The largest is Eircom, the former incumbent, followed by Virgin Media. Others (Aurora Networks, BT Ireland, Colt, eNet, ESBT, EU Networks, GTT, Magnet Networks, Viatel, Vodafone and ZAYO) have networks which largely

[18] European Commission Staff Working Document Explanatory Note Accompanying the document Commission recommendation 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, SWD(2020) 337 final, 18 December 2020 (the '**Explanatory Note to the 2020 Recommendation**') pages 61-62. https://ec.europa.eu/newsroom/dae/redirection/document/72442

[19] Adopted from on Figure 1 of BEREC Report on Access to physical infrastructure in the context of market analyses (BoR (19) 94), page 16.

specialise in delivering services to high value wholesale, corporate and enterprise customers. These networks are skeletal in nature as they do not supply residential services and are concentrated in commercial and business areas. Due to the nature of their networks, they are described as leased line type networks ('**LL**') as explained in greater detail in Annex: 2 of this Decision which sets out an assessment of various PI networks.

2.7 It should also be noted that other SPs who largely do not own PI, have deployed fibre networks. SIRO has deployed a FTTH network using the ESB[20] electrical PI while NBI has been deploying FTTH under the National Broadband Plan ('**NBP**') in significant and increasing volumes using Eircom's PI. ESBT, ESB's telecoms arm uses a mixture of both ESB and its own PI.

2.8 Eircom has an infrastructure comprised of telecom specific ducts and poles, with a network connected by exchanges/nodes and street cabinets situated in all localities throughout the country, over which Eircom provides an ECN that is nationally ubiquitous. Eircom has [✂ ✂][21]. Traditionally, it owned and controlled the largest volume of telecoms specific PI in the country, far larger than other ECN in the country. Its network, supported by the underlying PI, is connected to almost every premises in the state.

2.9 In June 2022, Eircom transferred its access passive network infrastructure assets, including PI, located outside the National Broadband Plan Intervention Area[22] ('**IA**') to a newly established company. This entity, FNI, is a joint venture with InfraVia Capital Partners ('**InfraVia**') and Eircom, with Eircom owing 50.01% of FNI and InfraVia 49.99%. For the reasons set out in Section 3, ComReg is satisfied, on the 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 under Eircom's control. ComReg's more detailed description of Eircom's network is contained in

[20] 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). ESBN 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 ESBN in these roles.

[21] Based on information provided to ComReg in 2019 and 2022

[22] https://www.eir.ie/pressroom/eir-announces-completion-of-significant-infrastructure-deal-with-Infravia/. See also https://www.eir.ie/pressroom/eir-and-InfraVia-Form-Partnership-to-Accelerate-eirs-Fibre-Broadband-Roll-Out/.

Annex: 2of this Decision, with the assessment of the impact of the InfraVia Transaction contained in Section 3.

2.10 Other 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 other owners of ECNs, to obtain other wholesale products, in order to access locations that their own ECNs cannot reach.

2.11 Virgin Media, which offers quad pay (high-speed broadband, cable TV, fixed telephony and mobile) services in major cities and in many major towns across the country, relies on the [✂ [redacted] ✂] of duct laid incrementally since the 1970s, to deliver cable TV[23] services to households which are however, generally provided via surface mounted coaxial cable.

2.12 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. SIRO has deployed an FTTH broadband network passing approximately 520K homes and businesses[24] and also offers business oriented Wholesale Dedicated Capacity ('**WDC**') services (also known as LLs), 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] ✂][25] poles and [✂ [redacted] ✂][26] ducts respectively. Similarly, NBI's FTTH rollout, largely using Eircom's PI, has passed c.178K[27] premises at the start of September 2023.

2.13 Of the remaining SPs, 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 business parks in the country and addresses the wholesale, corporate and business ECS markets.

[23] Some used wireless repeaters in rural areas which are no longer licensed.

[24] https://siro.ie/news-and-insights/sligo-is-fibre-ready-already/, retrieved 14th September 2023.

[25] 2022 data submitted by SIRO.

[26] Ibid.

[27] www.nbi.ie, progress as of 01.09.23, retrieved 14th September 2023.

2.14 Around the year 2000, 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 networks 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.

2.15 eNet was appointed by the Government to manage the 88[28] Government owned MANs located across approximately 90 towns and cities around the country, with the MANs' fibre laid in approximately 1,200 kms of duct[29]. Many of these MAN's have backhaul connections on fibre via the national rail network which is rented by eNet from CIE on a commercial basis.

2.16 Table 5 below provides a comparison of the length of duct and the number of poles for the three largest ECNs in Ireland which are used to deploy ECS. This shows that Eircom has over five times the length of duct of the next largest owners of PI used for ECNs [✂ [redacted] ✂], and it has over thirty times the number of poles used compared to the next largest owner of poles used for ECNs [✂ [redacted] ✂].

[28] 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/

[29] eNet data submission. Note that figure is based on the publicly owned MANs that eNet manages this excludes eNet's private PI assets

Table 5: Main Fixed Network PI [✂ REDACTED ✂][30]

2.17 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 expected use of Eircom's PI to support its deployment of FTTH under the NBP.

2.18 Table 6 below (reproduced from Annex: 2), provides a summary description of the networks that are considered in the analysis in this Decision. A more detailed description of these networks is provided in Annex 2.

Table 6: Summary of the Network Types in Fixed Telecom

Type of PI / telecoms network	Description	Main target customers	Telecoms SPs or utility

[30] Eircom data, information provided to ComReg by Eircom in 2019 and 2022; NBI data, SIR data and https://nbi.ie/the-national-broadband-plan/, retrieved 18th September 2023; Virgin Media data, Table 26, Liberty Global Reports Q2 2023 Results - Press Release published 24 July 2023. https://www.libertyglobal.com/investors/financials/; ESB data, Table 25; SIRO data, SIR data & https://siro.ie/news-and-insights/expansion-of-our-gigabit-broadband-network/.

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	These networks display similar features: (a) are skeletal in nature, lacking capillarity[31] (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); (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.	Medium to Large Business and/or wholesale customers	Aurora, BT, Colt, eNet, ESBT, EU Networks, GTT, Magnet Networks, Vodafone, Verizon and ZAYO
Cable TV	Hybrid fibre-coaxial (HFC) network, customers mostly connected with surface mounted coax cable (there is a small element of FTTH in some new build)	Residential	Virgin Media
SP networks which largely use non-telecom specific PI to rollout ECN/S to residential customers	Fibre network deployed on ESB electrical PI.+	Residential	SIRO
SPs which largely use telecoms specific PI to rollout ECN/S to residential customers	SP which uses telecoms specific PI for roll-out of networks to residential and/or small business	Residential	NBI
Other utilities	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 (GNI), etc.
Eircom's PI network	Ubiquitous national telecoms specific PI, duct and pole network	Various	Eircom
Wireless PI	PI used to site mobile, microwave point to point and satellite equipment	Various	various

[31] 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.

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

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

2.3 Rationale for conducting this market review

2.19 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.[32]

2.20 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 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. Access to PI supports the roll-out of fibre networks which can ultimately enable the provision of a range of services including high speed broadband.

2.21 This Decision is issued in conjunction with the related decision on ComReg's Wholesale Local Access ('**WLA**') / Wholesale Central Access ('**WCA')** market review decision (ComReg Document XX/XX, Decision DXX/XX) ('**WLA/WCA Decision**')[33]. 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 and having regard to regulation 49(5) of the ECC regulations.

[32] Page 62, 2020 Recommendation.

[33] Market Reviews - Wholesale Local Access (WLA) provided at a fixed location and Wholesale Central Access (WCA) provided at a fixed location for mass-market products, ComReg Document XX/XX, ComReg Decision XX/XX.

2.4 Legal Basis and Regulatory Framework

2.22 The European regulatory framework for electronic communications, recast and set out in the EECC, provides for the regulation of markets identified to be susceptible to ex ante regulation and which are not effectively competitive.

2.23 The ECC Regulations transpose the EECC into Irish law.

2.24 Regulation 46 of the ECC Regulations requires that ComReg, taking the utmost account of the European Commission's 2020 Recommendation[34] and the SMP Guidelines,[35] define relevant markets appropriate to national circumstances, in accordance with the principles of competition law.

2.25 The European Commission ('**EC**') does not include PIA in the 2020 Recommendation. Therefore, in order to consider whether this market is susceptible to *ex ante* regulation in light of national circumstances, ComReg must carry out the three criteria test ('**3CT**') set out in Regulation 49(3) of the ECC Regulations.

2.26 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:

(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.

2.27 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 not required. In such instances, the market in question should be not be subject to SMP specific regulation.

2.28 Where, on the other hand, all three criteria are satisfied, *ex ante* regulation may be warranted. In particular, Regulation 49(8) of the ECC Regulations requires that where ComReg determines, following a market analysis, that a relevant market defined in accordance with Regulation 46 of the ECC

[34] 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

[35] 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**').

Regulations is not effectively competitive, and that the imposition of regulatory obligations is justified, that ComReg designate the SP or SPs which individually or jointly have SMP in that market and impose appropriate specific obligations on such operators, or maintain or amend such obligations where they already exist.

2.29 According to Regulation 45(1) of the ECC Regulations, SMP is equivalent to dominance on a market, that is to say a position of economic strength affording the operator concerned the power to behave, to an appreciable extent, independently of competitors, customers and ultimately, consumers, in a relevant market.

2.30 ComReg applies the MGA as set out in the Explanatory Note to the 2020 Recommendation (and having regard to regulation 49(5) of the ECC regulations). whereby markets are assessed in the absence of any regulation in the relevant market being assessed or at downstream levels. The downstream WLA and WDC markets can then be assessed taking account of the impact of any upstream regulation in place in the PIA market.

2.31 Where an SP is ultimately designated as having SMP in a market, ComReg is obliged, under Regulation 50 of the ECC Regulations, to impose on that SP (or maintain where they already exist) such of the obligations set out in 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 2002,36 and Regulation 4 of the ECC Regulations; and

(c) Only imposed following consultation in accordance with Regulations 17 and 101 of the ECC Regulations.

2.32 Section 12(1)(a) of the Communications Regulation Act 2002 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.

[36] Communications Regulation Act 2002 (No. 20 of 2002), as amended (the '**Communications Regulation Act 2002**').

2.33 In addition, Regulation 4(3) of the ECC Regulations sets out the general objectives of the Regulator which it shall pursue in the context of its tasks specified in the ECC Regulations, which are in summary to:

(a) Promote connectivity and access to, and take up of very-high-capacity networks;

(b) Promote competition in the provision of electronic communications networks and associated facilities;

(c) Contribute to the development of the internal market by removing remaining obstacles to, and facilitating convergent conditions for, investment in, and the provision of, electronic communications networks, services and associated facilities and services throughout the European Union; and

(d) Promote the interests of the consumers and businesses in the State, by ensuring connectivity and the widespread availability and take-up of very-high-capacity networks.

2.34 Regulation 4(5) of the ECC Regulations requires that, in pursuit of its objectives under that regulation and under Section 12 of the 2002 Act, ComReg shall apply objective, transparent, non-discriminatory, and proportionate regulatory principles by, inter alia:

(a) Promoting regulatory predictability;

(b) Ensuring there is no discrimination in the treatment of undertakings;

(c) Safeguarding competition and promoting, where appropriate, infrastructure-based competition, (Regulation 4(5)(c) of the ECC Regulations requires the application of EU law in a technologically neutral fashion);

(d) Promoting efficient investment and innovation in new and enhanced infrastructures;

(e) Taking due account of the variety of conditions relating to competition and consumers that exist in the various geographic areas within the State; and

(f) Imposing ex ante regulatory obligations only where there is no effective and sustainable competition and relaxing or lifting such obligations as soon as that condition is fulfilled.

2.35 In addition to conducting a public consultation in accordance with Regulation 101 of the ECC Regulations, ComReg is required by Regulation 49(1) of the ECC Regulations, to carry out an analysis of relevant markets, where appropriate, consulting with the CCPC (referred to as the '**CCPC Consultation**').

2.36 ComReg is also required to make certain draft measures accessible to the EC, the Body of European Regulators for Electronic Communications (**'BEREC'**) and National Regulatory Authorities ('**NRAs**') in other Member States (collectively referred to as the '**European Notification Requirements**') pursuant to Regulation 17(4) of the ECC Regulations and to take utmost account of any comments received.

2.37 ComReg has consulted with the CCPC, the European Commission, and BEREC prior to the adoption of this Decision as further detailed in Section 2.7 below.

2.5 Information Sources Relied Upon

2.38 In this Decision, ComReg 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 information requests ('SIR(s)') 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.

2.6 Consultation Process

2.39 ComReg conducted a public consultation in accordance with Regulation 101 of the ECC Regulations, issuing the Consultation in January 2023.

2.40 Seven submissions ('**Submissions**') to the Consultation were received from the following respondents ('**Respondent(s)**')

(a) ALTO;

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

(c) Eircom (including a report carried out on its behalf by Copenhagen Economics);

(d) Speed Fibre Group ('**SFG**');

(e) National Broadband Ireland ('**NBI**');

(f) SIRO;

(g) Virgin Media Ireland ('**VMI**');

2.41 A non-confidential copy of the Respondents' Submissions is set out at Annex: 5 of this Decision, although it should be noted that where a Respondent has submitted both a confidential and non-confidential response to the Consultation, this is taken as a single Submission. Throughout this Decision, ComReg has summarised Respondents' main views, as appropriate, and has carefully considered them before setting out its final position. When referring to Respondents' Submissions in this Decision, ComReg highlights whether this was in the Respondent's confidential or non-confidential Submission. Where a Respondent has provided a confidential submission and ComReg has formed the view that specific elements of that Submission are not confidential, ComReg has included such text in this Decision in non-redacted form and engaged with the relevant Respondents as appropriate.

2.7 Liaison with Other Bodies

2.42 In accordance with Regulation 49(1) of the ECC Regulations, ComReg has consulted with the CCPC on the market definition exercise and competition assessment as set out in this Decision. A copy of the correspondence from the CCPC ('**CCPC Response**') to ComReg dated 26 October 2023 is set out at Annex: 6. The CCPC Response indicates that it does not object to ComReg's conclusions.

2.43 On xx November 2023, ComReg commenced the European Notification Requirements and made the corresponding draft measures accessible to the EC, BEREC and NRAs in other Member States ('**Notified Draft Measures**').

2.44 On xx November 2023 the EC provided its response to ComReg's Notified Draft Measures ('**EC Response**'), a copy of which is set out in Annex: 7 of this Decision. The EC's Response indicates that XXXXX. As is required, ComReg has taken utmost account of the EC Response prior to adopting this Decision.

2.8 Structure of the Decision

2.45 The remainder of this Decision is structured as follows:

(a) Section 3 defines the scope of the PIA markets from a product and geographic perspective;

(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 is imposing on Eircom as the SMP operator in the PIA Market, with such obligations being imposed in order to address identified competition problems;

(e) Section 7 discusses and sets out pricing regulatory obligations that ComReg is imposing on Eircom as the SMP operator in the PIA Market, with such obligations being imposed in order to address identified competition problems;

(f) Section 8 outlines the Regulatory Governance obligations that ComReg is imposing on Eircom as the SMP operator in the PIA Market, with such obligations being imposed in order to address identified competition problems;

(g) Section 9 briefly sets out the Regulatory Impact Assessment (hereafter, '**RIA**') of the approaches to regulation in the PIA Market;

(h) Annex: 1 sets out the 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 sets out the Real Worlds Systems Technical Feasibility Report;

(l) Annex 5: sets out the Consultation Responses;

(m) Annex 6: sets out the CCPC Response;

(n) Annex 7: sets out the European Commission's Response to ComReg's Notified Draft Measures;

(o) Annex: 8 sets out ComReg's Consideration of the EC's Response; and

(p) Annex: 9 sets out the Realworld Systems PAR Analysis

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

Chapter 3

3 Market Definition

3.1 Overview

3.1 As noted in Section 2, a PIA market is not identified in the 2020 Recommendation. Accordingly, ComReg must carry out a 3-Criteria Test to determine whether ex ante regulation of the PIA market is warranted. However, before doing so, it is first necessary to define the product and geographic parameters of the PIA market 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 impact wholesale market behaviour, before then assessing the geographic scope of the PIA market. This ultimately provides the product and geographic boundaries of the Relevant PIA Market.

3.4 The Notice on Market Definition[37] 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, having regard to regulation 49(5) of the ECC regulations, regulation

[37] Commission Notice on the Definition of the Relevant Market for the purposes of Community Competition Law (97/C372/03) ('**Notice on Market Definition**'), available at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31997Y1209(01)&from=EN.

present in other related markets, or through the general 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. The Explanatory Note to the 2020 Recommendation[38] defines PI as follows:

[38] 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 Regulation 46(1) of the ECC regulations, 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, as set out in the WLA/WCA Decision, 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 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. 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, 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 by ComReg to a market review in its own right but has been considered in the context of the imposition

of remedies in the downstream WLA market[39] in which Eircom has to date been designated with SMP. This is also the case in most other EU member states[40]. There are some exceptions to this with two European NRAs, Ofcom[41] and ARCEP[42], having both recently completed market reviews of PIA in their respective jurisdictions. In arriving at the 2020 Recommendation, the European Commission also sought views[43] on the inclusion of PIA as a recommended market but decided against mandating it due to the large variation in circumstances across EU[44] member states.

3.3.1 Current trends

3.17 Despite PI typically being the largest cost component (up to 80% of ECN deployment costs), Figure 2 below shows it is one of the least traded parts of the value chain as the majority of PI asset owners use it for self-supply for the provision of other downstream wholesale or retail ECS. In 2022, revenues from PI represented 2.9% of wholesale fixed line revenues and 1.3% of the retail fixed line revenues.

3.18 It should be noted that Figure 2 presents fixed telecoms specific revenues and excludes revenue generated by non-telecom specific infrastructure providers such as CIE and ESB.

[39] 2018 WLA Market Decision.

[40] Page 16, BEREC Report on Access to physical infrastructure in the context of market analyses (BoR (19) 94.

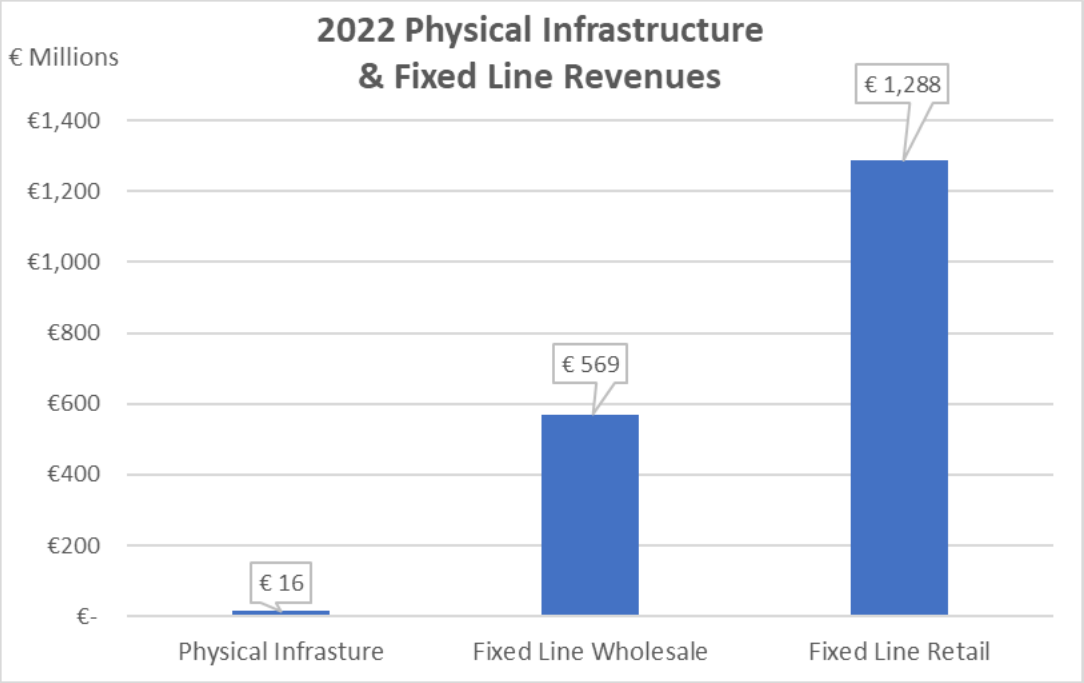
[41] Ofcom's Wholesale Fixed Telecoms Market Review 2021-26, https://www.ofcom.org.uk/consultations-and-statements/category-1/2021-26-wholesale-fixed-telecoms-market-review

[42] ARCEP Decision No 2020-1445, https://www.arcep.fr/uploads/tx_gsavis/20-1445.pdf

[43] https://digital-strategy.ec.europa.eu/en/synopsis-report-targeted-public-consultation-review-recommendation-relevant-markets-policy

[44] Explanatory Note to the 2020 Recommendation, pages 61-62. https://digital-strategy.ec.europa.eu/en/news/commission-updated-recommendation-relevant-markets

Figure 2: 2022 Telecom Specific PI & Fixed Line Revenues[45]



3.19 In terms of the utilisation of PI to roll-out very high capacity networks[46] ('**VHCNs**'), the Table below shows the planned deployment of the main SPs and their current run-rate for the network roll-out and network extension and upgrading.

Table 7: FTTP Network Roll-out and Extension Q2-2019 to Q2-2023[47] [✂REDACTED✂]

[redacted]

[45] Source, SIR data and QKDR Data.

[46] Such as fibre to the home/premise.

[47] Source QKDR Data.

3.20 [✂ ✂]

3.21 As can be seen from the Table 7 above, Eircom has been able to utilise its PI to roll-out its FTTP network at over 3 times the rate of SIRO using the ESB PI and at a higher rate than NBI using Eircom's PI[48].

3.22 The following data on PIA is primarily based on duct and pole rentals/leases by SPs between 2020 and 2022, including both telecom and non-telecom specific PI. Figure 3 shows the breakdown of revenue across these two primary categories of infrastructure, ducts and poles, from both telecom and non-telecom PI between 2020 to 2022. This also shows an average of 57% annual growth over these 3 years. In 2022, ducts accounted for nearly 70% of all revenue and poles account for the remaining 30%. Figure 4 shows the km of duct access rented between 2020 and 2022. There was on average 67% annual growth across all 3 years. Finally, Figure 9 shows the number of pole

[48] ComReg notes that given the geographic location and relative lack of quality of some of these poles means that of NBI's roll-out being more rural and less densely populated, a slower roll-out rate is to be expected.

access rented between 2020 and 2022. On average the growth in annual pole access is over 300%, which is mainly due to the low base in 2020.

Figure 3: 2020-22 SPs costs of Duct & Pole Rentals [✂REDACTED✂][49]

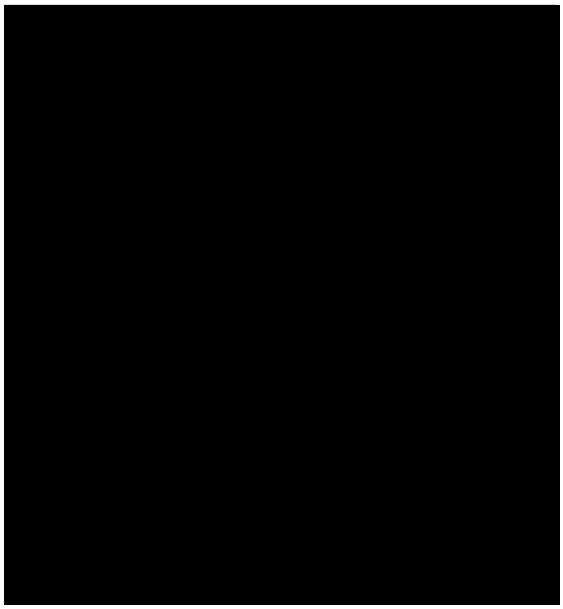


Figure 4: 2020-22 SPs rental of Duct (km) [✂REDACTED✂][50]

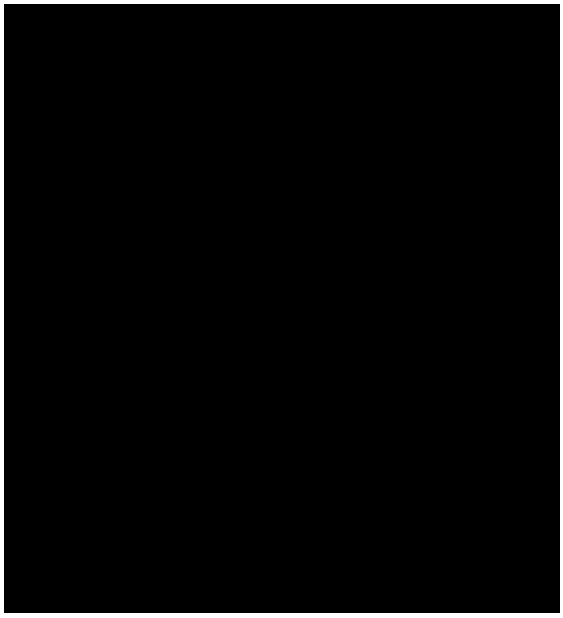
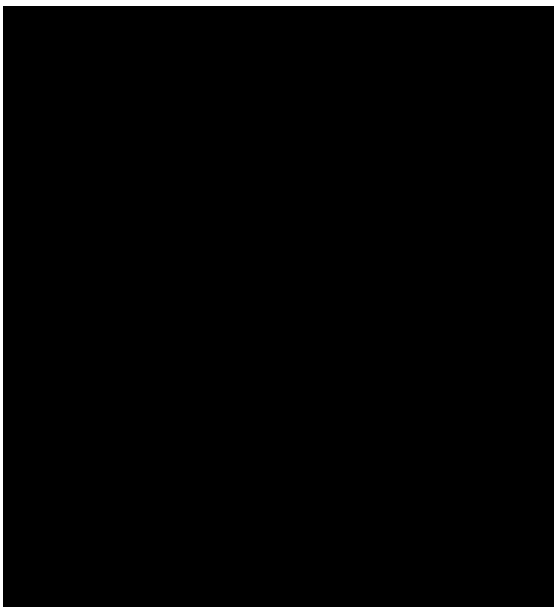


Figure 5: 2020-22 SPs rental of Poles (No) [✂REDACTED✂][51]



[49] Source, SIR data.

[50] Ibid.

[51] Ibid.

3.23 In 2022 in the context of the merchant market and trading of PIA, SPs purchased over 60% (5,657km) their duct from other telecom operators.[52] NBI [✂ [redacted] ✂] was the most significant of these purchasers of telecom duct followed some way behind by Virgin Media [✂ [redacted] ✂] and Aurora [✂ [redacted] ✂]. NBI purchased nearly all telecom pole access [✂ [redacted] ✂] sold in 2022.

3.24 Figure 6 below shows the 2020-22 revenue from wholesale (merchant market) telecom PIA sales to SPs (excluding sales of non-telecom PIA) of duct and poles. Figure 7 and Figure 8 shows the quantity of ducts (kms) and poles (no) traded by between telecom operators in the period 2020-22, respectively.

3.25 Eircom is the largest seller of telecom specific PIA in 2022, accounting for [✂ [redacted] ✂] of all sales in Euro. eNet and Virgin Media account for [✂ [redacted] ✂] of all PIA sales by telecom operators measured by euros.

3.26 In terms of volume, Eircom accounts for [✂ [redacted] ✂] of the total length of telecom duct access and all telecom pole access sold. eNet represents [✂ [redacted] ✂] , while the other telecom operators account for the remaining [✂ [redacted] ✂].

[52] 30% being purchased from non-telecom operators.

Figure 6: 2020-22 Revenue from Telecom Specific PIA [✂REDACTED✂][53]

Figure 7: 2020-22 km of Telecom Specific Duct Access Rented [✂ REDACTED ✂][54]

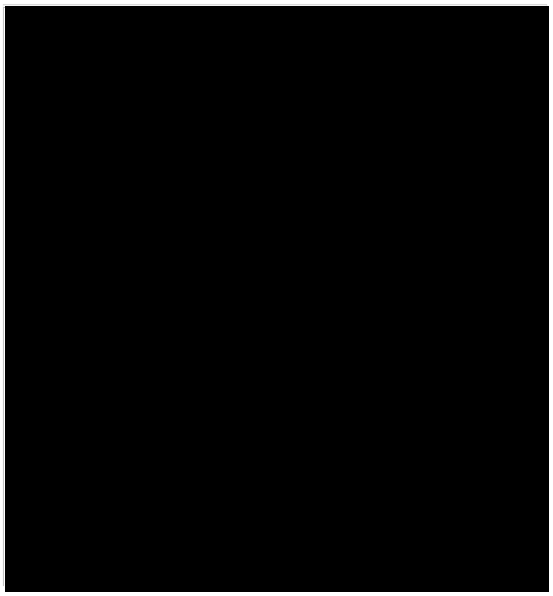
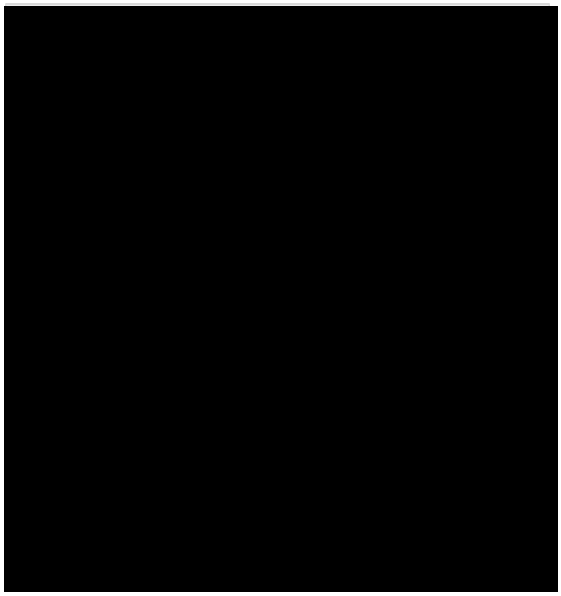


Figure 8: 2020-22 Number of Telecom Specific Pole access Rented [✂ REDACTED ✂][55]



[53] Source, SIR data.

[54] Ibid.

[55] *Ibid.*

3.27 Table 8 below shows the SPs who are purchasing duct access from Eircom. The vast majority of sales are to NBI for the NBP. However, ComReg notes that in the Submissions to the Consultation, all Respondents – with the exception of Eircom and SIRO – indicated that there is a large latent demand for access to Eircom's PI. However, the Submissions contend that issues with the utility of the product on offer to Access Seekers has had an impact on their take-up. [56]

Table 8: 2022 Eircom Duct Rental to other SPs (Sales) [✂REDACTED✂][57]

3.3.2 FNI/Eircom/InfraVia

3.28 On 28 January 2022, Eircom and InfraVia announced that they had reached an agreement to create a dedicated fibre company, FNI, with plans to pass over 1.9m homes with FTTP by 2026[58] (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

[56] ALTO submission, page 2 (ALTO's view is that the PIA market has not operated as it should have for a number of reasons. Those reasons range from technical, to operational, to asset lifecycle and expiry, to competition related issues.); BT non-confidential submission, page 1 (…BT believes that the PIA market in Ireland does not function properly.); SFG non-confidential submission, page 1 (ComReg have identified that up to the end of 2021 there were just circa 150 records of duct rental on Eircom's network with the majority of these being historic in nature. This alone paints an unfavourable picture of a Physical Infrastructure Access (PIA) market that is not operating as it should.); NBI non-confidential submission, page 4 (Turning to the assessment of competition within the PIA market, NBI supports the findings of ComReg's Three Criteria Test, which demonstrate that the market is one in which regulatory intervention is warranted.); VM non-confidential submission, page 4 (the current Eircom PIA product set is not for fit for purpose and is consequently little used);

[57] Ibid.

[58] 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.

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.

3.29 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.

3.30 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).

3.31 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.

3.32 While Eircom [✂ [redacted] ✂], a number of rights afforded to InfraVia means that it may exercise decisive influence over FNI.[59] ComReg notes in particular that the Shareholders Agreement provides that FNI will have a maximum of [✂ [redacted] ✂] directors[60] of which Eircom (for so long as it holds a majority of shares in FNI) will have the right to nominate [✂ [redacted] ✂] directors and InfraVia will initially have the right to appoint [✂ [redacted] ✂] [61]. 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.[62] The quorum for board meetings will be [✂ [redacted]

[59] For simplicity's sake, ComReg only refers here to FNI but the provisions referred to are equally relevant to Fibre Networks Ireland Holdings Limited.

[60] Clause 2.1.1.

[61] Clauses 2.2.1 and 2.2.2.

[62] Clause 2.3.

[redacted] ✂] [63]. 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.[64]

3.33 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 Agreement and the Master Pole Licence Agreement.[65] The supervisory committee is to comprise [✂ [redacted] ✂].[67] The Shareholders Agreement also notes that discussions are [✂ [redacted] ✂] and will be submitted in advance to shareholders for approval.[68] InfraVia is also entitled to [✂ [redacted] ✂][70].

3.34 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] ✂][71]

3.35 On the basis of the Transaction Documents, ComReg found that the Transaction had the effect of triggering Regulation 15 of the Access

[63] Clause 3.4.1.

[64] Clause 3.5.

[65] Clause 5.1 and Schedule 2.

[66] Paragraph 2 of Schedule 2.

[67] Clause 5.3. There is an escalation procedure in the event that agreement cannot be reached.

[68] Clause 7.

[69] Clauses 6.1 and 6.3.

[70] Clause 6.2.

[71] Clause 10.2.

Regulations[72] 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*".[73]

3.36 ComReg is of the view, however, that the distinction drawn under the EU Merger Regulation,[74] 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 here. SFG, in its Submission, queried the relevance of the concept of full function under the Merger Regulation to ComReg's analysis, noting that that "*either Infraviva (sic) can exercise decisive influence over Eircom Ltd under the terms of the FNI JV, including influencing its commercial strategy, or it cannot"*[75]*.* For the avoidance of doubt, ComReg does not suggest that Infravia exercises decisive influence over Eircom, rather, through the rights afforded to it under the Transaction documents, it exercises decisive influence in terms of the strategy of FNI. This does not mean, however, that Infravia has control over the operations of the network assets now under the ownership of FNI.

3.37 In this regard, the concept of "full function" under merger control provides a helpful framework for the analysis of what the creation of the joint venture means for the purpose of market analysis, in terms of whether there ought to be considered two networks, or only one, operated by Eircom. As set out further below, whether a joint venture is full function will depend on the extent of the operational dependency of the joint venture on its parents or one of its parents; FNI is heavily dependent in that sense from Eircom such that it is appropriate to treat all network assets owned by Eircom and FNI as constituting one network.

[72] European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 334 of 2011) (the '**Access Regulations**'). The Access Regulations have since been replaced by the EEC Regulations.

[73] See Information Notice: Eir/InfraVia Transaction, ComReg Document 22/57, 5 July 2022.

[74] Council Regulation (EC) No 139/2004 of 20 January 2004 on the control of concentrations between undertakings, OJEC L 24/1, 29.1.2004.

[75] SFG Non-confidential Submission, page 4.

3.38 For the purpose of the EU Merger Regulation, a full function joint venture has the following characteristics:[76]

(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.

3.39 [✂ ✂] [77]. 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.

3.40 In this regard, the Business Transfer Agreement transfers from Eircom to FNI [✂ ✂].[78] The associated assets are expressed to include the Access Network, the Fibre Rights[79] and other assets and property used

[76] Commission Consolidated Jurisdictional Notice under Council Regulation (EC) No 139/2004 on the control of concentrations between undertakings (2008/C 95/01).

[77] [✂ ✂]

[78] Clause 1.1 (Definition of 'Business').

[79] 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".

exclusively in respect of the Business[80] but excluding certain Excluded Assets. The Excluded Assets are listed in the Business Transfer Agreement[81] and include (amongst other things) [✂ ✂][82]. Finally, under a Deed of Novation between Eircom, FNI, [✂ ✂].

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

(a) [✂][83]

(b)

(c)

[80] Clause 2.1.

[81] Clause 1.1 (Definition of Excluded Assets).

[82] Clauses 1 and 2.

[83] Clause 2.1.

[redacted][84]

(d) [redacted] ✂].[85] 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.[86]

3.42 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] ✂].[87] Its wired network encompasses copper cables, Fibre to the Cabinet ('**FTTC**'), point-to-point fibre, point-to-multipoint 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[88], with FTTC expected to decline considerably.

[84] Clause 3.1.

[85] Clause 3.1 and Schedule 1, Part 1.

[86] Clause 10.

[87] Information provided to ComReg by Eircom 2019 and 2022.

[88] 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

3.43 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.

3.44 The most significant is that of NBI which has a contract with the State, under the NBP, 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 569,000 homes, farms, schools and businesses.[89] 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 nearly 178,000[90] out of the target of over 569,000 premises.

3.45 SIRO, another wholesale provider of broadband services, announced in 2021 that it will expand its FTTP network from 430,000 premises to 770,000 premises passed across 154 towns in Ireland[91]. In June 2023 it announced it had passed some 500,000 homes with fibre[92]. SIRO relies primarily on the PI of ESB, the owner of the electricity network, to roll out is fixed network.[93]

3.46 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 FTTH by 2026[94]. 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.[95]

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[89] https://nbi.ie/the-national-broadband-plan/, retrieved 18th September 2023.

[90] https://nbi.ie/, progress as of 08.09.2023, retrieved 18th September 2023.

[91] https://siro.ie/roll-out/, retrieved 16th May 2022.

[92] www.siro.ie, EZINE EDITION – June 2023.

[93] A more detailed discussion on SIRO and ESBN is considered below and in Annex 1.

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

[95] https://www.virginmedia.ie/about-us/press/2021/virgin-media-ireland-announces-national-fibre-network-upgrade/, article dated 4th November 2021

3.47 Figure 9 and Figure 10, below, show the anticipated growth in merchant markets PI over the 2023 to 2028 period for poles and ducts, respectively.[96] NBI's rollout of fibre using Eircom's PI is the largest component of this growth.

Figure 9: Forecast Pole Purchases 2023-28 [✂REDACTED✂][97]

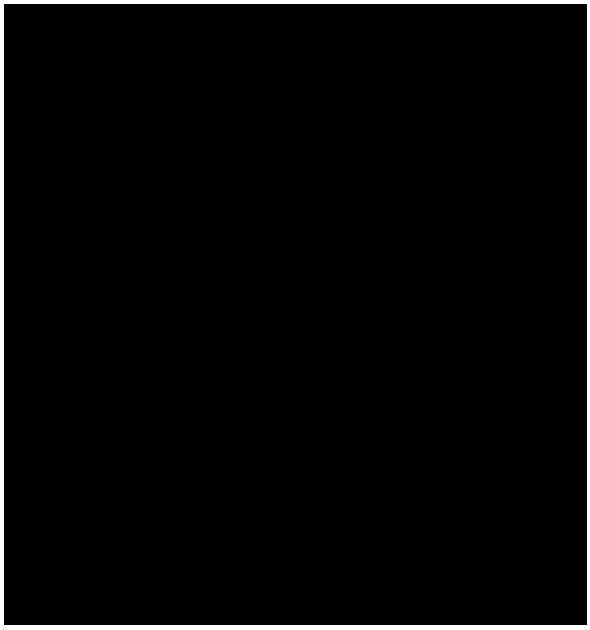
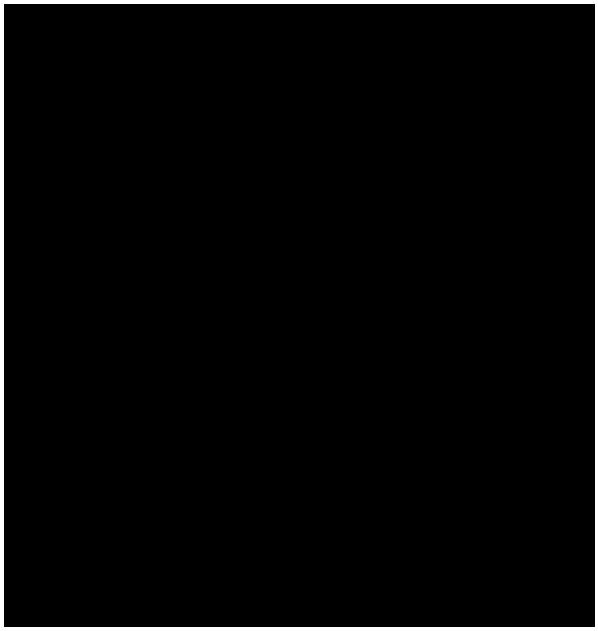


Figure 10: Forecast Duct Purchases 2023-28 [✂REDACTED✂][98]



3.4 Assessment of Relevant PIA Product Market

3.48 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'[99].

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

[96] Sourced from information requests to SPs

[97] Source, SIR data.

[98] Ibid.

[99] Paragraph 7, Notice on Market Definition.

> *"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"*[100].

3.50 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[101] 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 significant 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.

3.51 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.

3.52 One respondent to the PIA Qualitative Questionnaire ('**QQ**') [✂ ✂] 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 [✂ ✂] indicated that a 15 to 40 years' term with renewal rights was optimal as it provides predictability for the purchaser. Another respondent [✂ ✂] stated [✂ ✂][102].

[100] Page 11 of the SMP Explanatory Note accompanying the SMP Guidelines.

[101] 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.

[102] [✂ ✂].

3.53 ComReg has imposed obligations on Eircom requiring it 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 Physical Infrastructure Access Reference Offer ('**PIARO**'). Eircom is also required to provide advance notice of price and non-price changes to ComReg and to Access Seekers and to have a change management process for changes to the PIARO. The transparency remedies include a requirement to publish a PI rollout plan and a requirement to publish Information as regards performance, including by reference to Key Performance Indicators. In May 2023, ComReg separately consulted in respect of a further specification of Key Performance Indicators ('**KPI(s)**') relating to PIA[103] and has issued a Decision[104] with respect to same in parallel with this Decision. Additionally, the transparency remedies include a requirement with respect to the making available to Access Seekers (both those availing of PIA and those with a demonstrable intention to avail of PIA from Eircom) Eircom's Engineering, Planning and Design Rules and further, 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.

3.54 ComReg has imposed obligations on Eircom requiring it 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 Physical Infrastructure Access Reference Offer ('**PIARO**'). Eircom is also required to provide advance notice of price and non-price changes to ComReg and to Access Seekers and to have a change management process for changes to the PIARO. The transparency remedies include a requirement to publish a PI rollout plan and a requirement to publish Information as regards performance, including by reference to Key Performance Indicators. In May 2023, ComReg separately consulted in respect of a further specification of Key Performance Indicators ('**KPI(s)**') relating to PIA[105] and has issued a Decision[106] with respect to same in parallel with this Decision. Additionally, the transparency remedies include a requirement with respect to the making available to Access Seekers (both those availing of PIA and those with a demonstrable

[103] Key Performance Indicator (KPI) Metrics: Physical Infrastructure Access (PIA): Consultation and Draft Decision, ComReg Document 23/41, May 2023 ('**KPI Consultation'**).

[104] ComReg Document Physical Infrastructure Access (PIA): Key Performance Indicator (KPI) Metrics, ComReg reference YY/XX published nn Month 2023.

[105] Key Performance Indicator (KPI) Metrics: Physical Infrastructure Access (PIA): Consultation and Draft Decision, ComReg Document 23/41, May 2023 ('**KPI Consultation'**).

[106] ComReg Document Physical Infrastructure Access (PIA): Key Performance Indicator (KPI) Metrics, ComReg reference YY/XX published nn Month 2023.

intention to avail of PIA from Eircom) Eircom's Engineering, Planning and Design Rules and further, 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.

3.4.1 Identifying the Focal Product

3.55 For the reasons set out below, the appropriate focal product consists of passive telecoms specific infrastructure used to house or carry fixed elements of a wired network, regardless of the owner of that infrastructure. This takes into account the 9 key demand-side product characteristics that are essential or the most desirable features of a PIA product (telecoms-specific and non-telecoms specific) which ComReg has identified through engagement with various SPs, utility owners and other stakeholders, and the evidence set out in paragraph 3. above. The key 9 demand-side product characteristics include:

(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?).

3.56 This approach is consistent both with the definition of a relevant product market, namely, all those products and/or services which are regarded as interchangeable or substitutable by their user, by reason of the products' characteristics, their prices and their intended use, and the narrowest plausible definition of the market. It is also consistent with the approach set

out in the Explanatory Note to the 2020 Recommendation which 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".*[107]

3.57 How PI networks in Ireland measure against the characteristics listed in in the previous paragraph 3. is set out in Annex: 2summarised in Table 23 of the annex, and reproduced in Table 9 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.

[107] Page 68, Explanatory Note to the 2020 Recommendation.

Table 9 Summary of assessment of PI networks[108]

	Ease of Deployment	Breakout for connections	Resilience from damage	Repair times	Surveys of infrastructure	Spare capacity	Geo locations / density	National Ubiquity
Aurora / GNI	×	×	-	-	-	×	×	×
BT	×	×	-	-	-	×	×	×
Colt	×	×	-	-	-	×	×	×
Eircom	✓	✓	-	-	✓	✓	✓	✓
ESB	×	×	-	×	×	×	✓	✓
ESBT*	×	×	-	-	×	×	×	×
eNet	×	×	-	-	-	×	×	×
EU Net	×	×	-	-	-	×	×	×
GTT	×	×	-	-	-	×	×	×
Irish Rail	×	×	×	×	×	×	×	×
Irish Water	×	×	×	×	×	×	×	×
LA duct[109]	×	×	×	×	×	×	×	×
LA drains	×	×	×	×	×	×	×	×
NBI*	×	×	-	-	×	×	×	×
Rivers, canals	×	×	×	×	×	×	×	×
SIRO*	×	×	-	-	×	×	×	×
TII	×	×	×	×	×	×	×	×
VM	×	×	✓	-	-	-	×	×
VF	×	×	✓	-	×	×	×	×
WI	×	×	×	×	×	×	×	×
Wireless	✓	×	×	-	×	-	×	✓
ZAYO	×	×	✓	-	-	×	×	×

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

[108] Replication of Table 23 Annex 2

[109] LA refers to Local Authority.

3.58 In its Submission, Eircom takes issue both with the demand characteristics selected by ComReg to identify the focal product, on the basis that a number of attributes of Eircom's network only exist as a result of existing regulation (including breakout for connection or surveys of infrastructure), and also with ComReg's assessment of available PI based on those characteristics. Eircom disagrees with the "*poor scores*" given to Virgin Media and ESB's PI and with the score for Eircom's PI, which Eircom says, "*is incorrectly presented as being vastly superior".*[110] reflect PI users' (and potential users') views (not ComReg's) as obtained via the QQ and the high scores achieved by Eircom's PI based on those key demand characteristics are reflected in practice by Eircom's own speedy and advancing FTTH roll-out using this PI. This is in contrast to SIRO's use of ESB PI, which has been progressing its FTTH roll-out more slowly relative to that of Eircom. The characteristics also likely reflect the fact that Eircom's PI was designed specifically as a ubiquitous PI to provide telecom services to every building in the country which is not the case for either ESB's or Virgin Media's PI.

3.59 The appropriate focal product accordingly is 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.,[111] and which in the future, can be expected to be used predominantly for the installation of fibre cables. It 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. However, 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.

3.60 In its Submission, Eircom expressed the view that "ComReg is wrong to use all forms of PI access as the focal product – capillary PI should be considered separately to other forms of PI".[112] Eircom was of the view that a distinction

[110] Eircom Submission, paragraph 87.

[111] This is a non-exhaustive list of services capable of being provided over wired ECNs.

[112] Eircom Submission, p. 37.

ought to be drawn between the different types of PI that can be used to deploy ECS, and between "capillary PI" which is used for access and connection to individual premises, as well as PI used to connect aggregation points in a network such as backhaul and/or core networks.[113] ComReg, however, notes that network operators including Eircom, SIRO and Virgin Media do not distinguish between PI used for backhaul and local access customer connectivity. In particular, pole routes for Eircom and NBI are used for both inter-exchange connectivity and local access connections.

3.61 Furthermore, in relation to ducts, there may be specific ducts along a part of a route reserved for inter-exchange connectivity but cables can be spliced at particular points for connecting customers. As such, backhaul and local access duct is intermeshed and cannot readily be differentiated from a usage perspective. In addition, fibre for the deployment of which PIA is most likely to be used, supports the provision of multiple products and services. Delineating PIA by product usage type would not therefore be meaningful.

3.62 The European Commission's Explanatory Note to the 2020 Recommendation also notes that,

> *"NRA's do not need to specify specific use cases associated with ducts and poles, or to distinguish between the use of ducts for access and backhaul…Some flexibility is desirable as the full range of potential Access Seekers cannot be predicted at this stage…Any product market definition in relation to stylised use cases could result in remedies that artificially restrict innovation and lock access seekers into existing markets and network topologies."*[114]

3.63 ComReg accordingly is satisfied that the focal product is a product that can be used by various types of 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.

3.64 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

[113] Eircom Submission, paragraph 99.

[114] Explanatory Note to the 2020 Recommendation, Page 69.

input to provide various downstream wholesale and retail services (including for own network build in providing such services).

3.65 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.[115] 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 may lack continuity, we do not make any comparisons in the market definition exercise as to the 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.

3.4.2 Treatment of self-supply

3.66 In light of the relatively low (although growing) level of activity in the PI merchant (wholesale) market as described in Section 3.3 above, the fact that the product features between PI provided internally to that supplied externally are likely to be sufficiently similar, and given self-supply can be transferred to merchant market supply, 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 to 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

3.67 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

[115] Such as DCC duct in the Dublin Docklands area. See: https://www.dublincity.ie/business/economic-development-and-enterprise/telecoms/dublin-docklands-telecoms-network.

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."* [116]

3.68 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.

3.69 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)."* [117]

3.70 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.

[116] Paragraph 33, SMP Guidelines.

[117] Paragraph 33, SMP Guidelines.

Non-telecoms specific PI: ESB PI

3.71 The main non-telecoms specific PI currently housing wired ECNs is ESB's PI, used by both SIRO and ESBT.

3.72 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 WDC services, and by SIRO – a joint venture between ESB and Vodafone – which utilises the Medium Voltage ('**MV**') and 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 3rd parties and shares rights with SIRO on the MV and LV networks. ESBT is connected to a [✂ ✂] connectivity.[118]

3.73 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.[119] 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.[120]

3.74 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 [✂ ✂] months from submission of a detailed surveyed access request from SIRO to ESB before the commencement of fibre installation.[121]

3.75 For the reasons set out below, due to, *inter alia,* the limitations in functionality and other demand characteristics, ComReg does not consider that ESB's PI a sufficiently close substitute to telecoms specific PI to be considered part of the same product market.

[118] Meeting with ESBT 14/7/21.

[119] Case No. Comp/M.7307 – ESBN/Vodafone/JV.

[120] Ibid.

[121] Meeting with ESBN Sept 2021.

3.76 In its Submission, Eircom claims that the "exclusion of non-telecoms specific PI from the product market is wrong…",[122] "…is completely at odds with the market reality in Ireland…",[123] and ComReg's reasoning for excluding ESB PI would be "…particularly flawed".[124]

3.77 ComReg explains in detail below the reasons why ESB PI does not constitute an effective substitute to telecoms specific PI. From the outset, it should be noted that ESB PI does not constitute an effective substitute does not mean that it cannot be utilised to house telecoms equipment per se.

3.78 This is illustrated by the fact that ESB has installed its own private fibre network for controlling and monitoring the electrical network. ESBT, a wholly owned subsidiary of ESB, has been granted access to some of these fibres for commercial use whereby it supplies dark fibre and WDC services at the wholesale level. However, [✂ ✂]

3.79 The other major user of ESB's PI, SIRO, has had a far slower FTTP deployment rate than Eircom which uses telecoms-specific PI, it has a lower volume of homes passed than Eircom as shown in Figure 11 below. This graph clearly shows that telecoms-specific PI is far more efficient for fibre rollout than electrical PI to the extent that [✂ . ✂] This is due to the challenges inherent with using electrical PI as laid out below. In a similar manner to [✂ ✂], NBI has discovered that it is more efficient to build its own telecoms specific PI even in areas where Eircom has no infrastructure and it has installed its own PI in the Black Valley in Co. Kerry, rather than attempt to use ESB's PI.

[122] Eircom Submission, p. 31.

[123] Eircom Submission, paragraph 87.

[124] Eircom Submission, paragraphs 89 and 90. S

[125] [✂ ✂].

Figure 11 FTTP rollout rates per quarter Q2 2019 – Q2 2023 Telecoms versus Electrical PI [✂ REDACTED ✂]

3.80 Given the significant and non-transient restrictions on its utility for the housing of telecoms equipment as detailed below, Access Seekers do not consider ESB PI to be an effective substitute As such, the fact that ESB PI is used by SIRO, or that ESB discussed the potential use of its PI with NBI, as Eircom notes in its Submission,[126] does not imply that ESB PI is to be treated as an effective substitute for the purpose of market definition. The question is, is ESB PI likely to pose a sufficiently immediate and effective competitive constraint such that it would render unprofitable a SSNIP in telecoms-specific PI by a HM, and not whether it is used for telecoms purposes. To render the SSNIP unprofitable, a sufficient number of users of telecoms-specific PI would need to switch to ESB PI and for the reasons set out herein, including having regard to the product characteristics of ESBI PI, ComReg does not consider this to be likely. It is not therefore the case that any use of a potential substitute automatically renders it an effective substitute to a focal product.

3.81 ComReg notes also in this regard that its approach and findings are consistent with the Explanatory Note to the 2020 Recommendation which states that:

> *"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*

[126] Eircom Submission, paragraphs 92(a), 93(c) and (d), and 95(b).

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."[127]

3.82 Factors impacting the substitutability of the ESB's PI network with that of telecom-specific PI include capacity limitations, extensive health and safety requirements, extensive survey requirements, sectoral specific regulation granting primacy to the electricity network and switching costs. These are considered in detailed below and collectively contribute to ComReg's position.

Capacity limitations

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

[127] Page 68 of Explanatory Note to the 2020 Recommendation.

"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." [128]

3.84 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*[129] *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.*
- *A Passive Optical Network (**PON**) shall avoid the need for power supplies.*

[128] Make-Ready for Fibre attachment on MV and LV networks' standard; Introduction.

[129] All Dielectric Self Supporting (i.e., Fibre Optic).

- *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 whist 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.*[130]

3.85 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.

3.86 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.[131]

3.87 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.

3.88 In its Submissions Eircom agrees that "..the claimed capacity restrictions could only apply in circumstances where SIRO (or ESBT) has already deployed or have agreed plans to so do in the future… ". However, Eircom

[130] Section 1.1, Communication Network on Overhead Power network.

[131] ComReg meeting with ESBN on 4 July 2021.

but notes that "…SIRO (and ESBT) do not have plans to deploy to the entire country" and in particular "there are no plans for any commercial operator to deploy in the IA." As such, Eircom considered that ESB PI would be a "valid alternative for operators, including NBI, wishing to deploy outside the SIRO/ESBT footprint".[132] However, as detailed in paragraph 3.63 above, in order to serve the premises within the IA, NBI's demand for PIA traverses both the NBP IA and outside the IA. Demand from NBI for PIA is accordingly not confined to the IA itself. We also note that NBI considered use of ESB PI but [✂ [redacted] ✂][133] and it installed its own PI in the Black Valley Co. Kerry where there was no Eircom PI, rather than use the ESB's PI.

Additional Health and Safety Requirements and costs

3.89 Health and Safety Authority ('**HSA**') rules[134] 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.[135]

3.90 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 SIRO's ESB approved and trained contractors, this can only be undertaken with the power switched off. While Eircom states in its Submission that PI contractors are available to all SPs,[136] the specificities of training required to work with electricity PI are materially different from that for telecoms PI and as such, the same pool is not necessarily available.

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[132] Eircom Submission, Paragraph 92(a).

[133] NBI meeting with ComReg 8 March 2021.

[134] https://www.hsa.ie/eng/publications_and_forms/publications/codes_of_practice/code_of_practice_for_avoiding_danger_from_overhead_electricity_lines.html

[135] It should also be noted that all repairs on ESB infrastructure can only be carried out by ESB staff or their contractors.

[136] Eircom non-confidential submission, paragraph 93.

Survey costs and timings

3.91 Evidence available to ComReg shows that there are additional risks in terms of costs and timelines associated with use of ESB PI as compared to Eircom's.

3.92 First, 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, [✂ ✂].[137]

3.93 Second, ComReg understands that extensive and detailed physical surveys of the electrical PI network must be undertaken before any fibre deployment can be contemplated. This is in contrast to the use of Eircom's PI network, in particular, where desktop surveys are used to plan fibre deployment, and are later complemented by field surveys as part of the design and build processes. In particular, 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.

3.94 For instance, ESB PI may not be available in areas where there is no in-situ duct, i.e., the electrical cable is directly buried. In that case, entirely new local PI would be needed to service the area. However, such areas, which can be extensive, cannot be predicted or estimated in advance of a physical inspection. This is because ESB does not, as a matter of course, always record the type (direct buried cable or ducted cable) of all of its underground electrical cable, as whether or not its electricity cables are ducted or directly buried is not essential information for its maintenance of the electrical service. In such instances, no PIA is available. [✂ ✂].

3.95 It is also not possible to know in advance the extent to which ESB duct in an area will include 'non-vaulted' duct. Non-vaulted duct means that there is no footway chamber outside the customer's premises, so new vaults must be

[137] ComReg meeting with ESB on 4 September 2021.

built at this point to allow fibre cable to be pulled into the premises.[138] This adds considerable costs and time delays when used for fibre deployment.

3.96 This means that the costs and time in physical surveys may have been expended before it transpires that fibre deployment using ESB PI is not possible, or it is uneconomic due to the volume of additional new PI required, and deployment may be abandoned in some areas. While accordingly, it may also be the case that Eircom PI does not reach all premises as Eircom contends in its Submission,[139] ComReg notes that Eircom has utilised its PI to roll-out its FTTH network to the majority of premises outside the IA while, in contrast, for example, SIRO has decided on occasions not to extend its fibre rollout to some districts in various towns, or [✂ ✂][140] because of the lack of available duct.[141]

Primacy of the electrical service – Sectoral specific regulation

3.97 Another limitation which undermines the likelihood that Access Seekers would use 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[142] 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.

3.98 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. [✂ ✂] [143]. It can also impact on speed of deployment of Access Seekers' telecoms services in ESB PI, where planned outages on the electrical

[138] By way of example, [✂ ✂]

[139] Eircom's Submission, paragraph 93(c).

[140] Eircom Submission, paragraph 93.

[141] Meeting with SIRO 4 July 2021. Example includes [✂ ✂].

[142] Refer to Annex 2paragraph A 2.55.

[143] SIRO SLA with ESB.

network[144] may cause delays and uncertainty for SPs, which in turn are unacceptable to their downstream customers.

3.99 As an example of how the primacy of the electrical power service impacts on ECS delivery, [✂ [redacted] ✂][145].

Switching costs

3.100 As noted previously in paragraph 3., 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. While Eircom in its Submission, notes that ComReg has not substantiated these switching costs,[146] ComReg sees little benefit in undertaking extensive work to do so where the conclusion that they are prohibitive is easily reached in light of what switching would entail.

3.101 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 equipment in different locations, based on the ESB's network topology of switching yards, sub-stations, and other electrical network features. 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. ComReg understand in this regard that [✂ [redacted]

[144] As cited by [✂ [redacted] ✂].

[145] Meeting with SIRO, 1 September 2021.

[146] Eircom Submission, paragraph 94.

[redacted]
✂]

Conclusion on substitutability of electrical PI

3.102 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.

3.103 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[147]. Some respondents to the QQ 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-telecoms 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."*[148]

3.104 Even so, ComReg understands that in the Black Valley in Co. Kerry where Eircom PI is unavailable, no workable solution could be found with ESB, which resulted in NBI having to install its own PI to provide the FTTH service in that area.[149]

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

3.106 There are other difficulties also including as set out in paragraph 3. above, that ESB's PI is only accessed by SIRO after an extended lead-in time whereby agreement is reached with the CRU for the works. Difficulties

[147] Refer to Annex 3paragraphs A 3.29 to A 3.35.

[148] Business Post 11 April 2022.

[149] Meeting between ComReg and DECC on 20 March 2023.

associated with using ESB's PI were also highlighted by [✂ [redacted] ✂].

Non-telecoms specific PI: National rail network

3.107 As stated in Annex: 2, paragraphs A 2.71 to A 2.76, the fibre cable routed on the national rail network, is not ducted 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] ✂].

3.108 Additionally, breakout of the fibre (as opposed to the PI) is, in any event, usually only available at railway stations as noted previously in ComReg's WHQA Decision[150]. 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".*[151]

3.109 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.

3.110 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/Iarnroid 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 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.

[150] ComReg Decision D03/20, Document No.20/06, paragraph 5.289. published 17 January 2020 ('**WHQA Decision**').

[151] Page 67, 2020 Recommendation.

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

3.111 The substitutability of the PI supporting 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.

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

3.113 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."* [152]

3.114 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.

3.115 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.

3.116 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.

[152] Explanatory Note to the 2020 Recommendation, page 72.

3.4.4 ComReg's conclusion on the PI Product Market

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

3.5 Geographic Market Assessment

3.5.1 Approach

3.118 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."*[153]

3.119 Insofar as the electronic communications sector is concerned, the SMP Guidelines[154] 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."*

3.120 The BEREC Common Position on Geographic Aspects of Market Analysis[155] 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.

3.121 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

[153] Notice on Market Definition, paragraph 8.

[154] SMP Guidelines, paragraph 48.

[155] BEREC "Common Position on Geographic Aspects of Market Analysis", BoR (14) 73, 05.06.2014.

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

3.122 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,"*[156]
>
> *(b) able to reflect the network structure of all relevant operators; and*
>
> *(c) have clear and stable boundaries over time."*[157]

3.123 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.[158] 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.

3.124 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;

[156] SMP Guidelines paragraph 47.

[157] *Ibid*, paragraph 50.

[158] *Ibid*, paragraph 51. ComReg does not consider that there are relevant legal or other regulatory instruments.

(c) Evidence of geographic differentiated pricing strategies or marketing;

(d) Distribution or differences of market shares on geographic basis; and

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

3.125 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.

3.126 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 226 records of duct rentals at the end of 2022 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 NBP rollout.

3.127 ComReg's analysis of these PIA 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, and often isolated. 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.

3.128 The low volume of activity of SPs (other than the increasing demand from NBI), means that available data is of limited use and any analysis of is constrained by the low volume of data. 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[159], further to its obligations under the 2018 WLA Market Decision.

3.129 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

[159] Launched in 2018.

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 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

3.130 Eircom's PI (pole and duct) network[160] is the largest fixed network nationally. It is the most extensive geographically, being effectively ubiquitous, 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 [✂ ✂].[161] It is described in greater detail in Annex 1.

Virgin Media's PI network

3.131 Virgin Media's wired network passes approximately 970,200[162] 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 2.95 to A 2.106 and briefly summarised below.

3.132 The majority of Virgin Media'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 facia 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'

[160] 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 3.17, 3. to 3. above. This PI network also incorporates associated chambers, street cabinet and exchange buildings.

[161] Information provided to ComReg by Eircom in 2019 and 2022.

[162] Liberty Global's Q2 2023 Fixed Income Release: Virgin Media Ireland Preliminary Q2 2023 Results https://www.libertyglobal.com/investors/financials/

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 Virgin Media's duct, it would then still need to mount its fibre on the eaves 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.

3.133 The capillarity of its coax network is demonstrated in its network maps of various urban locations contained in Annex 2.

3.134 Although Virgin Media intends to migrate its Hybrid fibre-coaxial ('HFC') network to a fully fibred network[163], ComReg does not envisage that this will impact significantly on the current volume of its PI network. This is because it will likely be reusing already established cable routes rather than building new PI.

3.135 Virgin Media has however, installed some FTTH Metropolitan Area Networks (MANs) which are entirely ducted, in various location around the country. It has deployed [✂ ✂][164] which constitutes a small portion of its overall stated cabled network reach.

3.136 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 via its PI, but usually connected by coaxial cable, which can be surface, or facia mounted on premises (its planned FTTH roll-out will likely be deployed in a similar fashion). 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 26 and Table 27) below, clearly demonstrate the limited geographic coverage of its duct network.

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

164 QKRD Q2 2023 information.

Figure 12: Stylised map of Virgin Media Network

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

3.137 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. above and as demonstrated in the stylised map of a sample of its network in Figure 12 above), significant additional PI would have to be installed if this existing PI were to be extended fully into all customers' premises.

LL Type PI networks

3.138 Aurora Telecom, BT Ireland, Colt Ireland, eNet, ESBT[165], 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.

3.139 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

[165] Albeit that ESBT's network generally uses ESBN PI for its national backhaul network, refer to a detailed description of its network in Annex 2.

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.

3.140 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[166], a figure which included Eircom's fibre LLs connected premises. This represents a small proportion of the approximate 2.3+ million premises nationally.

3.141 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.

3.142 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[167], 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

3.143 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.

3.144 In particular, although they may be helpful for reaching individual locations, there are major drawbacks in using them for larger deployment. The PIs' geographically dispersed nature means that they have very small footprint

[166] 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.

[167] E.g. a network with 1,000 connections is not necessarily have 10 times the volume of PI than a network with 100 connections.

sizes, are stranded in nature, and lack capillarity. In addition, obtaining access necessitates having to negotiate individual access arrangements and contracts with multiple suppliers.[168]

3.5.3 Geographic differences in entry conditions over time

3.145 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.[169]

3.146 Aurora Telecom undertook some expansion of its inter-city PI network on the Dublin – Waterford – Cork route.[170] 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.

3.147 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.

3.148 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.[171]

3.149 At the end of Q2 2023, Virgin Media had installed FTTH deployments in [✂ ✂] which when combined, supported [✂ ✂]. It has not [✂ ✂]. This is not significant in terms of the overall size of its PI network.

[168] See Annex 2individual Local Authorities each have separate access arrangements and terms and conditions attached to their offers, as have private developers.

[169] Furthermore, it is important to note that SIRO's utilisation of the ESBN network is not considered to be in the market for the reasons set out in Section 3.4 above.

[170] https://www.siliconrepublic.com/comms/aurora-telecom-sean-odonnnell-dark-fibre-interview.

[171] https://irishtechnews.ie/virgin-media-expands-their-broadband-network-to-give-gorey/.

3.150 The majority of Virgin Media's investment over the past years has been concentrated on upgrading its existing HFC network to Data Over Cable Service Interface Specification ('**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[172].

3.151 Furthermore, based on information obtained from SPs and utilities,[173] there appears to be no significant plans for expansion of telecoms-specific PI over the next five years.

3.152 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

3.153 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.

3.154 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.

3.155 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.

[172] https://www.virginmedia.ie/about-us/press/2021/virgin-media-ireland-announces-national-fibre-network-upgrade

[173] SIR March 2023.

3.5.5 Evidence of geographic differentiated pricing strategies or marketing

3.156 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.

3.157 As referred to above, the volume of activity in the merchant market has been very low. Other than PIA purchased by NBI, there were approximately 150 instances of duct PIA purchases recorded at the end of 2021 for the remainder of industry. Furthermore, only eNet,[174,175] and Eircom[176] 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.

3.158 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.

3.159 Additionally, the pricing of pole access to telecoms specific PI is based on regulated pricing and so there is no geographic pricing strategy applicable.

3.160 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.

3.161 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

3.162 As outlined in paragraph 3.3.1 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,

[174] https://www.enet.ie/uploads/File/PDF/duct-sub-duct.pdf

[175] https://www.enet.ie/uploads/File/New%20Download%20Forms/3.%20Pricing%20Table.pdf

[176] Available at www.openeir.ie.

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

3.163 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 27 in Annex: 2and on counties in Table 26 in Annex: 2.

3.164 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.

3.165 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.

3.166 On this basis, ComReg finds that, market shares (noting there are 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

3.167 ComReg does not see that there are any discernible differences in product functionality or demand characteristics across different geographic areas.

3.168 Most telecoms-specific ducts are largely interchangeable from a product characteristics perspective; i.e.; 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.

3.169 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.

3.170 Eircom, both in its own Submission and the accompanying report from Copenhagen Economics, disagreed that the market was National in its geographic scope. In particular, it was of the view that demand and supply for PIA differ in a way that mirrors the geographic markets as delineated in the WLA Decision – namely the Commercial Area and Intervention Area.[177] It states that;

> *"Although ComReg makes reference to the NBI and the NBP in its geographic market definition, it does not then go on to consider important factors that demonstrate that there are separate geographic markets in the IA and in the commercial area…ComReg's claimed capacity constraints on ESB PI are not relevant in the IA as ESB will not be hosting SIRO. Therefore, even on ComReg's view of ESB capacity restrictions, ESB is a more significant potential PI competitor in the IA. eir sees no reason why ESB could not readily replicate the PI service it provides to SIRO to support NBI's future deployment in the IA."*[178]

3.171 Similarly, Copenhagen Economics state that:

> *"Even if capacity constraints mean that ESB's network cannot house any telecoms providers other than Siro in the commercial area, this would not imply that the ESB network could not constitute a viable alternative to eir's physical infrastructure in the intervention area…This is a particularly important distinction since NBI is eir's biggest access seeker…"*[179]

3.172 Finally, SFG raised a similar point concerning the conditions of competition in the Commercial Area vis-à-vis the Intervention Area, albeit with specific reference to the incentives facing Eircom. SFG stated in its Submission that;

[177] See Chapter 5 of the WLA Decision.

[178] Eircom Submission, p. 24;

[179] CE Submission; para. 2.26

> *"Eircom must rely on revenue from NBI if it is to continue to extract value from its PI in the IA. That reflects a different competitive dynamic than pertains in Commercial Areas where its incentive to facilitate access to PIA is materially dampened.* [✂ ✂ *] but in the long run it will be reliant on NBI to make a return on these assets.* [✂ ✂] *(except for itself)."*[180]

3.173 However, demand for PIA from Access Seekers – including but not limited to NBI - occurs and will occur in future throughout the State and is unlikely to be demarcated by the WLA specific geographic markets. This is because NBI requires PIA in both the Commercial and Intervention Area footprints in order to provide its FTTH services. Moreover, demand from other Access Seekers could occur in any geographic location.

3.174 However, as stated by the European Commission in the Explanatory Note to the 2020 Recommendation:

> *"In the assessment of the geographic dimension of the market, the relative ubiquity and suitability of the duct and pole network deployed by the incumbent electronic communications network operator (where present), is likely to present a considerable advantage for access seekers over use of multiple PIA networks with different standards. This factor, considered in conjunction with a national demand … may be relevant for the definition of a national market. Indeed, operators investing in their own fibre networks would seek to install their infrastructure with the least inconvenience, greatest relevance (in delivering services to customers) and lowest cost.*
>
> *From a demand-side perspective, ubiquity is likely to play an even greater role for operators deploying infrastructure for major businesses and/or mobile networks. The reason for that lies in the relevance of multi-site provision of services for business customers (and to dispersed mobile base stations), the flexibility to roll-out networks to target locations where there is demand and the cost advantages of using a single provider of physical infrastructure."*[181]

3.175 ComReg also notes that in relation to any arguments about ESB's infrastructure being a substitute in any particular geographic location, the European Commission's position is that;

[180] SFG Confidential Submission p.5

[181] Explanatory Note to the 2020 Recommended Markets, p.61.

> *"Furthermore, the situation where operators have already used the incumbents' ubiquitous duct and pole network may point towards a national market definition, given the operational and administrative complexity associated with concluding ducts and poles access agreements, and the lack of potential to switch to alternative arrangements for the hosting of installed fibres."*[182]

3.176 As such, ComReg remains of the view that a National PIA market is the most suitable geographic definition.

3.5.8 Conclusion: Geographic Market Definition

3.177 Based on the evidence presented above, the PIA geographic market is national in scope.

3.6 Overall Conclusion on the Relevant PIA Market Definition

3.178 For the reasons set out in paragraphs 3.1 to 3. above, the Relevant PIA Market consists of all telecom-specific PI in the State.

[182] Ibid.

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 Regulation 49(3) of the ECC Regulations.

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 out 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.

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

4.5 The Explanatory Note to the 2020 Recommendation identifies that high and non-transitory barriers 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.[183] In the context of deploying wired ECNs, the building of the PI component accounts for the most significant cost – estimated to be approximately 80% of the total.[184] 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[185]. 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) [186].

4.8 ComReg has not identified any significant legal barriers to entry in the Relevant 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.[187]

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 Relevant PIA Market.

4.1.2 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

[183] Ibid.

[184] Page 62; 2020 Recommendation.

[185] 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.

[186] Ibid.

[187] However, Local Authority wayleaves are required to access public roads.

is clear that NBI will be the largest merchant market consumer of PIA during the period covered by this market review (see Figure 9 and Figure 10), and that it is planning to rely significantly 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 (there will be ongoing investment to maintain existing PI). As set out in Section 3 above, most of these PI networks are either focussed on supplying business connectivity. They lack sufficient capillarity, or else, are non-contiguous in nature, where they are part of the network used for mass market residential services such as Virgin Media's network where large proportions of which are overhead cable deployments on the eaves of residential premises. Hence, there is no PI actually deployed in these parts of the network. Therefore, they are unlikely to be sufficiently useful for the deployment of competing wired ECNs.

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 in the Relevant PI Market. 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 actual and potential entry, and limited technological developments, so that the second criterion of the 3CT is met.

4.1.3 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 5 include refusal to supply and excessive pricing, which ComReg is of the view will not be addressed effectively or timely enough through competition law including the Competition Acts 2002 to 2022, and/or Articles 101 or 102 of the Treaty on the Functioning of the European Union ('**TFEU**') to ensure effective competition in the Relevant PIA Market.

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 sufficient 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.

4.1.4 Consideration of the Efficacy of Symmetric Access Regulations

4.17 In its Submission, Eircom, including via its consultants Copenhagen Economics, raised concerns that ComReg had failed to consider the effect of the impact of the Broadband Cost Reduction Directive (**'BCRD'**)/ Broadband Cost Reduction Regulation (**'BCRR'**) on the Relevant PIA Market. In the context of the Modified Greenfield Approach, ComReg gives consideration to the impact of the BCRD, transposed in Ireland as the BCRR**',** prior to the consideration of the imposition of *ex ante* regulation.

4.18 The BCRR is not based on obligations or remedies imposed under the SMP framework. It aims to facilitate and incentivise the rollout of high-speed electronic communications networks by promoting the joint use of existing physical infrastructure, thus enabling a more efficient deployment of new physical infrastructure so that such networks can be rolled out at lower cost[188]. To that end, the BCRD/R mandates that any network operator (not only from the electronic communications sector but also from other utilities sectors such as energy, transport and water, to meet all reasonable requests for access to its physical infrastructure under fair terms and conditions, including price .

4.19 In its SIRs and meetings with operators that informed the evidentiary inputs to both the Consultation and this Decision, ComReg sought the views of stakeholders on the BCRR and its impact on PIA markets (a summary of this is published in Annex 3[188]). No stakeholder considered it as an effective means through which effective access to PI could be obtained for the purposes of the provision of wired ECNs. Although some considered it may be of limited use to access PI for specific site location access, it was not considered appropriate for network roll-out or network extension. Furthermore, responses to the SIRs indicate that no SP has any experience

[188] See Annex 3 (i).

of using the BCRD/R to acquire access to PIA currently being traded in the Irish market.

4.20 As stated by the EC in its Explanatory Note to the 2020 Recommendation 'Access through the BCRD represents a dispute-resolution based intervention and is not based on an ex ante intervention by the regulatory authority'.[189] Although ComReg is the designated dispute resolution competent authority, it is a reactive function whereby parties must bring a dispute to ComReg.[190]

4.21 The EC goes on to state that:

> *"However, in the large majority of cases, the BCRD alone is not considered sufficient to ensure effective access to relevant civil engineering infrastructures for access seekers. This is further iterated in the EECC whereby in addition to the rules on physical infrastructure laid down in Directive 2014/61/EU, a specific remedy is necessary in those circumstances where civil engineering assets are owned by an undertaking designated as having significant market power*".[191]

4.22 It goes on to say that

> *'Access through the BCRD represents a dispute-resolution based intervention, and is not based on an ex ante intervention by the regulatory authority[189].*

4.23 As such, the EC is explicit in stating that the BCRD is a complement to justified and proportionate *ex ante* regulation where SMP for PIA has been found.

4.24 The EC further notes that even in circumstances where utilities' infrastructure have been utilised to deploy telecoms cables, such as by SIRO in Ireland, SMP based access regulation may still be necessary.

> *"Duct and pole access voluntarily provided by utility companies or mandated on the basis of the measures implementing the BCRD could in theory be sufficient – but it was rarely in practice – to address competition concerns where utilities' ducts and poles are suitable to host electronic communications-specific cables. Indeed, in a number of countries, utilities' infrastructure has been*

[189] Page. 63 of the Explanatory Note

[190] https://www.comreg.ie/publication/broadband-cost-reduction-regulations-dispute-process.

[191] Page 64 Explanatory Note, Emphasis added.

> *used extensively, but not exclusively, to support broadband deployment.""*
>
> *"Therefore, provisions in the Code as well as past and current experience show that SMP-based remedies are likely to be necessary to ensure effective access to the SMP operator's civil engineering infrastructure."*[192]

4.25 As such, except in specific and particular national circumstances, the EC is of the view that the BCRD (and therefore the BCRR) is a complement to access under *ex ante* SMP regulation where such SMP regulation is considered justified and appropriate. The EC also states that:

> *"However… Article 72-based PIA might not be appropriate, and therefore NRAs might consider delineating a separate PIA market:*
>
> *- Where PIA is effective in stimulating deployment by alternative operators, and the reliance on PIA as a remedy could lead to a mismatch in the geographic scope of PIA obligations and the geographic scope of downstream markets, due to emergence of infrastructure competition in some areas (warranting no SMP designation) and/or the deployment of VHC infrastructure by an operator other than the incumbent, which may warrant an SMP finding (e.g in other areas where only one VHC network is economically viable)."*

4.26 Indeed, this is precisely the scenario that has arisen in Ireland with the NBP being rolled out by NBI using *ex ante* SMP based access to Eircom's PI.

4.27 Considering the effectiveness of the BCRR in Ireland, the dispute resolution process is lengthy and requires both parties to provide detailed information to ComReg. Indeed, under the Dispute Resolution Process D16/77, ComReg envisages a 2 to 4 month timeline after all pertinent information is provided to ComReg prior to it reaching an adjudication.[193] Before being brought to ComReg, the respondent to the access request has up to two months to consider the request. This means that in practice, such a dispute process would take at least 6 months from initiation to conclusion, on top of the access request timeline. The uncertainty of timelines would render the use of the BCRR inappropriate in many instances, particularly in bid situations where SPs are responding to a tender where committed lead-times are critical. Additionally, the disaggregation of a major rollout plan such as that

[192] Page 65 Explanatory Note.

[193] See Part 3; BCRR Dispute Process.

undertaken by NBI, into many thousands of BCRR requests would also raise the possibility of numerous disputes and associated uncertainty.

4.28 As such, the limited scope of a dispute resolution would likely look at specific elements of infrastructure rather than an established, stable framework for access for network roll-out and competition, incorporating established features such as pricing and trusted lead-times.

4.29 The European Commission has acknowledged the shortcomings of the BCRD, where in its proposal for the Gigabit Infrastructure Act it stated:

> *"This proposal… aims to address the shortcomings of the BCRD and contribute to the cost-efficient and timely deployment of the VHCN necessary to meet the EU's increased connectivity needs*[194]*".*

4.30 In its accompanying Impact Assessment, the EC went on to state:

> *"The BCRD should have been implemented by January 2016. The 2018 Commission's report on the implementation of the BCRD revealed a late and inconsistent implementation across the EU and persisting inefficiencies, hindering the potential impact of cost reduction measures to foster a more efficient and faster deployment of electronic communications networks across the EU. As shown in the evaluation report (Annex 7), at present the Directive's objectives have only partially been achieved*[195]*.*

4.31 Furthermore, ComReg notes that Eircom itself stated in its meeting with ComReg that it had no experience with the BCRR prior to the Consultation whereas it has been the party to various alleged compliance issues under the CEI provisions of the WLA Decision. This absence of any experience with the BCRR of any SP, indicates that the BCRR is unlikely to be a competitive constraint.

4.32 As such, ComReg does not consider the symmetric access obligations set out in the BCRD/R a sufficient competitive constraint to ameliorate Eircom's SMP in the PIA Market.

[194] EC Gigabit Infrastructure Act proposal page 2, published 23 February 2023.

[195] EC Staff Working Document Impact Assessment, (Gigabit Infrastructure Act) published 23 February 2023.

4.2 Framework for assessing SMP

4.33 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.

4.34 SMP is defined by Article 63(2u) of the EECC 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."*[196]

4.35 The EC'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.

4.36 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."*[197]

4.37 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;

(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;

[196] Mirrored under Regulation 45(1) of the European Union (Electronic Communications Code) Regulations 2022, SI No. 444 of 2022.

[197] Paragraph 55 of the SMP Guidelines.

(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.

4.38 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:[198]

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

4.39 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.[199]

4.40 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;

[198] Paragraph 79 of the SMP Guidelines.

[199] 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."

(e) Vertical integration;

(f) Absence of potential competition; and

(g) Barriers to entry and expansion.

4.41 Other factors in addition to those set out at paragraph 4.40 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

4.42 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 and having regard to regulation 49(5) of the ECC regulations, whereby no regulation is present in either the PIA or downstream markets.

4.3.1 Existing Competition in the Relevant PIA Market

4.43 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[200] which increases the market power of SPs already present.

Strength of Existing Competitors

4.44 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 2, where PIA represented 2.9% of wholesale fixed line revenues and 1.3% of total retail fixed line revenues, in 2022.

Direct Constraints

4.45 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.

4.46 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

4.47 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 and effective alternative for use in attempting to install a wired telecoms infrastructure in order to connect customers.

LL Type SPs

4.48 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;

[200] See, for example, paragraphs 3., 3. and 3. above.

(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

4.49 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

4.50 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

4.51 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

4.52 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

4.53 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

4.54 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.

4.55 Eircom is the only SP with a ubiquitous national telecoms specific 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.

4.56 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.

Indirect Constraints

4.57 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.

4.58 SIRO and Virgin Media[201] provide active wholesale and retail ECS services respectively for residential retail and some business customers. Likewise, as set out in paragraph 4.48 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

4.59 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.

[201] Virgin Media currently offers wholesale leased lines services and has announced plans to provide wholesale broadband services in the future.

4.60 Below, ComReg considers other relevant factors (potential competition and CBP[202]) which may have the effect of diminishing or undermining Eircom's position in the Relevant PIA Market.

4.3.2 Potential Competition in the Relevant PIA Market

4.61 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).

Barriers to Entry and Expansion

4.62 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.

4.63 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 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).

4.64 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.

4.65 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.

4.66 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

[202] 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.

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.

Strength of Potential Competitors

4.67 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. to 3. (capacity limitations; additional health and safety requirements; survey costs and timing; primacy of the electrical service; and switching costs), outline why ComReg does not view this network as an effective substitute for Eircom's network. Other than use by SIRO, there is no evidence of use by other Access Seekers. 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.

4.68 In its Submission, Eircom (and its consultants Copenhagen Economics) considered that ESB is a potential entrant in the PIA market in the footprint of the NBP IA, as SIRO will not utilise the ESB capacity in these areas and this will therefore be available to other SPs.[203]

4.69 However, as set out in detail in Section 3, SIRO is not a truly independent Access Seeker of ESB's PI, with SIRO being a joint venture between ESB and Vodafone. Furthermore, ComReg notes that NBI considered the use of ESB PI in the IA, but ruled it out. NBI does not use ESB PI and, in the limited circumstances where Eircom PI was not available, such as at rail crossings, it purchased dark fibre. It is also unlikely to switch its use of Eircom's PIA to ESB's electrical PI due to the high costs and disruption this would incur. As the IA is by definition, an area which does not support commercial deployments, is it unlikely that any other SP would seek access to electrical PI within it. As such, ESB has not been, nor is it likely to be, a competitive constraint on Eircom's PIA within the IA over the medium term, Outside the IA, the ESB cannot support additional access requests to that of SIRO to any appreciable extent, due to in particular, to the capacity limitations of its electrical PI (see paragraphs 3. to 3. above).[204]

[203] Paragraph 106; Eircom Submission; Paragraph 2.36; Copenhagen Economics

[204] ComReg notes that Siro acts independently of its JV partners ESB and Vodafone on the markets on which it operates, mainly the WLA and WHQA markets.

4.70 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.

4.71 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. 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.

4.72 Furthermore, in their Submissions Eircom[205], and its consultants Copenhagen Economics[206], make reference to the proportionality of a finding of SMP on PI installed in new housing and/or business developments where the right to install such PI was won through a competitive tender process.

4.73 Copenhagen Economics states that asymmetric regulation of new builds would distort competition. It presented a theoretical model whereby Eircom's bid in a competitive tender process could be undermined by SMP regulation. However, no evidence has been provided to indicate that such tenders are a feature of the Irish market Indeed, Eircom has stated that [✂ [redacted] ✂].[207]

4.74 This assessment considers competition in the defined National telecoms specific PIA market. As such, it is not appropriate to assess competition at the atomised level of new builds or developments in the context of this Decision. SMP is considered in the defined National market, not at the micro level. This is in keeping with the principles set out in the SMP Guidelines.[208]

4.3.3 Countervailing Buying Power

4.75 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

[205] Paragraph 206; Eircom Submission.

[206] Paragraphs 2.39 -2.43; Copenhagen Economics.

[207] Eircom AFI 2022

[208] See in particular, paragraph 51.

power to behave, to an appreciable extent, independently of competitors, customers and ultimately consumers.

4.76 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

4.77 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 (TFEU) to abusive exclusionary conduct by dominant Undertakings[209] (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 countervailing power is of a sufficient magnitude, it may deter or defeat an attempt by the Undertaking to profitably increase prices.* [210]

CBP Assessment in the Relevant PIA Market

4.78 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

[209] 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:PDFAvailable at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:045:0007:0020:EN:PDF.

[210] Paragraph 18 of the 2009 Enforcement Priorities.

(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

4.79 NBI, in the context of rolling out the NBP, is a large purchaser of PI, which it is sourcing from Eircom.[211] Prima 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 NBI does not have sufficient CBP to counteract Eircom's SMP in the provision of PIA.

4.80 Around the year 2000, 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 networks 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.

Conclusion on CBP Assessment in PI Market

4.81 Having regard to the analysis in paragraphs 4.78 to 4.79 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

4.82 Where ComReg determines, based on market analysis carried out by it in accordance with Regulation 49 of the ECC Regulations, that a given market identified in accordance with Regulation 46 of the ECC Regulations is not effectively competitive, ComReg is obliged under Regulation 49(8) of the ECC Regulations to designate the undertaking or undertakings which have SMP.

4.83 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,

[211] NBI's use of other sources of PI is trivial.

ComReg finds that Eircom has SMP on the Relevant PIA Market and proposes to designate Eircom accordingly.

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 Eircom's ability and incentives to potentially engage in anti-competitive behaviours having regard to its SMP designation 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 49(8) of the ECC Regulations, where an undertaking is designated as having SMP on a relevant market, ComReg can impose on that undertaking each of the remedies (or obligations) set out in Regulations 51 through 56 of the ECC Regulations, noting that the obligations imposed must, in accordance with 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. Eircom in its Submission disagrees with ComReg's analysis stating that "*there are no credible concerns in relation to PI"* and that "*ComReg's proposals will have no impact on the competitiveness of the already competitive PI and relevant downstream markets".*[212] Eircom also contends that *"Competition in the Commercial NG WLA market is driven by strong rivalry between eir, SIRO and Virgin Media (which has entered the wholesale market). As set out above, SIRO and Virgin Media's deployment is based on self-supplied PI. ComReg's proposed PI remedies will have no material impact on the competitiveness of the Commercial NG WLA market."*[213]

[212] Eircom Submission, Paragraph 124.

[213] Eircom Submission, Paragraph 124(a).

5.4 However, the premise for Eircom's position is that the Relevant PIA Market includes ESB's PI, that there should be a geographic differentiation between the Intervention Area for the NBP and the Commercial Area and that Eircom does not have SMP in respect of PIA, a premise that is incorrect for the reasons set out in Sections 3 and 4 above. In addition, it is not the case that the Commercial NG WLA Market displays effective competition, even in the presence of an upstream regulated PIA Market, for the reasons, set out in the WLA/WCA Decision. Furthermore, even where Eircom does not directly or fully compete with other undertakings in downstream markets, in particular in the provision of WLA in the IA, 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.

5.5 For example, as noted in earlier sections, NBI is the predominant purchaser of PIA from Eircom, with NBI using such access to provide downstream WLA, WDC and WCA services in the IA. Given NBI is providing broadband 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 for the relevant services, (we acknowledge that some undertakings, including Eircom, may roll-out networks to some of the IA premises, thus creating some degree of overlap). Even so, if Eircom did not compete in the IA it still faces incentives to act anticompetitively as it has control over infrastructure not easily duplicated, with this being indispensable for NBI's services, and with little or no alternative sources of PIA to effectively constrain Eircom's behaviour.

5.6 In its Submission, Eircom contends that

> "*the absence of SMP in the IA NG WLA market is based on the deployment by NBI which will take place irrespective of whether ComReg's PI proposals are confirmed. Absent a SMP-based PI access remedy, NBI will still be able to access third-party PI based on fair and reasonable terms either through commercially negotiated agreements with PI operators (e.g., eir or ESB) or via access mandated through the BCRD*."[214]

5.7 However, it does not follow from the fact that NBI has no choice but to deploy a fibre network in the IA that there are no competition concerns arising from Eircom's control of the physical infrastructure access to which NBI depends on; the PIA contract between Eircom and NBI does not negate the ability of Eircom to leverage its market power, in circumstances where switching its demand to ESB PI is not a realistic option for the reasons discussed in

[214] Eircom Submission, Paragraph 124.

Section 3 and the BCRR is not a substitute for SMP-based regulated access. Furthermore, Eircom could, for example, through excessive pricing, use the acquired revenues to cross subsidise services and leverage its position into downstream markets, including those provided outside the IA.

5.8 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 in the first place, given that Eircom has been identified as having SMP in the Relevant 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

5.9 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 provision of 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.

5.10 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 has the ability and incentive to act 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, has the ability and incentive to leverage 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[215] also restricting and/or distorting competition; and

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

5.11 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

5.12 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.

5.13 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.

5.14 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.

5.15 Eircom, as a vertically integrated SP with SMP in the Relevant PIA Market, has both the ability and incentive to engage in behaviours which can deter or delay entry into downstream retail and wholesale ECS markets to the detriment of its competitors, customers and ultimately, end-users. Potential exclusionary practices include, but are not limited to:

[215] Horizontal leveraging is not relevant due to PIA being the most upstream of fixed telecoms markets.

(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.

5.16 In its Submission, Eircom stated that it has neither the incentive nor ability to engage in exclusionary practices in the IA as

5.17 *"eir will not be competing with NBI in the IA… Therefore, eir will only be a PI supplier to NBI in the IA, not a rival. This means that eir will have no incentive to engage in discriminatory conduct."*[216]

5.18 Eircom also notes that as it will use NBI's FTTH network to provide retail customer services[217], it has no incentive to engage in exclusionary behaviours with respect to its provision of PIA to NBI in the IA.[218] Eircom also argues that the presence of the BCRD provides NBI with CBP[219] and more generally, Access Seekers with protection from exclusionary practices with respect to the provision of PIA outside of the IA.[220]

5.19 However, neither Eircom's use of NBI's FTTP network in the IA nor the BCRD are, in ComReg's view, sufficient to constrain Eircom's ability or incentive to engage in exclusionary conduct. ComReg notes that the IA contains a set of identified premises to which NBI is required to provide wholesale FTTH services when requested. However, NBI will require large scale use of

[216] Eircom Submission, Paragraph 127.

[217] Also confirmed on its website https://www.eir.ie/nbi/

[218] Eircom Submission, Paragraph 128.

[219] Eircom Submission, Paragraph 129.

[220] Eircom Submission, Paragraph 136.

Eircom's PI across the State including in areas outside the IA in order to reach these premises, given they are geographically dispersed. NBI will therefore use Eircom's PI outside of the IA in order to serve premises falling within the IA as set out in Chapter 4 above.

5.20 Furthermore, demand for PIA can arise from Access Seekers (and for Eircom itself) other than NBI in any area of the country including those overlapped by the PI used by NBI to serve the IA premises, or for extending fibre networks to serve businesses with WDC services or for network expansion. Additionally, Eircom has the ability and incentive to discriminate in the provision of PI to NBI for the purpose of serving the IA, relative to how it provides PI to itself when serving outside the IA premises (also noting that Eircom's use of PI will likely traverse the IA in order to provide its own services.

5.21 Such discrimination could, for example, take the form of Eircom providing access to PI for itself in a more efficient and effective manner to itself relative to NBI (and other Access Seekers). The ability arises over its control of infrastructure not easily duplicated (with NBI being an effective captive customer given it the uneconomic costs involved in switching PIA provider). The incentive arises given Eircom's downstream, arm ultimately benefits (say through faster roll-out and service availability) giving it the ability to more readily influence competitive conditions in downstream, markets (including outside the IA) where there is at least the possibility of facing greater levels of competition.

5.4 Leveraging

5.22 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.

5.23 Vertical leveraging[221] 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).

[221] 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.

5.24 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's position is that vertical leveraging could occur, given that Eircom as a vertically-integrated SP designated 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 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.

5.25 In its Submission, Eircom contends that "there is no credible horizontal leveraging concern" with respect to NBI and the IA and also that

> *"…there is no credible vertical leveraging concern. eir will not be competing with NBI in downstream markets in the IA (as set out above). Therefore, it has no ability or incentive to engage in any form of vertical leveraging activity."*[222]

5.26 ComReg does not agree with Eircom's analysis. As noted above, ComReg NBI's demand for PIA is not limited to the IA and extends to the commercial areas in order that NBI may traverse it and reach premises in the IA. Furthermore, ComReg notes that Eircom and NBI could compete in the provision of WCA services in the IA (say where Eircom buys WLA from NBI and uses it to offer a downstream WCA service), and other services outside the IA premises such as wholesale dedicated capacity. Other Access Seekers could also compete in the provision of WDC services in the IA. Concerns of vertical leveraging are accordingly legitimate and credible, and ComReg does not believe that these concerns are addressed by the BCRD/BCRR (for the reasons set out in Section 4). In particular, Eircom contends in its Submission that in case of Eircom engaging in anti-competitive leveraging, NBI would be able to negotiate access to ESB PI, and that the BCRD provides protection from anticompetitive leveraging.[223]

5.27 However, for the reasons set out in Sections 3 and 4 above, access to ESB PI is no substitute for access to Eircom's PI and the requirements in the

[222] Eircom Submission, Paragraph 130.

[223] Eircom Submission, Paragraph 137.

BCRD are not sufficient to address the ability and incentive arising in the case of SMP. This is considered in further detail below.

5.4.1 Non-Price Based Vertical Leveraging Behaviour

5.28 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.

5.29 Eircom contends in its Submission that:

> *"the BCRD/BCRR provides strong protection against any form of anticompetitive leveraging" and in particular that the requirement to provide access on fair and reasonable terms, which Eircom says, is cast widely in the BCRD and not limited to pricing, would prevent behaviours such as restricting/denying access, quantity discrimination, quantity forcing and price-based leveraging.*[224]

5.30 Eircom, however, does not explain how this is so. ComReg does not see that a requirement to provide access on fair and reasonable terms necessarily prevents any such behaviours and notes indeed, as set out in paragraphs 4.17 to 4.32 above, the BCRD/BCRR does not make an ex ante regulatory regime redundant. In particular the BCRD/BCRR does not put in place an access regime which sets out, *ex ante*, the terms and conditions of access.

5.31 For the same reasons, ComReg does not consider that the provision of Article 3 of the BCRD constitutes a well-defined mechanism that undermines the ability of an SMP operator to engage in delaying tactics[225] or that the provisions of the BCRD regarding the provision of information regarding the availability of PI are sufficient to address the incentive and ability of an SMP operator to create or exploit information asymmetries.[226]

5.32 Examples of leveraging behaviours are set out below.

Restrictions on, or denial of Access

5.33 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.

5.34 In the instance where access is provided to Access Seekers, Eircom could impose capacity constraints[227] on an Access Seeker such that it hinders the Access Seeker's ability to provide a timely and quality service to its

[224] Eircom Submission, Paragraph 131.

[225] As Eircom contends at paragraph 131(b) of its Submission.

[226] As Eircom contends at paragraph 131(c) of its Submission.

[227] 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.

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

5.35 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

5.36 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 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

5.37 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 including in downstream arm where relevant, 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 including it's downstream arm, on the one hand, and Access Seekers, on the other hand.

5.38 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.

5.39 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.

5.40 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.

5.41 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).

5.42 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

5.43 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

5.44 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.

5.45 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).

5.46 Any form of margin squeeze is likely to be 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

5.47 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.

5.48 In its Submission, Eircom expresses the view that "..there are no credible concerns about exploitative conduct in the IA"[228] or outside the IA.[229] Eircom notes that in the IA, Eircom will want "..to ensure that NBI can effectively access its PI as it will want to maximise the utilization of its PI"[230], and that as Eircom's "..only credible source of revenue in the IA will be for access to its PI it has an incentive to ensure that access remains competitive and attractive in the face of potential competition from ESB"[231]. Outside the IA, given that SIRO and Virgin Media "will both be self-supplying their PI", Eircom will have no ability to engage in exploitative conduct in the merchant market, and its conduct will be constrained by competition from SIRO and Virgin Media in downstream markets.[232] Eircom also contends that the BCRD/BCRR would provide "a powerful bargaining chip for operators seeking commercial PI access arrangements".[233]

5.49 For the reasons set out above, including at paragraphs 4.17 to 4.32, the BRCD/BCRR does not put in place a framework that sets out, e*x ante,* access rules that are sufficient to effectively constrain the behaviour of an SMP operator. ComReg also does not agree that the fact that Eircom is upgrading its PI in the IA constitutes sufficient evidence – having regard also of existing regulation of PI – that Eircom has no incentive or ability to exploit its position. It is also the case that NBI does rely on access to Eircom's PI outside the IA premises in order to get to them. It is also not the case that reliance by SIRO and Virgin Media to date on PI other than Eircom's means that Eircom has no ability to engage in exploitative practices. SIRO, Virgin Media and other operators may seek access to Eircom's PI in future, including having regard to the benefits associated with Eircom's PI as described in Section 3. ComReg's view is that access to Eircom's PI top date is more than likely due

[228] Eircom Submission, Paragraph 132.

[229] Eircom Submission, Paragraph 135.

[230] Eircom Submission, Paragraph 134.

[231] Eircom Submission, Paragraph 132.

[232] Eircom Submission, Paragraph 139.

[233] Eircom Submission, Paragraphs 132(a) and 139(b).

to Access Seekers not seeing the product offering and the associated service wrap as being fit for purpose. Eircom as a vertically integrated operator would have the incentive and ability to exploit any such access to the detriment of competition and end-users in downstream markets as it competes with such undertakings, including with respect to services other than broadband.

5.50 As a vertically integrated SP with SMP in a national PIA market, Eircom has the ability and incentive to frustrate competition in WLA, WCA, WDC and related fixed retail services markets as detailed above through exploitative practices as further detailed below.

5.5.1 Excessive pricing

5.51 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.[234] 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.

5.52 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, independently of its customers, competitors or consumers*",[235] including its ability and incentive to engage in excessive pricing in the Relevant PIA Market.[236]

5.53 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.

[234] 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"*.

[235] 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

[236] Eircom's wholesale prices in the PIA Market are currently regulated under the 2018 WLA/WCA Decision.

The extra costs incurred by Access Seekers, due to increased input prices, may 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.

5.54 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.

5.55 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.

5.5.2 Inefficiency and inertia

5.56 A firm with SMP in a relevant market may, by virtue of the lack of effective[237] 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[238] and, consequently, higher prices for end-users than would likely otherwise exist under competitive market conditions.

[237] As noted in Section 4, 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.

[238] Such inefficiency could potentially be considered an abuse under competition law, specifically, Article 102(2)(b) of the TFEU.

5.57 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 Conclusion

5.58 Having regard to the analysis set out in this Section, Eircom, as the 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.

Chapter 6

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

6.1 Introduction

6.1 Under 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 51-56, 58 and 62 of the ECC Regulations.

6.2 According to 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 4 of the ECC Regulations;[239] and

(c) only be imposed following public consultation.

6.2 Existing Non-Price Remedies

6.3 Before considering 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 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**').

6.2.1 Access

6.4 The 2018 WLA Market Decision required Eircom 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

[239] Pursuant to Section 12 of the Communications Regulation Act 2002-2023 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 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.

Instrument.[240] This included 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), access to chambers and to co-location for CEI. Furthermore, the 2018 WLA Market Decision required Eircom, 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 PAR.

6.5 The 2018 WLA Market Decision also required Eircom to meet certain conditions in respect of the provision of access, including requirements governing fairness, reasonableness and timeliness of access, including SLAs and requirements regarding timeliness of product development.

6.2.2 Non-Discrimination

6.6 The 2018 WLA Market Decision imposed on Eircom 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 The 2018 WLA Market Decision imposed on 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 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

[240] 2018 WLA Market Decision, Appendix 20.

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, the 2018 WLA Market Decision required Eircom 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 The 2018 WLA Market Decision also required Eircom 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 has found, are necessary 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 in the least intrusive way. The present decision repeals and replaces, as set out in the Decision Instrument, the CEI obligations that applied under the 2018 WLA Market Decision.

6.12 As explained in detail below, in light of the competition problems arising or likely to arise in the Relevant PIA Market, ComReg imposes 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 should examine 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, on its own, a requirement under Regulation 54 of the ECC Regulations 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, non-discrimination (as well as a price control) and mandated forms of Access.

6.4 Access Remedies

6.4.1 Statutory requirements and criteria

6.17 Regulation 55(1) of the ECC Regulations provides 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 Acts 2002 to 2023 and Regulation 4 of the ECC Regulations.

6.18 According to 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 55(3) of the ECC Regulations.

6.19 In determining whether access obligations imposed under Regulation 55 of the ECC 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 expected technological evolution affecting network design and management;

(c) the need to ensure technology neutrality enabling the parties to design and manage their own networks;

(d) the feasibility of providing the access proposed, in relation to the capacity available;

(e) the initial investment by the facility owner taking account of any public investment made and the risks involved in making the investment, with particular regard to investments in, and risk levels associated with, vert-high-capacity-networks;

(f) the need to safeguard competition in the long-term, with particular attention to economically efficient infrastructure-based competition and innovative business models that support sustainable competition, such as those based on co-investment in networks;

(g) where appropriate, any relevant intellectual property rights; and

(h) the provision of pan-European services.

6.20 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.

6.21 In particular and in general terms, as noted in Section 4, 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 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 WLA, WCA, WDC 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.

6.22 Access to Eircom's PI 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 PI in order to build a network is such as not to be economically viable. Eircom's PI therefore is a bottleneck asset without access to which Access Seekers are unlikely to build their own ECNs infrastructure, whether small-scale 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.

6.23 Against this background, ComReg maintains (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 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 proceed over the forthcoming years with switching off its copper network[241] which could provide substantial capacity for Duct and Pole Access in the long term, if such an initiative (or similar initiative) is implemented and copper cables removed;

(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

[241] https://www.openeir.ie/wp-content/uploads/2021/03/White-paper_Leaving-a-Legacy.pdf.

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 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, no issue of relevance arises in terms of the expected technological evolution affecting network design and 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.

6.24 Accordingly, it is necessary, proportionate and justified to impose on Eircom an obligation of access pursuant to Regulation 55 of the ECC Regulations.

6.25 As discussed below, in addition to an obligation to meet reasonable requests for access under Regulation 55(1) of the ECC Regulations, Eircom is subject to an obligation to provide specified forms of access under Regulation 55(2)(a) of the ECC Regulations, an obligation to negotiate in good faith under Regulation 55(2)(c) of the ECC Regulations, an obligation not to withdraw access to facilities already granted under Regulation 55(2)(d) of the ECC Regulations, an obligation to provide PI Co-location and other forms of associated facilities sharing under Regulation 55(2)(g) of the ECC Regulations and an obligation to provide access to operational support systems or similar software systems under Regulation 55(2)(f) of the ECC Regulations. ComReg also attaches to those obligations conditions in order to ensure the fairness, reasonableness and timeliness of access.

6.26 In designing the obligation of access, 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.

6.27 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.

6.28 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.

6.29 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(s), including (without limitation) network extensions. Access Seekers should not be restricted from using PIA for network rollout and for the purposes of providing services, over an ECN(s).

6.30 Details of the obligations are set out below.

6.4.2 Obligation to meet reasonable requests for access

6.31 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, Eircom is required to meet reasonable requests for Access, as provided for under Regulation 55 of the ECC Regulations.

6.32 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

6.33 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 are not capable of being mitigated otherwise than through denying Access. This is consistent with the Code which states at Recital 191 that:

> *"… such requests should be refused only on the basis of objective criteria such as technical feasibility or the need to maintain network integrity".*

6.34 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 (see paragraphs 6.61 to 6.64), 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 applicable requirements in respect of fairness, reasonableness and timeliness of Access.

6.35 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.

6.36 In its Submission, Eircom contends that ComReg has incorrectly summarised and unduly limited the meaning of Recital 191 of the Code noting that Recital 191 does not provide an exhaustive list of objective criteria and does not limit them to technical feasibility and network integrity:

> *"…such requests should be refused only on the basis of objective criteria* ***such as*** *technical feasibility or the need to maintain network integrity".* [emphasis added by Eircom]

6.37 Eircom further contends that ComReg must also have regard to the "economic viability" and the "initial investment by the facility owner, bearing in mind the risks involved in making the investment" noting that "it is not the case that obligations can be imposed on eir by means of an Access request, which could have been imposed on eir by means of regulation on foot of the Code".[242] According to Eircom, the key requirement in assessing reasonableness is the use of objective criteria which can then be applied in respect of any reasons why an Access request may be unreasonable, including for example, on the basis that it is economically unfeasible based on the market trends and/or market needs.[243]

6.38 Eircom therefore stated that it is incorrect for ComReg in section 7.2 of the Decision Instrument to state that "all requests for Access to Eircom's Physical

[242] Eircom Submission, paragraph 167.

[243] Eircom Submission, paragraph 168.

Infrastructure in the Relevant Market shall be deemed reasonable, subject always to reasonable terms and conditions". Eircom stated that the wording of the Decision Instrument should be consistent with Recital 191 of the Code to acknowledge (and remove doubt) that an assessment is not solely restricted to technical feasibility and/or network integrity considerations.[244]

6.39 However, it appears to ComReg that Eircom is conflating the considerations which ComReg must take into account when imposing an Access obligation with the considerations which Eircom takes into account when considering an Access request from an Access Seeker. In its Submission on this point, Eircom refers to Regulation 12 of the Access Regulations (now Regulation 55 of the ECC Regulations), which, inter alia, states that ComReg shall take account of "(a) *the technical and economic viability of using or installing competing facilities, in the light of the rate of market development, taking into account the nature and type of access or interconnection involved, including the viability of other upstream access products such as access to ducts … (c) the initial investment by the facility owner taking account of any public investment made and 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…".*

6.40 This clearly relates to what ComReg must take into account when considering the imposition of access obligations and the proportionality of same. In contrast, Recital 191 of the Code is concerned with the circumstances where an operator subject to an obligation to meet reasonable requests for access may refuse access. According to Recital 191 requests for access should only be refused on the basis of objective criteria such as technical feasibility or the need to maintain network integrity. This is very similar to the working adopted by ComReg in the Decision Instrument for this Decision and both in Recital 191 and the Decision Instrument network integrity and technical feasibility are simply examples of objective criteria which Eircom may rely on to refuse access. To note, there is no reference in Recital 191 to economic viability.

6.41 Whilst Recital 191 does not limit the objective criteria which may be relied on by an operator to refuse access to technical feasibility and network integrity, it does indicate that only objective criteria should be permissible. In this regard, a refusal of access based on Eircom's commercial strategy or its assessment of Access Seeker needs do not constitute objective criteria as it involves the subjective intentions of Eircom.

[244] Eircom Submission, paragraph 171.

Network remediation

6.42 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 imposes 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.

6.43 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

6.44 Capacity or congestion issues will also not constitute an objective reason for refusing Access where the issue may be addressed by removing redundant cables (including enclosures)[245] from a duct (including lead-in duct)[246] where removal is technically feasible (that is, removal of a redundant cable is not likely to damage existing cables, duct or other infrastructure) or by removing redundant cables, closures and equipment from poles. A cable is redundant when it is in a permanent beyond-use state (e.g., when legacy-based services are permanently switched off in an exchange area and the legacy equipment and cables are decommissioned).[247]

6.45 This means that Eircom may not refuse to meet a PIA order on the basis that there is no capacity available where redundant cables may be removed, and in such circumstances, Eircom is required, on receipt of a PIA order, to remove the redundant cable(s). For the avoidance of doubt, this means that cable removal will not be considered to be technically feasible where removal of the redundant cable could damage existing cables, duct or other

[245] For example, an enclosure which contains a cable joint and installed in a chamber.

[246] A lead-in duct is a duct connecting a chamber to an end-user's premises or service termination point.

[247] See SFG's request for clarification as to what a redundant cable is, SFG Submission, p.10.

infrastructure. In such circumstances, to avoid potential damage, the redundant cables can be left in situ.[248]

6.46 SIRO submitted that the obligation to remove redundant cables/equipment should extend to where Eircom has obsolete cables, drop wires and distribution boxes deployed on third party premises (building facades), to allow another network providers deploy their networks.[249]

6.47 However, ComReg does not believe that this is a requirement which may reasonably be imposed on Eircom. Where redundant cables/equipment is on third party property (building facades) which is impacting the provision of a service, any removal of the cable or equipment will require the consent of the third party property owner and is not in the control of Eircom.

Network Integrity

6.48 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.

6.49 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.

6.50 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

[248] See Eircom's request for clarification, Eircom Submission, p. 177.

[249] SIRO Submission, point 2.

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) Installation of sub-ducts 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; and

(f) Fleeting of Access Seekers' cable(s).

6.51 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[250] 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.

6.52 In its Submission, BT was "puzzled by ComReg's suggestion that Eircom should have an SLA around supervision" as its understanding had been that "Access Seekers can work independently of Eircom – therefore that they are not limited by their attendance or otherwise".[251] The obligation for Eircom to ensure that there is an SLA associated with a supervision requirement is designed to ensure that that any supervision is exercised in such a way that it does not lead to delays or inefficiencies or unnecessary overheads for the Access Seekers concerned. It does not mean that Access Seekers may not commence or continue work in the absence of an Eircom supervisor. An SLA for example could deal with the timeframes within which Eircom is to agree

[250] i.e., a financial compensation payable by Eircom.

[251] BT Submission, p. 7.

or offer an appointment for a supervisor and the Access Seeker/its contractor to meet on-site where supervision is warranted. Where an Eircom supervisor does not attend on-site, at the scheduled date/time, the Access Seeker's contractor may commence or continue its work in the absence of the Eircom supervisor.

Reasons to be given

6.53 In order to ensure clarity as regards the scope of Eircom's obligation to meet reasonable requests for Access, for new products or amendments to existing products, and to limit the possibility of misunderstanding and disputes between Eircom and Access Seekers, the reasons on which Eircom relies in refusing Access (including where refusal is partial) 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.

6.54 In the Consultation, to facilitate monitoring of compliance by Eircom with its obligation of Access, ComReg proposed that Eircom should provide 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. However, having considered further the number of access requests refused by Eircom, including Eircom's recent decision "*to park*" [✂ [redacted] ✂] PIA Access requests for extended periods of time (ranging from 2 months to 14 months),[252] ComReg believes that it is more appropriate and justified to require that Eircom provide ComReg 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 a month, on a monthly basis, in each case together with the reasons for declining to meet the request for Access.

6.4.3 Requirement not to withdraw Access to facilities already granted

6.55 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. Rather, Eircom may apply for ComReg's prior

[252] Detailed further in paragraphs 6. to 6..

approval before any withdrawal of Access. ComReg considers that this approach promotes regulatory certainty for all parties without unduly restricting investment incentives.

6.56 In its Submission, Eircom suggested that pre-approval

> *"should be reserved for cases where eir and the access seeker have not agreed that the access will be withdrawn and agreed to the terms of that withdrawal. In circumstances were eir is able to reach a commercial agreement with an access seeker to remove access (e.g., both parties reach an agreement to re-route the access seekers (sic) network) it should not be necessary to notify ComReg or secure ComReg's approval".*[253]

6.57 It is not clear what Eircom means by 'a commercial agreement with an access seeker' and ComReg notes that agreements between Eircom and Access Seekers that are concerned with access to Eircom's PI are not 'commercial' if by commercial Eircom means that they escape regulatory requirements. Any such agreements may only be entered into in accordance with the terms and conditions set out in the Reference Offer which Eircom is required to publish (as set out below).

6.58 However, and for the avoidance of doubt, ComReg does not consider that discussions between Eircom and an Access Seeker regarding the PI route that an Access Seeker uses and a decision by an Access Seeker, including at the suggestion of Eircom, to use a different route does not constitute a withdrawal of access and there is no requirement on the part of Eircom to notify ComReg or secure ComReg's approval where an Access Seeker decides to re-route its network in Eircom's PI.[254] However, if in effect the Access Seeker has no choice but to exit infrastructure and this is a decision which is imposed by Eircom, then notification and approval are required.

6.59 In its Submission, Virgin Media sought assurances that ComReg will take into account the views of all interested industry stakeholders (i.e., operators that would be affected by the proposed withdrawal) as part of its decision-making process for product withdrawals.[255] ComReg notes that 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, in which case any submissions made in response to consultation will be taken into account by ComReg. More generally, any decision to approve or refuse a request for withdrawal will have regard to the

[253] Eircom Submission, paragraph 174.

[254] See Eircom Submission, paragraph 174.

[255] Virgin Media Submission, p.13.

reasons for the withdrawal and the impact on third parties including affected operators. Where ComReg decides to approve a request for withdrawal, it may impose terms and conditions including for the purpose of protecting users of the product being withdrawn for example requiring that sufficient notice is provided.

6.60 In terms of arriving at the decision to approve or refuse Eircom's request, 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, with this to include the impact that the withdrawal of Access is likely to have on existing PI purchasers and end-users. While in its Submission, Eircom was of the view that the timeframes for each of the stages of the approval process should be set out under this Decision,[256] ComReg notes that each withdrawal request from Eircom is bespoke. Having analysed an Eircom withdrawal request, ComReg may require additional information from Eircom or may wish to consult with Access Seekers. ComReg will provide a predicted decision date to Eircom as its request advances through the withdrawal request process.

6.4.4 Requirement to negotiate in good faith

6.61 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.

6.62 In its Submission, Eircom sought to draw a distinction between "'assisting' access seekers and requiring eir to reformulate access seekers requirement", noting that "it is not the responsibility of its staff to reformulate Access Seeker's requests, be it from a technical, regulatory or network integrity perspective". "Ultimately, Eircom argues, the Access Seeker is responsible for their own access request".[257] ComReg agrees that the obligation to negotiate in good faith does not involve a requirement on the part of Eircom

[256] Eircom Submission, paragraph 174.

[257] Eircom Submission, paragraph 175.

to assist Access Seekers in formulating their Access requests; however, the requirement to negotiate in good faith, given that Eircom has unique knowledge and expertise of its own network and systems which is not readily available to Access Seekers, means that Eircom staff ought to provide meaningful guidance to Access Seekers as to how their Access requests could be best formulated, having regard to the purpose which the access would be put to. This obligation seeks to address the technical knowledge imbalances between the respective parties in negotiating access by reducing incentives to unnecessarily prolong product development.

6.63 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.

6.64 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 OSS

6.65 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.

6.66 Accordingly, Eircom is required to 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).

6.4.6 Specified forms of access

Overview

6.67 In addition to the general obligation to meet reasonable requests for Access to PIA products, services and associated facilities, Eircom is required to provide a specific range of products, services and associated facilities. The details of those access remedies are described below.

6.68 For the avoidance of doubt, these 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 Decision.

6.69 As set out in detail below, Eircom is required to provide access to the PIA products, services and associated facilities 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.

6.70 In its Submissions, Eircom expressed the view that "*the broad range"* of the products and services specified by ComReg was disproportionate in the absence of any evidence provided by ComReg of expected future demand for those products and services that have not been used to date, ComReg's justification being entirely theoretical, and having regard to the cost to Eircom to launch and maintain specified access products, which Eircom said was "*considerable".* Eircom was of the view that "*a less disproportionate approach"* would be to require Eircom to provide access only to those specified PI products and services that have a credible expectation of demand during the market review period (e.g., because they are or are expected to be used by NBI in the NBP IA). If there was demand for other products and services, then Access Seekers could rely in Eircom's obligation to meet reasonable requests for access.[258]

6.71 However, it is not the case that there is no demand for PIA products and services. Both Virgin Media and SFG made it clear in their respective Submissions that the reason for the low usage of Eircom's PIA products is that the current Eircom PIA product set is not fit for purpose,[259] it is burdensome to use operationally, and suffers from poor quality of service.[260] Virgin Media stated that if the Eircom PIA product is improved, it will use the product in greater volumes.[261]

6.72 The access obligations imposed on Eircom in this Decision, including the requirement to make available specified products and services, are necessary to address the actual and potential competition problems arising from Eircom's position of SMP in the PIA Market. ComReg notes further that for the vast majority of the specified products and services that Eircom is required to make available, this Decision in effect only maintains in place an existing requirement and ComReg does not accept that it imposes a disproportionate burden on Eircom. ComReg notes that Eircom has not

[258] Eircom Submission, paragraphs 182 – 184.

[259] Virgin Media Submission, pp. 5-6, SFG Submission p.2 p.9 and p.11.

[260] Virgin Media Submission, p.6.

[261] Virgin Media Submission, p.6.

quantified in any way "*the considerable cost*" that would be associated to launch and maintain the specified products.

Access to the Eircom Pole Network

6.73 Eircom is required to offer access to its pole network by way of Pole Access. Pole Access is the installation, by the Access Seeker, of a cable(s) and associated equipment onto Eircom poles.

6.74 SFG in its Submission sought confirmation that access to pole infrastructure may be used for the purposes of deploying small cells.[262] ComReg notes that while an Access Seeker can use Pole Access to install its cables to small cells, which form part of its ECN, there is no obligation on Eircom to host small cell equipment on its poles.

Access to the Eircom Duct Network

6.75 Eircom is required 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

6.76 Duct Access is the installation of a sub-duct (single-core or multi-core),[263] by the Access Seeker, into an Eircom duct[264] in order to allow an Access Seeker to install its cables in the sub-duct. The main benefit of Duct Access is that the Access Seeker is in control of its network rollout and installs itself its sub-ducts.

6.77 The clearance of blockages, due for example to 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*".[265] 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

[262] SFG Submission, p.13.

[263] 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.

[264] Duct is typically underground but may also be overground (e.g., duct attached to the structure of a bridge).

[265] ComReg Direction 21/60R, paragraph 23, page 12.

burden on them, and limit effective Access to Eircom's PI network for Access Seekers with limited civil engineering resources.

6.78 Further to ComReg Direction 21/60R of 8 June 2021, corrected on 8 October 2021,[266] issued under Eircom's obligation to provide Duct Access under the 2018 WLA Market Decision, Eircom at present makes available to Access Seekers 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.

6.79 A Duct Access product whereby 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 allows an Access Seeker which may not have the appetite or capacity to undertake repair achieve efficiencies and better control of its rollout. 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 in order to ensure effective Access to Eircom's PI network for Access Seekers with limited civil engineering resources. Eircom is required under this Decision to make this form of Duct Access available.

6.80 However, this is not the only form of Duct Access which Eircom may be required to provide and as further detailed below, Access Seekers also ought to be able to decide to undertake all remediation required as part of a roll-out including remediation involving repair.

[266] ComReg Direction 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.

6.81 Contrary to what Eircom suggests in its Submission, there is no "*complete U-turn"*[267] in ComReg directing in Direction 21/60R, that Eircom makes available a form of Duct Access where Eircom as the network owner, undertakes repairs, and ComReg now specifying that Eircom *in addition* must make available another option for Duct Access, where Access Seekers, if they choose to avail of that form of Access, carry out the repairs. ComReg notes also in this regard that clear demand for Duct Access has emerged whereby unblocking, regardless of whether it constitutes repair or not, is carried out by the Access Seeker and this is confirmed by both BT and NBI's Submissions. BT' and NBI's Submissions refer respectively to Eircom refusing BT's Access request for Duct Access allowing a right to repair/clear broken ducts when installing sub-duct[268] and to an [✂ [redacted] ✂].[269]

6.82 In its Submission, Eircom "*strongly disagrees*" with the requirement for a Duct Access product allowing Access Seeker to undertake all remediation, and "*considers that the proposed remedy is severely disproportionate, in that it is highly intrusive, carrying with it a significant risk of harm, and essentially removing eir's property rights in its own assets",* contrary to Article 52 of the Charter of Fundamental Rights.[270] Eircom also refers to its appeal of ComReg Direction 21/60R (currently awaiting judgment) stating that in the circumstances, Eircom "*does not consider that ComReg has identified a 'problem' with the existing products that warrant the imposition of this proposed, extraordinarily intrusive new remedy allowing Access Seekers to carry out repair work on eir's duct network*".[271]

6.83 Requiring that Eircom provides Access to its Duct network allowing Access Seekers to install their own sub-ducts in Eircom ducts is a key requirement in facilitating network infrastructure rollout. In turn, in order to deliver effective Access, and 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, can 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

[267] Eircom Submission, paragraph 189.

[268] BT Submission, p.8.

[269] NBI Submission, p. 5 and p. 23.

[270] Eircom Submission, paragraphs 185-186.

[271] Eircom Submission, paragraph 185.

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.

6.84 Duct remediation can be undertaken more efficiently by an Access Seeker and its authorised contractor when installing its sub-duct. For example, an Access Seeker's authorised contractor, on encountering a duct blockage that requires duct repair, can apply for the wayleave licence on the same day the duct blockage is encountered and schedule the duct repair once wayleave approval is obtained from the relevant local authority. An Access Seeker can proactively engage with the relevant local authority to enquire on the status of its wayleave request.

6.85 This means that a product feature giving an Access Seeker the option to remediate Eircom's duct when installing its sub-duct provides a means to the Access Seeker to address (avoiding or shortening) delays where duct remediation is required and is necessary to allow Access Seekers the option to efficiently rollout their network without unnecessary handovers to Eircom – all of which raises costs. ComReg notes that the same benefits and efficiencies for the Access Seeker will not be achieved by Eircom undertaking remediation, even where such works are backed up by an SLA. In particular, SLAs do not avoid all the interruptions and delays which will necessarily occur if works by an Access Seeker are to be stopped to allow Eircom to intervene. Eircom's current SLA,[272] for duct unblocking (including repair) to enable the Access Seeker to install its sub-duct, only requires provision of a forecast of the completion of civils work to clear blockages (identified by the Access Seeker) along a duct route within 10 working days.

6.86 ComReg accordingly is satisfied that it is necessary and appropriate to require Eircom to offer Duct Access with the choice for the Access Seeker either to undertake unblocking activities short of repairs which are undertaken by Eircom, or to undertake all remediation itself including repairs. This obligation is justified and necessary, and proportionate, there being no less intrusive option (including SLA) which delivers the same benefits in terms of efficient effective network deployment. ComReg in this regard notes Eircom's comment that NBI has a requirement to self-remediate 1,000-2,000kms of Eircom's duct annually and that self-remediation at this scale in particular would not be technically or economically feasible for Eircom.[273] It appears to ComReg however that, to the contrary, the possibility for an Access Seeker

[272] Open eir Civil Engineering Infrastructure (CEI) (Duct Access & Sub-Duct Self Install (S.D.S.I) & Pole Access Service Level Agreements (SLAs), V2.0, 1 April 2023.

[273] Eircom Submission, paragraph 189.

to undertake repairs itself as it rolls out its fibre network using Eircom's PI is particularly necessary in the context of a large scale deployment and Eircom has not provided any evidence to the contrary.

6.87 ComReg also does not accept that the requirement that Eircom allows Access Seekers to carry out remediation of the Duct network (unblocking including de-silting and also repair) "*carries with it a significant risk of harm"* as alleged by Eircom and firmly believes that it is not a remedy "*which result[s] in [Eircom] losing ultimate control over the engineering or operational standards associated with its PI"* or that "*eir completely loses control over it* (sic) *property if the right to carry out this replacement duct is granted to a third party".*[274] Eircom refers to the difficulties which have arisen in France including that the rights to self-install granted to Access Seekers "wi*thout the right oversight and enforcement mechanisms, have resulted in widespread poor practices including damage to infrastructure…"*[275] and cites the submission of an association of French territorial public authorities to a public consultation held by the French national regulatory authority Arcep on, ComReg understands, the completion of final drop connections.[276]

6.88 ComReg notes, first of all, that the material referred to by Eircom appears to concern issues which have arisen in France in respect of the implementation of the requirement for shared access imposed under French legislation, which applies to all FTTH infrastructure operators, including the owners of FTTH cabling within buildings, and not with access to the PI of the SMP operator; this material also does not deal with the remediation of ducts in the SMP operator's duct network. It is accordingly not clear to ComReg that the issues identified in France in the material referred to by Eircom translate in Ireland and to the imposition of a Duct Access obligation. Second, and more importantly, even if the issues referred to by Eircom were directly relevant, it appears that the focus in France has been on how such issues may be addressed in practical terms, including through appropriate contractual terms and restrictions and technical standards, not on the removal of any requirements.

6.89 This is consistent with ComReg's position that the requirement that Eircom shares access to its duct network, and allows as part of Duct Access, third parties to undertake remediation activities, including repairs, does not as such entail Eircom "*losing ultimate control over the engineering and operational standards associated with its PI"* or lead to poor engineering or

[274] Eircom Submission, paragraph 186.

[275] Eircom Submission, paragraph 187.

[276] See Eircom Submission, footnote 100.

operational standards.[277] Eircom is entitled, and ought, to set out the (reasonable) contractual requirements which must be adhered to by Access Seekers (and any sub-contractors that they use) when availing of Duct Access including mandatory technical rules and operational and engineering standards, and is entitled also, as set out in paragraph 6.48 to 6.52 above to impose reasonable, non-discriminatory, supervision and accreditation requirements, in order to limit the risk to Eircom's infrastructure and customer's services.

6.90 Eircom in its Submission asks that ComReg sets out in detail provisions to ensure that operators face contractual requirements to ensure that the activities they undertake on Eircom's PI are undertaken in compliance with Eircom's operational and engineering standards.[278] ComReg, however, does not believe that this is justified and necessary at this stage as Eircom is better placed to identify appropriate requirements in the first place and any such reasonable requirements may become part of contractual arrangements with Access Seekers (and Eircom's Reference Offer). ComReg of course may then intervene where necessary to ensure that any such requirement is appropriate and justified and reasonable.

6.91 Eircom has been required to make Duct Access available to Access Seekers since at least 2018 and the forms of Duct Access available at the time of the Decision should continue to be made available from the date of the Decision, amended as the case may be to reflect the requirements of this Decision. ComReg in this regard invites Eircom to review the terms and conditions attached to its Sub-Duct Self-Install ('**SDSI**') product and make any changes required to ensure they are fair, timely and reasonable. This includes, for example, setting out clear processes for payment and reimbursement of costs incurred by Eircom, or the Access Seeker as the case may be, in respect of remediation, depending on the pricing option elected by the Access Seeker (see Section 7). It also means reducing the term and duration applicable for SDSI (8 years)[279] to the term and duration applicable to the open eir Duct Access Product (1 year).[280] ComReg reserves the right to issue a direction to Eircom pursuant to Regulation 51(3) of the ECC Regulations where and if necessary in this regard.

[277] Eircom Submission, paragraph 186.

[278] Eircom Submission, paragraph 189(b).

[279] Eircom Access Reference Offer ('**ARO**'), Version 19.0, dated 1 April 2023, Annex C Schedule 112 Sub-Duct Self-Install, paragraph 6.

[280] Eircom Access Reference Offer ('**ARO**'), Version 19.0, dated 1 April 2023, Annex C Schedule 107 open eir Duct Access, paragraph 6.

6.92 In addition, Eircom is required to make available within no more than seven months from the Effective Date of this 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, as part of its Duct Access product suite, the option for Access Seekers to undertake duct remediation including repairs.

6.93 NBI submitted [✂ [redacted] ✂] and that the timescale for delivery of this product feature should be reduced to no more than one month following the publication of the final PIA Decision.[281] However, regardless of whether there have been delays to date, Eircom does require a reasonable period of time to implement the product feature whereby an Access Seeker has the option to carry out repair work on Eircom's duct network when installing its sub-duct, following the publication of this Decision.

6.94 BT agreed that Access Seekers should have the option to remediate Eircom's duct when installing their sub-duct for both new provisions and in-life situations. BT was also of the view that this option should also apply to the Sub-Duct Access product range.[282]

6.95 ComReg is not mandating Eircom to provide an Access Seeker with the option to carry out repair work on Eircom's duct network in the case of in-life situations such as a fault on the Access Seeker's cable. Furthermore, in the case of Sub-Duct Access (see paragraphs 6.96 to 6.100 below), ComReg is not mandating Eircom to provide an Access Seeker with the option to carry out repair work on Eircom's duct network where Eircom installs a new sub-duct on the Access Seeker's behalf.

Sub-Duct Access

6.96 Sub-Duct Access allows an Access Seeker to install its cable in an Eircom sub-duct between ingress and egress points.

6.97 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

[281] NBI Submission, p.5 and p.23.

[282] BT Submission, p.8.

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 there should be no restrictions to creating a new cable joint[283] along an existing sub-duct route.[284]

6.98 However, for the avoidance of doubt and in response to [✂ ✂] comment that [✂ ✂],[285] Eircom is not required to allow Access Seekers to install new chambers on Eircom's PI; rather an Access Seeker can access its spare fibre at an existing accessible Eircom chamber.

6.99 Sub-Duct Access means that the Access Seeker's cable is installed in a sub-duct between an ingress and an egress point. ComReg's position is 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

[283] 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 existing 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.

[284] For example, to provide an ECS to a business customer.

[285] [✂ ✂]

sub-duct at an accessible chamber to create additional ingress/egress points for connections to its ECN.

6.100 ComReg notes in this regard that no material 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.

Direct Duct Access

6.101 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. In its Submission, Eircom noted that a sub-duct should always be used where possible, and suggested that Direct Duct Access should only be available to Access Seekers where the space available is not sufficient to allow the use of sub-duct (except in the case of lead-ins).[286] ComReg has no difficulty with this position provided it reflects Eircom's own use.

6.102 In this regard, ComReg also notes that Eircom accommodates 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.[287] ComReg notes that it is Eircom's practice to install its cable into the lead-in duct, from chambers in the vicinity of 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**'). ComReg accepts that in those circumstances where

[286] Eircom Submission, paragraph 191.

[287] Including business premises and street furniture (e.g. traffic lights, CCTV poles).

Direct Duct Access is used, Eircom may require that Access Seekers take all reasonable steps to ensure that the new cables being installed directly into the duct do not cause damage to existing cables in the duct.[288] Any such conditions must apply equally apply to Eircom when installing cables for its own use.

6.103 Where Direct Duct Access is availed of, 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

6.104 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, Eircom is required to offer Dark Fibre access, where Dark Fibre is available, as an alternative to PIA.

6.105 In its Submission, Eircom objected to the imposition of such a requirement on the basis that that it would risk distorting build-buy signals between PI Access Seekers and those self- supplying PI, and consequently risk distorting downstream competition[289] and noted that ComReg's proposal is at odds with the approach adopted by Ofcom.[290] Eircom was of the view that it was sufficient in order to have a level playing field with those deploying networks using their own infrastructure and PI Access Seekers, that Access Seekers can:[291]

(a) pay Eircom to undertake the necessary duct remediation;

(b) self-provide the PI; or

(c) use the provisions of the BCRD/BCRR to access alternative PI.

6.106 ComReg agrees that at this point, it would not be justified and proportionate to require Eircom to provide Dark Fibre access in all circumstances and notes

[288] Eircom Submission, paragraph 191.

[289] Eircom's Submission, paragraphs 225 – 227.

[290] Eircom's Submission, paragraphs 230 - 231.

[291] Eircom's Submission, paragraphs 228 - 229.

that it could act as a disincentive to Access Seekers to build their own network infrastructure, thereby undermining the goal of infrastructure competition. However, neither self-provision nor the BCRD/BCRR are sufficient, for the reasons set out in Sections 3 and 4 above, to establish a level playing field given Eircom's position of SMP. In particular, Eircom is the only SP with a ubiquitous national duct and pole network having capillarity. 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. 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.[292] Meanwhile the BCRD/BCRR does not set up an access regime that is designed, or sufficient, to address the competition problems arising from Eircom's SMP. [293]

6.107 In these circumstances, it is necessary and appropriate to require Eircom to provide Access to Dark Fibre but only where PIA is not available thereby minimising the risks of distortion and achieving the objective in Article 3(2) of the Code, to "*promote competition in the provision of electronic communications networks and associated facilities, including efficient infrastructure-based competition, and in the provision of electronic communications services and associated services*". Absent a requirement on Eircom to provide Dark Fibre where PIA is not available, an Access Seeker may not rollout its ECN in certain geographic areas where it encounters high cost of duct/pole deployment.

6.108 Insofar as Eircom's suggestion is concerned, that where PIA is not available, an Access Seeker could "*pay Eircom to undertake the necessary duct remediation*", the question of whether PIA is available is to be determined, where relevant, by reference to the cost of remediation, and where the cost of remediation exceeds the threshold described in section 7.7.6 below (beyond which the excess cost is to be borne by the Access Seeker) then Eircom is required to:

(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.

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

[292] See in particular, paragraphs 4.54 - 4.56 above.

[293] See on the BCRD/BCRR, paragraphs 4.17 to 4.32 and paragraphs 5.6 to 5. above.

6.110 In order to ensure effective provision of Dark Fibre, where Dark Fibre must be provided, then in such a case, the Access Seeker may require access to Eircom's Dark Fibre for the entirety of a duct or pole route or just a portion of PI in order that the Access Seeker can, as the case may be, minimise the number of joints in a duct or pole route. ComReg also notes that Ingress and Egress points for dark fibre are not limited to Ingress/Egress points outside the Eircom Exchange /Cabinets /final Distribution Point, the Ingress and Egress points for dark fibre can be at any suitable location in the access network where it is feasible to connect to Eircom dark fibre.

6.111 SFG in its Submission also noted that in many cases offering access to a single fibre strand will not be a workable alternative to PIA where Access Seekers require multiple fibre strands in order to meet end-user requirements.[294] ComReg sees that there could be no justification for such an approach; the obligation to provide Dark Fibre arises where Eircom has established, in accordance with all applicable requirements under this Decision (e.g., having regard to the cost threshold and the obligation to remove redundant cables) that PIA is not available and where this is the case, it is only limited by the availability of Dark Fibre itself. This means that subject to availability of Dark Fibre, Eircom is required to provide the number of dark fibre strands (where available) to meet its network rollout requirement.

Access to Chambers

6.112 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.

6.113 Without access to chambers, Access Seekers will not be in the position to undertake works associated with the installation, operation and maintenance

[294] SFG Submission, p.9.

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.

6.114 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.

6.115 In its Submission, Eircom disagreed that an obligation to provide access to exchange chambers should be mandated or that it is proportionate for ComReg to mandate such a requirement, in particular without any restriction for circumstances where network integrity is at risk of being compromised.[295] The integrity of its network could be compromised if operators are granted access to exchange chambers and damage cables. Eircom noted that exchange chambers can be subject to flooding and it cannot be liable for damage to an Access Seeker's equipment through no fault of its own. Eircom stated that it does not install its equipment in exchange chambers.[296]

6.116 However, ComReg notes that Eircom may attach to the provision of access, terms and conditions that in particular are designed to protect the integrity of its network and this includes requirement for escorted access/supervision and accreditation. Network integrity is not compromised when an accredited contractor accesses (via escorted or unescorted access, as appropriate) an exchange floor with cables and equipment. In the same way, Eircom can restrict access to exchange chambers to accredited contractors, hence the risk of cable damage or potential network integrity risk is minimised. Where appropriate, Eircom has the option to provide an Access Seeker with escorted access to an exchange chamber to eliminate any potential risk of cable damage.

6.117 Eircom may attach to the provision of access to these particular chambers, reasonable terms and conditions including terms and conditions governing the parties' liability.

[295] Eircom Submission, paragraph 213.

[296] Eircom Submission, paragraph 213.

6.118 SFG stated that Access Seekers are currently only permitted to break-out from Eircom duct at existing chambers and that this restriction often adds significant/prohibitive costs to projects. SFG requested ComReg to mandate the installation of new chambers on Eircom's PI. SFG stated that building additional chambers on Eircom's network should enhance the value of Eircom's PI assets but at the same time will promote greater competition in downstream services which Eircom does not have an incentive to facilitate.[297]

6.119 [✂ [redacted] ✂][298]

6.120 However, noting that the average distance between Eircom chambers is [✂ [redacted] ✂] metres, an Access Seeker has the ability to break-in to an existing Eircom chamber to install its own duct to connect to its ECN or end-user premises. The cost of installing [✂ [redacted] ✂] metres of duct (on average)[299] is comparable to the cost of building a chamber on the existing duct. The time to install a new duct section is comparable to the time to install a new chamber, as both activities require wayleave approval from the local authority.

6.121 Eircom is required to provide access to its existing PI and new PI Eircom installs (directly or via third party) for its own use. However, ComReg does not believe that it is necessary or proportionate to require Eircom to allow an Access Seeker install a new chamber on its duct network. If Eircom builds new chambers on its duct for its own use, then Access Seekers can access these new chambers.

Access to Ingress and Egress points

6.122 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

[297] SFG Submission, p.12.

[298] [✂ [redacted] ✂]

[299] Assuming the worst case scenario, where the connection to the Access Seeker's ECN or end-user premises is midway between existing chambers.

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.

6.123 Access to PI ingress and egress points is required as it is an intrinsic aspect of PIA without which there can be no access to the pole or duct networks. 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.

6.124 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.

6.125 Accordingly, Eircom is 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 existing ingress/egress to multi-core sub-duct (i.e. existing multi-core sub-duct coupling points) are available, or limit ingress and egress to points of its own [Eircom's] 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 PAR

PAR Information

6.126 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 DPs, copper DPs, sub-duct couplings, poles, cabinets, exchange boundaries and exchange buildings. Information on their characteristics, properties and utilisation constitutes PAR information.

6.127 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 sub-divided to include containment, connectivity, and attribute data. Eircom is required to 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., 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).

6.128 All such information constitutes PAR, irrespective of its accuracy, of 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 'As Built' material attached/linked to Work Orders (not stored on its Geographical Information Systems ('**GIS**')) and photographs.

6.129 In its Submission, Eircom was of the view that the requirement to provide access to all available categories and sub-categories of PAR information was excessive and unnecessary[300] and suggested that the categories and subcategories meant that Eircom had to make available information that Eircom currently does not have and that would not be useful for Access Seekers.[301] Eircom also noted that it should be clear that there is no requirement to provide access to third party PAR information such as geo-directory information, the location of ESB, Irish Water, Gas Networks infrastructure[302]. ComReg notes that categories and sub-categories of information listed above include typical PAR information that can be collected and created during the planning, design, and deployment phases of a PI network, and that the requirement imposed on Eircom is to make that information on its PI available to the extent that Eircom's systems do contain the information. For the avoidance of doubt, Eircom is not required to provide access to third party information such as information concerning the PI of GNI, ESB, Irish Water etc.

6.130 Further, contrary to what Eircom suggests, ComReg does not impose any requirement that the PAR that Eircom must make available to Access Seekers "*should comprise conduit connectivity"* or that "*surface type needs to be recorded in PAR"* which in turn would fail "*to consider that the GIS capability is limited to recording a single surface type by underground route segment".* This information should only be made available to Access Seekers if it is recorded. Conversely, if the information is contained within Eircom's systems, including but not limited to its GIS, it must be made available to Access Seekers and then its actual utility, and Eircom's view of same and actual use of the information for its own purposes, are not relevant.

6.131 For instance, ComReg understands that Eircom's network design by default has pre-determined coupling points at locations such as the exchange-side aggregation points, close to Next Generation Access ('**NGA**') Fibre to the Cabinet ('**FTTC**') cabinets, and distribution-side aggregation points. Some coupling information is available to Eircom and regardless of whether it is available through Eircom's GIS, it constitutes PAR information that is available to Eircom. Knowing the location of coupling points, where coupling information is available, is valuable PAR information as it allows an Access Seeker to identify existing sub-duct ingress/egress points, which is required to be provided to Access Seekers. Similarly, if information is recorded

[300] Eircom Submission, p.80.

[301] Eircom Submission, p.80.

[302] Eircom Submission, paragraph 195.

regarding 'unstructured ducts', that is, those portions of Eircom's aerial network which are buried, it must be made available to Access Seekers.

6.132 PAR also include, for the avoidance of doubt, PI photographs that are taken in the context of, or for the purposes of, surveying, installation, or remediating PI. In its Submission[303], Eircom noted that there have been consistent objections from Access Seekers to submitting photographs, and that if such a requirement was imposed on Eircom, then the provision of imagery by Access Seekers to Eircom when accessing its PI has to become a condition for access with associated penalties for Access Seekers who fail to comply and Eircom would be entitled to recover associated costs including in terms of storage.

6.133 However, the obligation that Eircom is subject to is to make available to Access Seekers all PAR which may include photographs, if there are photographs of PI. No obligation is being imposed on Eircom to ensure that there are photographs of PI and there are no cost recovery implications arising.

6.134 ComReg notes that it is Eircom that has imposed as part of Access to PAR a requirement for Access Seekers and its contractors to take photographs of PI; once photographs are taken as required by Eircom then those photographs become part of the PAR information set. Provided that the terms and conditions and processes associated with the requirement of documenting the PI accessed by way of photographs are reasonable, no issue arises. ComReg understands in this regard that Access Seekers' concerns with the requirement to take photographs of PI elements when surveying and accessing PI are related to practical difficulties with the processes to provide photographs to Eircom and in the first instance ComReg invites Eircom to engage with Access Seekers with the view to resolving those difficulties.

Effective Access

6.135 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

[303] Eircom's Submission, paragraph 204.

timely access to detailed, up-to-date PAR information, it is extremely difficult to plan, design and deploy a network that uses existing PI.

6.136 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.

6.137 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 sub-ducts 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.

6.138 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.

6.139 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.

6.140 In order that PAR information is capable of use, such as 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.

6.141 In its Submission,[304] Eircom set out its concern that the requirement that Eircom make available PAR information in such a format that it can be applied and used in *t*he Access Seeker's chosen design/planning tool is too expansive and could mean that Eircom is required to provide PAR in bespoke formats, which would be unreasonable and disproportionate.[305] For the avoidance of doubt, there is no requirement being imposed on Eircom to provide the PAR in bespoke formats tailored to the specific GIS applications that Access Seekers may be using. Rather, Eircom is required to provide the GIS information extracted from Eircom's GIS system in GeoJSON format, which is a commonly used open standard data format, and in shape file format, and PAR information available from sources other than GIS in a format that Access Seekers can readily use i.e., not in format that restricts the use of the information.

6.142 Of course, Access Seekers may make a request to Eircom that it makes available additional GIS file formats and Eircom should consider any such request and meet it if reasonable.

6.143 Furthermore, for the purpose of making sure that the available PAR is accessible and usable, Eircom must ensure that individual PAR information is uniquely identifiable by reference to location, Object ID and date. The obligation to reference photographs applies both to photographs submitted to Eircom and created by Eircom. (Historical photographs need not be newly referenced on a retrospective basis but all existing photographs and existing photograph metadata should be provided in the current format.)

6.144 In addition to providing Access to all available PAR information, effective Access to PAR also means that Eircom is required to:

[304] Eircom Submission, paragraphs 197.

[305] Eircom Submission, paragraph 197, Non-confidential version.

(a) Ensure that Access Seekers may select geographical area(s) via the user application client so that PAR information can be exported in real time in GeoJSON format (for the avoidance of doubt, this includes all PAR information including containment information for the selected geographical area).

(b) Ensure that any PI photographs created or submitted following the final decision are catalogued and indexed by unique Object identifier ID,[306] and geographic co-ordinates and date.

6.145 Having regard to the technical assessment conducted by technical consultants Realworld, and their estimate of the efforts involved, as set out in Annex: 4ComReg is satisfied that the burden of providing Access to the PAR information and meeting the associated process and system requirements in order that it is effective, is reasonable and proportionate. ComReg notes 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 Physical Network Inventory ('**PNI**') including read-only access and create a trail (a temporary closed boundary) or select existing area objects. The PAR for the selected objects or objects contained within the selected boundary can be extracted and exported from PNI in GeoJSON[307] format, with the internal Smallworld identifier for each PI object.

6.146 In addition and more particularly, 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, which includes ten-weeks for the PAR Client development.

6.147 In its Submission, Eircom took issue with the technical advice of Realworld Systems and ComReg's conclusions,[308] noting in particular as follows:

(a) ComReg's analysis may have been based on a software version of Smallworld that has not been implemented in Eircom;

(b) Any solution to provide Access Seekers with remote access to Eircom's Smallworld application will have to adhere to Eircom's security standards, may require additional licences at significant costs and

[306] Each record in each table of the inventory database has a unique key value field. This is the unique reference for a record.

[307] 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.

[308] Eircom Submission, paragraph 207.

replacement of Eircom's Virtual Desktop Infrastructure ('VDI') infrastructure;[309]

(c) The target response times outlined in the report may not be achievable;[310]

(d) ComReg's cost estimate is unrealistic;

(e) A 10 week development timeline for the PAR client is unrealistic and the development required may impact Eircom's "Renaissance" programme which is designed to deliver a "*more robust IT solution"* to Access Seekers for the consumption of regulated access products. [311]

6.148 Taking each of these in turn, ComReg notes as follows:

(a) The feasibility study provided by Realworld Systems and ComReg's analysis on the basis of that study are based on the Smallworld version deployed by Eircom as confirmed by Eircom to ComReg in a response to a Section 13D(1) Information Request.[312] Having consulted further with Realworld Systems,[313] ComReg is satisfied that there is no need for Eircom to upgrade from the version currently in use in order to provide real-time access to Smallworld.

(b) Eircom has confirmed that third party remote access is already provided to Eircom's Smallworld platform via a VDI solution. Eircom can, therefore, reuse its existing system capabilities to facilitate Access Seeker remote access to Smallworld. This may require an update to the software in order to ensure that the latest security capabilities are in place. ComReg is of the opinion that this requirement to install the latest software levels and to subsequently keep up to date with security capabilities is both reasonable and proportionate.

(c) ComReg has not specified transaction performances targets. The performance levels referenced in the feasibility report were solely for illustrative purposes within the context of that report. The transaction performance requirements are not mandated. In addition, on the basis of Realworld Systems' technical advice, ComReg is satisfied that, despite what Eircom submit, extracting information based on the

[309] Eircom Submission, paragraph 207.

[310] Eircom Submission, paragraph 207

[311] Eircom Submission, paragraph 207.

[312] Information request sent by ComReg to Eircom on 18 August 2022.

[313] Annex 9.

method described in the technical feasibility study should not result in a severe performance impact on the Smallworld platform.[314]

(d) Eircom has not provided any evidence supporting its claim that ComReg's cost estimate is unrealistic and that the order of cost is "in the order of €1.5 million…"[315] noting on 04 May 2023 in response to a query from ComReg that [✂ [redacted] ✂] ComReg is satisfied that its cost estimate is realistic.

(e) Based on a comprehensive technical analysis by RealWorld Systems and noting that an upgrade to the Smallworld platform is not necessary to implement the required functionality, ComReg is satisfied that 10 weeks is sufficient time to implement the functionality that will facilitate the selection and export of PAR information within the selected geographic areas. The overall project implementation timeline of 7 months from the effective date of the Decision to implement real-time access to PAR, which is entirely reasonable and proportionate given that the Smallworld functionality changes are capable of being implemented in 10 weeks. Furthermore, ComReg understands that part of Eircom's IT Transformation programme underway involves an upgrade to the Smallworld system in any case.

6.149 Eircom claims that real-time PAR access is not the least intrusive means of providing access because, in their view PDF exports and quarterly shape files are sufficient. Furthermore, Eircom claims that ComReg has not identified any problem at all with existing provision of (PAR) data. [316]

6.150 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.

[314] Eircom Submission, paragraph 207.

[315] Eircom Submission, paragraph 207.

[316] Eircom Submission, paragraph 199.

Updates to PAR

6.151 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 6.151(a);

(c) Removal of a redundant cable from a duct segment;

6.152 Eircom has existing processes to update its PAR information as PI activities are completed albeit there is no defined timeline for these updates.[317] 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.

6.153 This means that Eircom is required to update its relevant PAR, within one month, when:

(a) Eircom or its contractor completes specific work, whereby

(i) New PI is created; or

[317] 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.

(ii) Existing PI changes state; [318]

(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.[319]

6.154 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.

6.155 In its Submission, Eircom contends that this requirement is "unreasonably broad" as well as "totally impractical and disproportionate as this predominantly relates to new PIA which developers own and construct for housing developments". Eircom contends further that ComReg requires "eir to somehow manipulate its GIS to show the information provided by the developer on a micro level (i.e., as individual homes or small groups of homes are completed)."[320]

6.156 However, the requirement is not "unreasonably broad" as it is limited to update to PI and gives Eircom a month to update. To manage its network which changes for a variety of reasons as described above, Eircom needs to maintain its inventory records. Eircom currently maintains PAR information in systems including Smallworld. Updating such systems is a normal part of Eircom's workflows and it is not limited to new housing developments – although when Eircom takes over control of PI from a developer and, for example, installs sub-duct in duct and fibre distribution points in chambers, recording the as-built information is a business-as-usual activity. Fundamentally ComReg does not accept that this requirement is burdensome in any material way as it does not require Eircom to undertake any new activity. This requirement is just a backstop to ensure that the PAR is regularly updated in a timely manner and the updating of PAR does not slip down the order of priority.

6.157 Whilst Eircom placed a focus on new housing developments, ComReg notes new housing developments constitute a small proportion of the PAR changes that are in scope. The in-scope PAR changes include, but are not limited to, NBI deployment, Eircom's Ireland's Fibre Network ('**IFN**'), the installation of

[318] 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.

[319] 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.

[320] Eircom Submission, paragraph 205.

Access Seekers PI, and other expected PAR changes arising e.g., from copper switch-off e.g., which ComReg expects, will result ultimately in the removal redundant copper cables from the network.

6.158 Eircom appears to conflate the PI rollout plans and the PAR update obligation.[321] For the avoidance of doubt, the transparency obligation relating PI rollout plans and the obligation to update PAR within one month are separate and parallel obligations with different purposes. The reason for PI rollout plans requirement is set out in paragraph 6.328.

PI Co-location

Access to accommodation including power

6.159 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.

6.160 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.

6.161 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 (WDC), they should be able to use those same Co-location facilities (*inter alia*, rack space, racks, backhaul, power, air-conditioning, etc.) in conjunction with PIA thereby avoiding unnecessary costs and maximising use of space.

6.162 In its Submission, Eircom notes that, in the draft Decision Instrument, the definition of Co-location includes "*mast access*". Eircom submits that as it does not own many masts and is unlikely to build many in the future, it does not seem proportionate to impose this remedy. Eircom stated it offers a commercial backhaul service for design and implementation for wireless operators which is specific to meeting their managed service requirements.[322] Eircom noted that this requirement was also specified by ComReg pursuant to the 2018 WLA Market Decision and there has been no demand for this

[321] Eircom Submission, paragraph 206.

[322] Eircom Submission, paragraph 220.

product. Eircom's view is that it is not proportionate or justified to maintain obligations on Eircom where such regulated services are not demanded.[323]

6.163 ComReg confirms that there is no requirement on Eircom to develop an active wireless PoH or for Eircom to provide access to its own mast at an exchange. However, where an Access Seeker enters into an agreement with the owner of a mast on the exchange building/property in order to backhaul ECS/ECN traffic to its core network over a wireless connection, Eircom has to facilitate the Access Seeker to access the mast. For example, an Access Seeker can request Eircom to provide a containment path (e.g., space on a cable tray) from the Access Seeker's Co-Location Rack to a mast on the exchange building/property in order that the Access Seeker can install its cable from its Co-Location footprint to its equipment installed on the mast.

6.164 Hence, the physical co-location product offering should also include a cable route from the Access Seeker's Co-Location to a wireless PoH so that Access Seekers can install wireless backhaul. While wireless backhaul may be installed as a backup to the primary fixed backhaul, in some circumstances, wireless backhaul may be a viable alternative to fixed backhaul where it is not technically and/or economically feasible for the Access Seeker to use fixed backhaul services. To facilitate wireless backhaul, different co-location facilities are necessary i.e. access to the building roof, access to an existing mast within the exchange property, a connection from the co-location rack to the antenna, etc.

6.165 Eircom was already required to provide access to this facility under the 2018 WLA Market Decision. An Access Seeker's requirement to transmit ECS/ECN traffic to its core network needs to install backhaul at its Co-location footprint(s) in Eircom exchanges. Where the Access Seeker chooses to install wireless backhaul, it needs a containment path from its Co-Location footprint(s) to an existing mast within the exchange property in order to install its cable connecting its equipment in its Co-Location rack(s) to its equipment install on the mast.

Access to Co-location Resource Sharing

6.166 Eircom is 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

[323] Eircom Submission, paragraph 220.

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

6.167 Eircom is 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.

6.168 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.

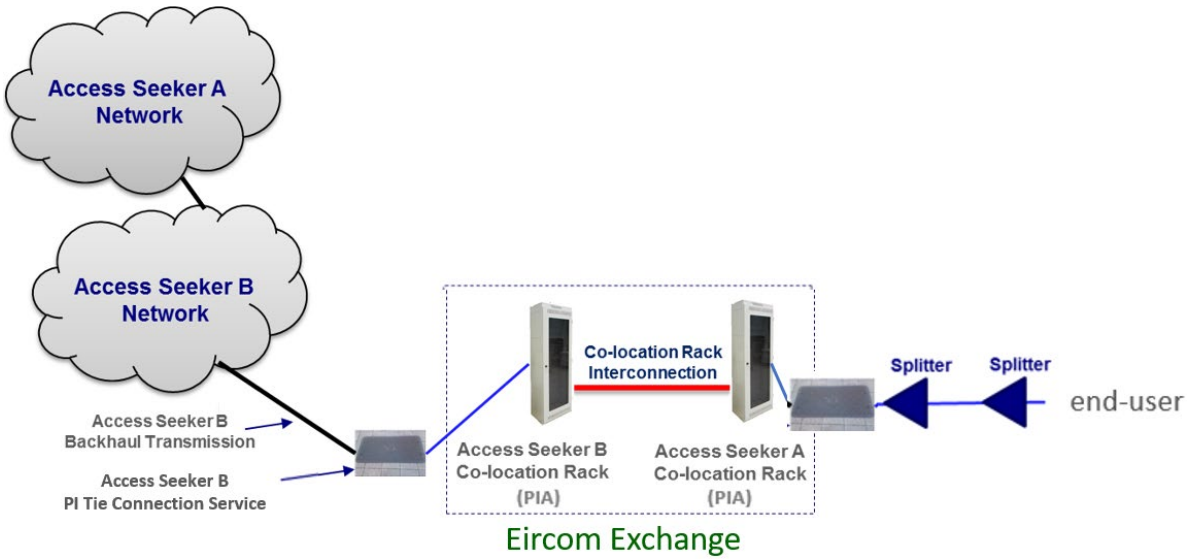
6.169 Co-location Rack Interconnection enables and supports the provision of ECN/ECS.

6.170 As depicted in Figure 13, 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.

6.171 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.

6.172 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 13 Co-location Rack Interconnection



6.173 When considering the regulatory burden for Eircom of implementing Co-location Rack Interconnection, ComReg considered the following three deployment scenarios.

(a) 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.

(b) 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.

6.174 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[324] that are available to facilitate the construction of cable trays and the installation of fibre/copper connectivity, if required.

6.175 In its Submission, Eircom appears to require that ComReg impose obligations in respect of Access Seekers and clarify that all Access Seekers availing of the Rack Interconnection Service must ensure that all their cables are clearly

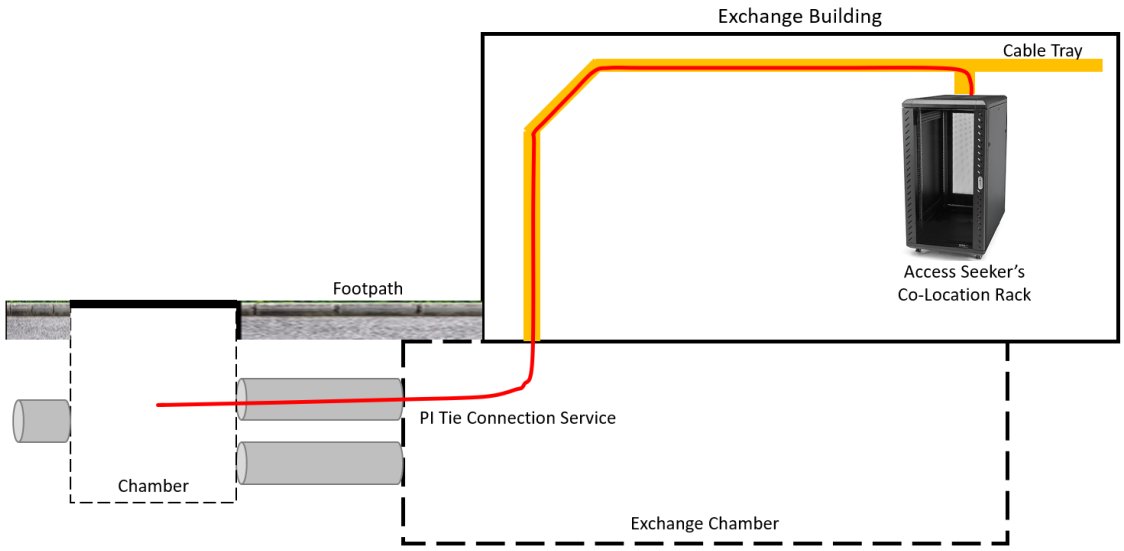
[324] https://www.openeir.ie/products/data/physical-co-location/

labelled, safe and tidy and where Eircom infrastructure is being used, that they seek permission in advance with details provided on route and trays to be used to ensure the quality and integrity of cabling is maintained, and are required to follow any guidelines that may be issued by Eircom for this facility in any exchange (e.g. using IBH Racks).[325] However, ComReg when designating an operator with SMP may only impose obligations on that operator for the purpose of addressing the competition problems arising from the position of SMP. ComReg cannot impose requirements on other operators. ComReg notes that the issues raised by Eircom are matters that Eircom may seek to address by way of reasonable terms and conditions, including making amendments to existing terms and conditions via its product development process.

PI Tie Connection Service

6.176 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 14 the fibre connection terminates in a chamber outside the exchange.

Figure 14 PI Tie Connection Service



6.177 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-

[325] Eircom Submission paragraphs 214 – 217.

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. A PI Tie Connection Service is accordingly required.

6.178 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.

6.179 In its Submission, Eircom was concerned to ensure that the requirement to provide a PI Tie Connection Service did not mean that it had to allow "*a self-service option for Access Seekers*" but rather could continue to provide the service it already provides, namely installing and making available the connection, given the sensitivity and complexity of the work involved (including protecting the exchange building and equipment/cables – including the equipment/cables of other operators – from accidental damage, gas, vermin, water, fire, power issues etc.). Eircom notes further that the PI Tie Connection Service could be in the form of sub-duct.[326]

6.180 ComReg notes that the requirement to provide a PI Tie Connection Service involves the provision by Eircom of a connection between the Access Seeker's Co-location footprint/ODF to the Eircom accessible chamber (including the exchange chamber) nominated/requested by the Access Seeker based on its network routing requirements. The PI Tie Connection Service cannot be in the form of sub-duct 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

6.181 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, such conditions are necessary in order to ensure fair but effective and timely access to Eircom's PI, as regards the following matters.

[326] Eircom Submission, paragraph 219.

6.182 In order to ensure that Eircom provides access on fair and reasonable terms, 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 6.44 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 6.48 to 6.51 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.

6.183 In order to ensure that access is provided on a timely basis, 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

6.184 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 development 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.

6.185 In its Submission, Eircom stated that ComReg has not identified the competition problem that was sought to be addressed.[327] However, as set out in Section 5, paragraphs 5.12 to 5.15, Eircom may use its position of SMP to implement exclusionary practices such as delaying access and causing uncertainty and undermining the effectiveness of Access by putting in place cumbersome processes and implementing overly long product development timelines.

6.186 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 potentially complex active products, in contrast to more straightforward requests for Access to passive infrastructure. As a result, its application may contribute to unnecessary delays in processing PI requests given that the PIA Market is a largely process-driven market.

6.187 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.

6.188 To avoid such unnecessary delays, 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 requests for Access (including requests which are initiated by Eircom itself) 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 Seeker participation in the development of Access requests which should result in a properly functioning product development process.

6.189 In particular, clarity is required as regards the following:

(a) The **timeline** during which the request will be developed and launched;

(b) The **stages** of the product development process, including the times at which Access Seekers may provide inputs; and,

[327] Eircom Submission, paragraph 232.

(c) 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 (an Access request being a written request from an Access Seeker or self-initiated development by Eircom).

6.190 As explained in further detail below, a period of no more than ten (10) months from the time that a request is received to launch including notification periods to ComReg and Access Seekers is appropriate and sufficient, save where developments will require changes to the Access Seekers' IT systems in which case a longer period of no more than fourteen (14) months is appropriate. For the avoidance of doubt the 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; conversely the timelines may be extended where appropriate and justified but only with ComReg's explicit agreement. Each Access request should be assessed on its own merit and progressed as efficiently as possible.

6.191 The maximum period of time for product development at 10 (or 14) months has been informed by an assessment of the time taken to date by Eircom to develop PI products. In particular, ComReg notes that in the period November 2018 to August 2023, the average time from Access request receipt to completion for the Access requests on foot of regulatory obligations was 42 working days (59 calendar days). The average time from Access request receipt to completion for the other Access requests was 315 working days (441 calendar days).[328] The stark difference in these figures shows that the product development process can be efficient in the PIA Market when required, but unless ComReg is specifying obligations, the development process is unduly slow.

6.192 As regards the product development process, the following should ensure that the appropriate information is exchanged and that there is adequate interaction and engagement between Eircom and the Access Seeker making the Access request but also, other Access Seekers:

(a) Eircom to acknowledge 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, 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)

[328] Figures based on Eircom's PCRL dated 17 August 2023.

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 to 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.

6.193 In their respective Submissions, both Virgin Media and NBI agreed that there should be a maximum timescale for product development but were of the view that the proposed 10 month maximum timeline was still overly

lengthy,[329] and in NBI's view, should not exceed 6 months.[330] Both Virgin Media[331] and BT[332] were concerned that Eircom may use the maximum timeline as a target and that requests which normally would have taken, for example 6 months, would now take 10 months.

6.194 In contrast, in its Submission, Eircom considered that:

(a) ComReg had not provided any evidence to support its assertions that the PIA market was largely process driven and that while some requests may be developed relatively quickly, it is not possible to anticipate all future requests;[333]

(b) the 10 month deadline was not based on any analysis or evidence, and based in an incorrect assumption that the activity involved at the outset of a new product development was related to the complexity of the underlying product being developed;[334]

(c) the 10 month deadline was unreasonable and disproportionate, and more so in the absence of a mechanism to extend deadlines when it is justifiable and reasonable to do so (for example, due to factors beyond its control);[335]

(d) publishing an engagement plan could not be completed within the first 15 working days of receipt of an Access request as each Access request needs to be assessed on a case-by-case basis which may require different levels of engagement with operators; a period of 55 working days was appropriate; [336]

(e) ComReg had also ignored the time required for SLA negotiations – which in Eircom's view, meant that the maximum time allowed should be extended from 10 months to no less than 16 months;[337] and,

[329] Virgin Media Submission, p. 13-14.

[330] NBI Submission, p.23.

[331] Virgin Media Submission, p. 13.

[332] BT Submission, p. 8.

[333] Eircom Submission, paragraph 233.

[334] Eircom Submission, paragraph 234.

[335] Eircom Submission, paragraph 235.

[336] Eircom Submission paragraph 238.

[337] Eircom Submission, paragraph 241.

(f) generally speaking product development timelines should be indicative to account for the possibility of plans being changed due to new, higher priority Access requests,[338] and Eircom did not understand what further information it could provide to Access Seekers in this respect.[339]

6.195 Eircom separately complained that the various requirements imposed in the Decision for Eircom to seek ComReg approval, to provide a justification to ComReg, and/or formally notify ComReg, had as a cumulative effect to slow down its product development process which will inevitably have an effect on competition.[340]

6.196 Based on analysis of Eircom's PCRL,[341] ComReg notes that 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. The PCRL shows that there have been [✂ [redacted] ✂] PIA Access requests accepted over the period of the market review.[342] Only 38% [✂ [redacted] ✂] of these requests have been progressed to completion stage. Of these completed requests, 60% [✂ [redacted] ✂] were requests which were raised on foot of regulatory obligations imposed in the 2018 WLA Market Decision, the remaining 40% being Access requests from Access Seekers\Eircom. Of the 60% based on obligations imposed by ComReg, analysis of the CRDs suggests that 50% [✂ [redacted] ✂] were process changes while 10% [✂ [redacted] ✂] may have required some level of system development. Of the other 40% of requests raised by Access Seekers\Eircom, based on CRDs, only 10% [✂ [redacted] ✂] would likely have needed some element of system development, while the other 30% [✂ [redacted] ✂] would have been largely process changes with some element of system configuration. Of the [✂ [redacted] ✂] Access requests either completed or in development over the period November 2018 to August 2023, 83% [✂ [redacted] ✂] were categorised by Eircom as Process Enhancements, and the remainder as Product Enhancements or Additional Products.

6.197 On this basis, ComReg remains of the view that Access requests on the PIA Market are, in the majority of cases, achieved via process changes. Accordingly, the evidence indicates that Access requests on the PIA Market

[338] Eircom Submission, paragraph 239.

[339] Eircom Submission, paragraph 240.

[340] Eircom Submission, paragraph 404.

[341] Eircom's PCRL dated 17 August 2023.

[342] Requests raised from November 2018 to 17 August 2023 as noted in Eircom's PCRL of 17 August 2023.

are, in the majority of cases, achieved via process changes and this should lend itself to achieving quicker delivery times for Access requests. The evidence also shows that it is not the notification or consent requirements which slow down the process.

6.198 In particular, the PCRL shows that Eircom has been slow in progressing PIA Access requests. For example, on the PCRL,[343] there are [✂ [redacted] ✂] Access requests which have reached the scope publication milestone (maximum working day 85) which have yet to progress into the development phase. CRD 973[344] is the most recent (98 working days\137 calendar days since receipt), CRD860[345] the oldest (334 working days\467 calendar days since receipt). The average of the other [✂ [redacted] ✂] is 226 working days (317 calendar days) since receipt.[346]

6.199 Furthermore, of the [✂ [redacted] ✂] PIA Access requests open in the PCRL,[347] 13% [✂ [redacted] ✂] have been raised in 2023, 50% [✂ [redacted] ✂] were raised in 2022, and 37% [✂ [redacted] ✂] were raised in 2021, none of which have moved into the development phase. Overall, for 63% [✂ [redacted] ✂] of the open Access requests, more than 200 working days (280 calendar days) has elapsed since the requests were received.[348] Recently, Eircom unilaterally decided to park [✂ [redacted] ✂] PIA Access requests for extended periods of time (ranging from 2 months to 14 months).

6.200 The product development process to date has accordingly been marked by lengthy timelines even before the development phase is commenced by Eircom and these delays in developing Access requests are hindering competition.

6.201 The maximum period of 10 months or 14 months (which contrary to what Eircom suggests, may be extended by ComReg at Eircom's request, where justified) seeks to address these delays. The specific steps to be undertaken by Eircom within specified maximum timelines address the uncertainty arising from the delays and the use to date of indicative timelines. ComReg is satisfied that this approach is appropriate and justified and strikes an

[343] PCRL dated 17 August 2023.

[344] [✂ [redacted] ✂]

[345] [✂ [redacted] ✂]

[346] All durations in this paragraph are measured until the 17 August 2023, the date of the PCRL analysed.

[347] PCRL dated 17 August 2023.

[348] All durations in this paragraph are measured until the 17 August 2023, the date of the PCRL analysed.

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.

6.202 In this regard, while accepting that interaction may be needed between Eircom and the requestor to seek clarifications on requirements, ComReg is of the view that an 8 week period is excessive for that purpose and that a 3 week period is sufficient. This is particularly the case as finalised requirements are not in fact a prerequisite for publication of an Access request or an engagement plan. Rather, early publication of the details of the Access request will allow Access Seekers to play a more inclusive part in the early stages of product development, thereby creating more certainty on what will be delivered. Eircom can use the engagement plan to outline the timeline from the publication date of the Access request to the status update (max 85 working days) which will include the timeline to finalise requirements (if necessary), the timeline and method to engage with Access Seekers, the SLA Negotiation period (if necessary) and the date of the status update.

6.203 ComReg is further of the view that a period of 3 weeks is reasonable for publication of an engagement plan. While ComReg agrees that each Access request must be assessed on a case-by-case basis, there are only a finite number of activities which could be required and need to be planned for (for example, further requirements gathering, SLA Negotiation Period definition, industry workshops, bi-laterals, etc.). During the initial assessment of an Access request, Eircom should be able to determine which elements will be needed going forward. A template engagement plan can be prepared in advance which would be tailored on a per Access request basis.

6.204 ComReg also notes that contrary to Eircom's contention, not only is it possible to start the SLA negotiation before the solution is set out at the 85 working day timeline, but it makes sense that negotiations start in advance of the 85 working day timeline in order that Access Seeker requirements are understood from the beginning and SLA requirements are taken into account as part of the product design rather than the existing products\systems dictating the SLA.

6.205 SLA requirements should be set out in the initial request but if not, Eircom will need to seek clarity from Access Seekers on whether a new or updated SLA is required. In both cases, the Access request receipt date is the start date for SLA negotiations. This will allow Eircom designers to understand up front what SLAs are required, hence enabling them to design a solution using the appropriate systems and processes to meet the required SLAs, thus making the product service or associated facility fit-for-purpose. This will avoid a situation where it is impossible for Eircom to meet certain SLAs because a

product has been designed in a restrictive or limited way. The 10 month timeline is sufficient for Eircom to deliver a new or updated SLA.

6.206 Finally, ComReg notes that the prioritisation process has not been functioning effectively. While the Eircom product development process outlines the input criteria that make up the prioritisation score for each Access request, to date Eircom has only published the final score, not the value it gives to each of the 4 input criteria (Financial Impact, End User Experience, Resource Requirements, Execution Risk).[349] However, ComReg believes that this is insufficient to provide the clarity and transparency; instead the values assigned for each of these input criteria for each Access request should be published to understand the basis for the prioritisation choice and enable comparison of different Access requests. ComReg notes that the assigning of values remains for Eircom and allows Eircom to decide which developments it will prioritise and resource, subject to the maximum timeliness set out above.

6.207 ComReg is satisfied accordingly that the product development process requirements are necessary and justified, having regard to the delays experienced to date and the uncertainty thereby created for Access Seekers, including a maximum period of 10 months (or 14 months) (which may be extended by ComReg at Eircom's request where justified). Within those maximum timelines, ComReg expects that there will be variation in the delivery timelines for PIA Access requests and that timely delivery for some Access requests will be less than 10 or 14 months. ComReg will monitor the PCRL to ensure the 10 month timeline is not used as a target by Eircom.

Service Level Agreements

6.208 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. 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 manifest, *inter alia*, in 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.

[349] These criteria are defined in Eircom's Product Development Process documentation.

6.209 Fit-for-purpose SLAs will achieve two main objectives: first, they will help, in setting agreed service levels between Eircom and Access Seekers, ensuring 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, but only if SLAs provide for the payment by Eircom to Access Seekers of meaningful compensation where agreed service levels are not met.

6.210 As such, it is necessary to require that Eircom 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 PIA product, service or associated facility from the time that it is available and subsequently kept up-to-date and fit for purpose, and to that effect to ensure that Eircom conduct negotiations in a fair, reasonable and timely manner.

6.211 Eircom in its Submission while recognising "*that there can be a role for an effective SLA regime",*[350] had "*serious concerns"* about the SLA regime set out by ComReg. The regime was in Eircom's view disproportionate because its design and the burden it imposes on Eircom does not align to the reality of the market, with very limited expected demand for PIA. For Eircom, an SMP operator's ability to influence service levels in downstream markets varies between different access products, specifically between active and passive products, and this should be reflected in a lighter regime for PIA centred around negotiations between Eircom and Access Seekers. Eircom suggested that the SLA regime including in respect of service credits and compensation (including information as regards the costs of not meeting SLAs) was excessive.[351]

6.212 In contrast, Access Seekers generally were of the view that the regulation for SLAs under the 2018 WLA Decision had not worked and the level of regulatory intervention remained insufficient. BT was of the view that "*the process developed in D10/18… to address the problems with agreeing SLAs in the period prior to that Decision … and now in [the] consultation does not work. The Access Seeker's request can be to all effective purposes ignored but the process must still be worked through".*[352] For BT, "*the whole area of SLAs need a new review or consultation in its own right"* and BT "*do not see*

[350] Eircom Submission, paragraph 243.

[351] Eircom Submission, paragraph 244.

[352] BT Submission, p. 8.

the proposed solution in this market review working". BT notes "*ComReg's long term reluctance to take SLA disputes hence a better process is needed… what we need is actual fit for purposes SLAs and in our view this is not happening for PIA".*[353]

6.213 SFG was "supportive of proposals around SLAs" but was of the view that "given Eircom has little or no incentive to agree to 'fit for purpose' SLAs,… it seems inevitable that future negotiations will hit an impasse or will end up before ComReg under dispute resolution". In that case, "it is imperative that ComReg are committed to dealing with such disputes in an efficient and timely manner". SFG also suggested that ComReg "consider other mechanisms that incentivises Eircom to agree to fair and reasonable SLA terms without having to resort to dispute resolution procedures e.g., act as a mediator between the parties where an impasse in negotiations is reached".[354]

6.214 Virgin Media noted that "a key reason that the current PIA product is so little used by anyone other than NBI (which does not have any choice) is because the usability of the product is poor" and in turn "a big contributing factor to product's poor usability is the inadequate Quality of Service ('QoS') offered". Existing remedies in respect of SLAs were "clearly not strong enough in isolation to drive the right behaviours from Eircom". Virgin Media suggested that "ComReg should take the opportunity afforded by the Market Review to conduct a thorough investigation into the PIA QoS offered and impose additional SMP remedies on Eircom in the form of QoS Standards".[355]

6.215 Having considered the Submissions to Consultation, ComReg is satisfied that the regime for SLAs set out in this Decision is necessary and justified, and not in any way disproportionate.

6.216 In particular, ComReg does not accept Eircom's contention that the level of demand experienced in the market or the passive nature of the access products concerned are relevant to the design of an SLA. The characteristics of the SLAs which Eircom offers for passive products in the PIA Market have a direct impact on the active services Access Seekers can design in downstream markets using PIA inputs. For example, if Eircom were to offer a 9-day SLA for duct repair in the PIA Market, this would mean that an Access Seeker designing a leased line product which consumes the duct product

[353] BT Submission, p. 9.

[354] SFG Submission, p. 2.

[355] Virgin Media Submission, p. 12, p.14.

from Eircom would be limited by this SLA, hence impacting the service levels the Access Seeker can offer to its business customers.

6.217 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. 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 PIA products are an extremely important component of the wholesale input and are integral to the wholesale offering.

6.218 ComReg also notes that 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. ComReg remains of the view in this regard that the precise nature of a particular SLA is best settled in negotiations between Eircom and Access Seekers, and accordingly that it remains appropriate to focus regulation on the negotiations process limiting the scope for delays and imposing constraints on Eircom as regards the determination of service credits. This is set out in further detail in the following sections.

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

6.219 To mitigate the risk of prolonged discussions on the details of the SLA or prolonged deliberation by Eircom serving to delay the availability of SLAs, SLA negotiations are to commence and conclude within a maximum period of **six months** 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**’).

6.220 The agreed SLA or Eircom’s BAFO becomes effective on expiry of the advance notification period,[356] subject to the overall 10-month (or 14-month)

[356] Outlined in Transparency, section 6.6 below.

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.

6.221 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 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 continues.

6.222 In order to ensure that this is the case, the start date for the SLA Negotiation Period is the date on which the Access request itself is received so 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 BAFO. This should limit the risk of delays caused by requiring the SLA to be ready for the new or amended product launch.

6.223 The 6 month timeline in all cases is the maximum period for SLA negotiation and should not be used by Eircom as a “target”. ComReg would expect that if all parties are negotiating in good faith, agreement should be reached in advance of the maximum timeline. ComReg will monitor SLA negotiation timelines in the market.

6.224 The alignment of the SLA negotiation process with the existing product development timelines does not, in ComReg’s 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 Credits

6.225 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. ComReg notes that Eircom in its Submission disagreed with ComReg's approach to service credits and compensation noting that "*it already provides in its regulated contracts for the payment of reasonable Service Credits for non-compliance with Service Levels, which it considers appropriately recompenses Access Seekers"* and that "*ComReg's proposed measure is highly punitive and goes beyond the established law on the limits of what service credits may legally provide for".*[357] However, others such as SFG were of the view that "*current caps on service credits fall abysmally short"* in terms of providing meaningful compensation[358] and, as stated by NBI, agreed with the principle that "*it should not be less costly for Eircom to pay the service credits than meet the agreed service levels*" and that Access Seekers should not be at a loss due to Eircom failing to meet SLA committed service levels.[359]

6.226 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, and appropriately incentivised means that it should not be less costly for Eircom to pay the SLA service credits than meet the agreed service levels. To that end, Eircom is required to:

(a) 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) 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

[357] Eircom Submission, paragraph 244(b)(i).

[358] SFG Submission, p.12.

[359] NBI Submission, p.25.

payments with the requirements of the SLA and with the service provided by Eircom over the relevant period.

6.227 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.

6.228 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 Access Seekers 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.

6.229 It is accordingly important that Eircom provides 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.

6.230 In its Submission, Eircom contended that the above requirements amounted to penalty clauses that are generally unenforceable because the service credits would not include a "*genuine pre-estimate of loss*" as permissible in liquidated damages clauses because "*it is wholly open-ended, requiring estimation on a case by case basis of what the loss of value is for each Access Seeker".* This would not be proportionate and would be "*deeply unfair"; "such unspecified and uncapped liability*" would be contrary to established commercial practice.[360]

6.231 Eircom also objected to providing information on its own costs of meeting SLA's or expected losses to Access Seekers during SLA negotiations on a number of grounds, including:

[360] Eircom Submission, paragraph 244(b)(ii).

(a) that it is not practical to estimate with any degree of precision its costs or potential losses for others from not meeting SLAs given that failures to meet SLAs typically arise from unexpected circumstances;

(b) that even if Eircom could produce such information on its costs, it would be commercially sensitive and thus would not be appropriate to share with external parties; and

(c) that in any event Access Seekers are sophisticated industry players who should be able to develop their own negotiating strategies based on their own information and experience.[361]

6.232 However, Eircom's submission that the provision of service credits in SLAs would amount to unenforceable penalty clauses because the service credits would not include a "*genuine pre-estimate of loss*" is not understood. The purpose of requiring that Eircom provides the basis for the calculation of proposed service credits by reference to its costs and the losses that an Access Seeker would suffer where the agreed service levels are not met is precisely to ensure that the service credits represent a genuine pre-estimate of loss and are sufficient to encourage Eircom to meet the service levels rather than pay credits. Eircom's estimates can then form the basis of informed negotiations. For the avoidance of doubt, Eircom is not obliged to provide commercially sensitive or otherwise confidential information but rather informed pre-estimates of costs and losses.

6.233 In its Submission to Consultation, SFG suggested that in the case where no agreement is reached and Eircom issues a BAFO, the detailed costs to meet SLAs and value of losses to Access Seekers should be included in the BAFO document to allow for evaluation by Access Seekers and, if necessary, ComReg.[362] ComReg agrees that the basis for the calculation of the service credits should be set out in the BAFO in order that an assessment can be made that it is a genuine pre-estimate of loss and will provide sufficient incentives to Eircom to meet the service levels concerned. In the case where Eircom and Access Seekers reach agreement on the SLA, the same information should be included in the SLA documentation notified by Eircom. The SLA documentation needs to be detailed enough to allow any Access Seeker, whether or not it was involved in the negotiations, to fully understand all aspects of the SLA.

6.234 SFG also noted in its Submission that "the 'loss of value' element to Access Seekers may vary materially from order to order. For example a delay of 2 or 3 months on an order may in certain circumstances see a loss of

[361] Eircom Submission, paragraph 244(a).

[362] SFG Submission, p. 12.

revenue/margin against a particular end-user contract while in other circumstances it may result in the loss of the contract altogether". SFG suggested that the differences in loss of value in those circumstances should be managed by including "an undefined element to be calculated post delivery where failure to deliver has resulted in loss of business… including recovery of any associated upfront costs paid by the Access Seeker…".[363]

6.235 ComReg notes, however, that a key element of a service credit regime is the provision of certainty to both parties as regards the compensation that is owed where service levels are not met; for this reason it does not appear to ComReg that there should, or could, be a principle that service credits should include an undefined element. ComReg notes that the level of service credits may vary in accordance with the duration, extent or scope of the failure to meet agreed service levels, and the variations in losses that the Access Seeker concerned would entail in those circumstances.

Suspension of an SLA

6.236 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 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.

6.237 Accordingly, where Eircom wishes to provide for the possibility of suspending the SLA, as part of the terms and conditions of the SLA, such terms and conditions should be agreed with Access Seekers during the SLA Negotiation Period. 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 is required to ensure such terms and conditions are reasonable, transparent, clear and detailed, and based on objectively defined and measurable parameters. This information is to be included in the published SLA documentation, and Access Seekers informed of each instance of an exclusion from the SLA together with the parameters upon which the exclusion is based.

[363] SFG Submission, p. 12-13.

Implementation and monitoring

6.238 Having regard to the Submissions received, ComReg expects that the above requirements will lead to a revision of existing SLAs for PIA. In this regard, Eircom is required to ensure that any new SLAs or amendments to existing SLAs that are required as a result of these obligations are available to Access Seekers 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.

6.239 A number of Respondents to Consultation were concerned that the changes brought by this Decision to the regime established in 2018 do not go far enough. ComReg accepts that the success of the regulatory regime for SLAs does depend on engagement between the parties; Eircom's obligation to negotiate in good faith is apposite in this regard. But there is also an onus on Access Seekers to set out in sufficient detail the requirements of the SLA in order to enable meaningful discussions and engagement.

6.240 Clarity as regards service level requirements is essential to allow for productive negotiations and also regulatory intervention by way of dispute resolution under Regulation 67 of the ECC Regulations as the case may be. For the avoidance of doubt, there is no reluctance on the part of ComReg "*to take SLA disputes"* as BT contends.[364] But in order for ComReg to resolve and bring the dispute to an end, the matters in dispute must be capable of final resolution. This means, insofar as SLAs are concerned in particular, that all issues between the parties around an SLA that prevent negotiations to conclude and an SLA agreement to be reached must be brought to ComReg. ComReg does not believe that it would be consistent with its dispute resolution function under Regulation 67 that it intervenes as a mediator between the parties,[365] or that it issues determinations that do not resolve the dispute but rather seek to settle discrete matters as negotiations unfold.

6.241 Nevertheless, noting in this regard also the Submissions of several Access Seekers that current SLAs are not fit-for-purpose[366] it is ComReg's intention to monitor closely the matter of SLAs in the market and the discharge by Eircom of its obligation to have in place SLAs which encourage an efficient level of performance on its part.[367] ComReg notes further that it is now

[364] BT Submission, p. 9.

[365] SFG submission, p. 3, p. 29.

[366] BT Submission, p. 3, 4, 6, 9 and SFG Submission, p. 12.

[367] Noting also Annex I of the draft Gigabit Connectivity Recommendation, https://digital-strategy.ec.europa.eu/en/library/gigabit-connectivity-recommendation

empowered under Regulation 51 (5) to specify service levels in respect of key performance indicators and intends to give the matter further consideration having regard, among others, to market conditions.

6.5 Non-Discrimination

6.242 Regulation 52 of the ECC Regulations provides 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.

6.243 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.

6.244 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.

6.245 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.

6.246 Furthermore, ComReg is of the view that it is necessary 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 EoI basis.

6.247 The European Commission notes in its Non-Discrimination and Cost Methodologies Recommendation[368] 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".*

6.248 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.

6.249 However, a higher standard may apply requiring that there is also EoI, 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 (EoI) is the surest way of achieving effective protection from discrimination. On the other hand, providing regulated wholesale inputs on an EoI basis is likely to trigger higher compliance costs than other forms of non-discrimination obligations…"*

[368] 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.

6.250 Recital 185 reflects the position of the European Commission in the Non-Discrimination and Cost Methodologies Recommendation that,

> *"equivalence of inputs (EoI) 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, EoI is better equipped to deliver transparency and address the problem of information asymmetries."*

6.251 According to the European Commission, EoI 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.

6.252 Eircom accordingly is required to offer and provide PIA products, services, and associated facilities to the standard of EoI as ComReg has not identified a different but equally effective obligation to remedy the potential risk of discriminatory behaviour that is less intrusive.

6.253 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.

6.254 While the 2018 WLA Market Decision imposed an EoI requirement as regards Access to CEI, ComReg accepted that very minor and insignificant system and process differences, referred to as "*justifiable differences"* in the Statement of Compliance that Eircom was required to produce, 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.

6.255 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) use for PIA.

6.256 To illustrate, this means that 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.

6.257 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.

6.258 In its Submission, Eircom objected to the changes proposed to the non-discrimination regime set out in the 2018 WLA Market Decision, namely the elimination of the possibility of using different systems and processes to discharge its obligation of non-discrimination, on the basis that this would be unnecessary, unjustified and disproportionate having regard to market circumstances. All other Respondents, however, including ALTO, BT, NBI, SFG and Virgin Media,[369] agreed that there was a need for a stricter obligation of non-discrimination for PIA.

6.259 Eircom's objections were based on its view that there are no credible discrimination concerns in the IA given that Eircom will not compete with NBI in downstream markets or in commercial areas, given that only material demand for PIA is from Virgin Media and Siro who have for strategic reasons for self-supplying PI.[370] Eircom contended further that ComReg had not provided any evidence of material deficiencies with what Eircom describes as "*current equivalence arrangements*", including any "*evidence that any access seeker is suffering from discrimination and not benefitting from equivalence*".[371] Finally, Eircom was concerned that "*making the necessary process and system changes (particularly against a seven month deadline) will be highly disruptive and costly to eir and its customers"* and would be "*an unnecessary and unwelcome distraction at a time where eir wants to be fully*

[369] ALTO Submission, p.5, BT Submission, p.6, NBI Submission, p.4, SFG Submission, p.13, Virgin Media Submission, p.18.

[370] Eircom Submission, paragraph 254(a).

[371] Eircom Submission, paragraph 254(b).

focussed on delivering its FTTH ambitions" [372] – which Eircom emphasised referring to Article 3 of the Code, ComReg should support rather than inhibit.[373] Eircom referred to the approach followed by Ofcom in the UK, where Ofcom decided not to impose an EoI obligation on Openreach.

6.260 Eircom's analysis, however, suffers from serious deficiencies and does not reflect the reality of the PIA Market. In particular for the reasons set out in Sections 3 to 5 of this Decision, ComReg fundamentally disagrees with Eircom's starting point, namely an assumption that it does not have SMP in the PIA Market. ComReg also notes that the distinction that Eircom seeks to draw between IA and commercial areas is fundamentally flawed as NBI relies on access to PIA from Eircom outside the IA also. In addition, it is simply not the case that there is no demand for access to Eircom's PI other than NBI's; limited use of Eircom's PI by Access Seekers does not necessarily mean low demand. In this regard, and contrary to Eircom's understanding, their respective Submissions to Consultation indicate that there is no "*strategy"* on the part of Virgin Media and SIRO not to use Eircom's PI. For example, as explained by Virgin Media in its Submission, Virgin Media would make greater use of the PI products and services[374] if Eircom's PIA was less burdensome to use operationally, and poor quality-of-service issues were addressed. According to Virgin Media:

> *"… Eircom PIA products is [sic] a headache to use, and in consequence tends to be adopted as 'last resort' where there are no other viable alternative".* [375]

6.261 SIRO[376] and SFG[377] referred to similar PI (CEI) products and services deficiencies impacting on their ability to consume the CEI products and services.

6.262 Market developments also point to a requirement for implementation of a strict approach to EoI and contrary to Eircom's contention, a number of Access Seekers made submissions that they *are* suffering from discrimination and *are* not benefitting from equivalence. As noted by SFG, "*Eircom has been aggressively and effectively rolling out a nationwide FTTH*

[372] Eircom Submission, paragraph 254(c)

[373] Eircom Submission, paragraph 254(c), pp. 104-105.

[374] Virgin Media Submission, p. 6.

[375] Virgin Media Non-confidential Submission, p. 12.

[376] SIRO Submission, point 1.

[377] SFG Submission, p. 2.

network (excluding most but not all of the NBP) which is heavily reliant on duct access. By contrast Access Seekers may have to wait [≫ [redacted] ≪]. [378]

6.263 In light of this, ComReg is satisfied that demanding a strict application of the EoI standard for PIA is justified and necessary to ensure a level playing field between Eircom and other Access Seekers, supporting the development of sustainable infrastructure-based competition in downstream markets. ComReg is also satisfied that this is entirely consistent with its statutory objectives. Article 3 of the Code to which Eircom refers, not only provides that NRAs are to pursue connectivity and access to and take-up of very high capacity networks, but also the promotion of competition in the provision of electronic communications networks and associated facilities including efficient infrastructure-based competition. Eircom's comment that the application of a stricter EoI obligation is an "*unwelcome distraction at a time where eir wants to be fully focussed on delivering its FTTH ambitions"* is particularly concerning in this respect. Article 3 explicitly does not ascribe priority of one over another; and Eircom's "*FTTH ambitions*" do not condone the provision of sub-par Access to PI to Access Seekers, and do not absolve Eircom from complying with its obligations and providing non-discriminatory PIA.

6.264 ComReg notes further that contrary to what has been the case in the UK, Eircom has been subject to an obligation of non-discrimination including the use of the EoI standard since 2018. While ComReg accepted that there could be small differences in the inputs provided to Eircom and to Access Seekers, it has become apparent that those differences are such as to make a material difference to the outcome experienced by Access Seekers and Eircom. ComReg by requiring EoI continues to pursue the same approach as it did in 2018. To the extent that complying with a stricter approach as compared with that mandated in 2018 would include "*Making ... process and systems changes* [that] *will be highly disruptive and costly to eir and its customers,*"[379] then a serious question arises as regards Eircom's compliance to the obligations mandated in 2018 – and any disruption and costs to Eircom cannot be used now as a reason to object.

6.265 It is important also to recall that EoI means that the same processes and systems are used regardless of whether access is for Eircom or Access Seekers. Eircom accordingly can, and should, reuse existing processes and systems with the necessary amendments to those processes and systems to

[378] SFG Submission, p. 1.

[379] Eircom Submission, paragraph 254 (c).

offer and provide Eircom's self-supplied products, services and associated facilities that fall within the scope of the PIA Market available to Access Seekers.

6.266 ComReg also notes that no specific submission has been made by Eircom as regards the costs and disruptions that would have to be incurred by Eircom in order to ensure that the same systems and processes that are available to Eircom for PIA are also available to Access Seekers. It is accordingly impossible to assess such costs and disruptions. But ComReg notes further that Eircom has the choice of the systems and processes that are to be used by itself and Access Seekers and that choice can be made so as to minimise costs and disruptions to Eircom. For instance, Eircom may put to use the means it has deployed to achieve its FTTH roll-out and make available the systems and processes used for rollout the IFN (including those implemented by Eircom's managed service partner [✂ ✂]) available to Access Seekers.

6.267 ComReg accepts however the point made by Eircom in its Submission[380] that making changes to the systems and processes used by Access Seekers for PIA may require system development on their part, which they may not be able to complete in time in order to avail of the new systems and processes when they go live. However, this can be adequately addressed by ensuring that legacy and new systems and processes run in parallel for a period of at least twelve months after the effective date of the Decision, and by Eircom making available any interface specification within five months of the effective date of the Decision. The systems and processes to be used in all cases (including as the case may be, for single orders, bulk orders and infrastructure rollout projects such as Eircom's IFN or NBI's rollout) should be described in full in the Reference Offer.

6.268 For the avoidance of doubt, the requirement on Eircom to make available for PIA the same processes and systems that it uses itself does not mean that Eircom may withdraw, or refuse to provide, alternative systems and processes where so required by an Access Seeker. In particular, [✂ ✂], stating that:

[380] Eircom Submission, paragraph 254.

[✂ [redacted] ✂][381]

6.269 The requirement that Eircom applies an EoI standard when providing PIA means that the processes and systems used by Eircom must be made available to Access Seekers; this is in addition to Eircom's obligation of Access, including its obligation to meet reasonable requests for access, and its obligation not to withdraw access to facilities already granted without ComReg's prior approval. If [✂ [redacted] ✂] does not wish to avail of the same systems and processes used by Eircom, and prefers to continue with existing processes and systems (the detail of which must be published by Eircom, as is the case for all regulated products), then Eircom must continue to allow their use and may only discontinue same with ComReg's explicit approval.

6.270 ComReg believes accordingly that imposing a strict EoI standard in respect of Eircom's obligation of non-discrimination is required in order to ensure equivalence of access and that Access Seekers can be confident that they can rely on Eircom's PI.

6.271 Building Access Seekers' confidence in PIA thereby fostering use of Eircom's PIA will be helped by assurances that Eircom is making available the same systems and processes that it uses itself for PIA whether it is for single orders, bulk orders and infrastructure rollout projects such as Eircom's IFN or NBI's rollout. In this regard Eircom is required to publish detail 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 separately those used for supply of PIA to Access Seekers.

6.272 A number of Respondents including in particular, [✂ [redacted] ✂] and [✂ [redacted] ✂][382] expressed doubts that an obligation of non-discrimination even at the EoI standard would be sufficient to address the issues encountered to date and suggested that some degree of functional separation may be necessary. These Submissions are addressed in Section 8.

6.6 Transparency

6.6.1 Overview

6.273 Regulation 51 of the ECC Regulations provides that ComReg may impose obligations to ensure transparency in relation to access or interconnection

[381] [✂ [redacted] ✂]

[382] [✂ [redacted] ✂]

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.

6.274 Regulation 51(2) of the ECC Regulations provides 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.

6.275 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, 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.

6.276 By this Decision, as further detailed below, ComReg accordingly is continuing 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 Physical Infrastructure Access Reference Offer ('**PIARO**') setting out the terms and conditions including prices on which PIA is available to Access Seekers;

(b) A requirement to provide advance notification with respect to proposed changes to the PIARO and associated documentation.

(c) A requirement to publish Information as regards its performance, including by reference to Key Performance Indicators ('**KPIs**'), as may be further specified by ComReg from time to time;

(d) 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;

(e) A requirement to publish information on product development;

(f) A requirement to publish a PI rollout plan; and

(g) 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.

6.277 In each case, 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. In its Submission, Eircom, while accepting that on a general principle level the language it uses should be clear and understandable, queried ComReg's legal basis for what Eircom considered was a codification of general principles of contract law into *ex ante* regulation and was also of the view that such a general principle could not apply in the presence of an obligation of non-discrimination.[383]

6.278 However, to be clear, in stating that vague or ambiguous terms in contracts will be construed in the favour of Access Seekers, ComReg only points to the established principle governing contracts which may be relied upon when construing vague or ambiguous terms that Eircom may have drafted. It does not purport to codify or otherwise impose on Eircom any new requirement in this respect and as noted by Eircom, existing contract law rules continue to apply. But ComReg cannot understand the reason why this general principle could not apply because of Eircom's obligation of non-discrimination. Eircom should approach the application of the terms in a consistent manner for operators purchasing PI.

6.279 Each of these categories is considered in further detail below.

6.280 It should be noted that where Eircom is subject to requirements with respect to advance notification that the process related to such notification is not an approval process and publication by Eircom accordingly does not imply compliance.

[383] Eircom Submission, paragraphs 266-270.

6.6.2 Reference Offer

6.281 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[384] on 5 December 2019. The BEREC Guidelines set out four categories of information to be included in a reference offer, as follows:

(a) Terms and conditions for the provision of network access;

(b) Details of operational processes;

(c) Service supply and quality conditions; and

(d) General terms and conditions of the agreement.

6.282 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 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.

6.283 Eircom is required to notify the PIARO to ComReg within six months of the Effective Date of this Decision and publish it one month thereafter.

6.284 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.

6.285 ComReg notes Virgin Media's Submission expressing concerns with respect to the level of transparency provided by Eircom in relation to what Eircom refers to as a Major Infrastructure Programme ('**MIP**') noting in particular that it is unclear as to what precisely a MIP is, how one qualifies for such a designation and what benefits such a designation confers.[385] For the

[384] BEREC Guidelines on the minimum criteria for a reference offer, BoR (19) 238, 5 December 2019.

[385] Virgin Media Non-confidential Submission, page 17.

avoidance of doubt, Eircom's obligation of transparency imposed by this Decision means that there must be transparency as regards the terms and conditions PIA is made available to Access Seekers and to the extent that specific or different terms and conditions, including in terms of processes etc, are given in certain circumstances, such as a rollout programme, then those should be published. ComReg notes that the detail of the rollout programme will only be relevant to the Access Seeker concerned and Eircom and do not require publication; however there must be transparency and publication on the type of terms and conditions that apply for rollout programmes, the options available to Access Seekers including in what circumstances a MIP will be available and the processes that will apply, and within that, what matters are considered by Eircom to require project-specific provisions.

6.6.3 Terms and conditions for the provision of network access

6.286 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 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).

6.287 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. It also includes, as discussed above, the terms and conditions associated as part of a MIP offering.

6.288 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.

6.289 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.

6.290 In its Submission, NBI noted that for Eircom to commence billing from a "ready to use" date is no different in effect to billing from order date as it means that Access Seekers are "*required to pay for facilities which are not necessary for the service requested*" contrary to Regulation 9(2) of the Access Regulations (now Regulation 51(2) of the ECC Regulations), in that Access Seekers are required to pay for facilities in respect of a period when they are not using the facilities concerned, e.g., when services cannot be provided and/or where fibre is not even present on the pole.[386]

6.291 However, ComReg does not see that it is the case that billing from the ready to use date is in any way inconsistent with the requirement that Access Seekers do not pay for facilities that are not necessary for the services requested. At the ready for use date, access to facilities has been granted and it is appropriate that billing of a PI route commences when the order for that PI route is complete, and the PI ordered is available for use. In practice, it is accordingly appropriate that billing commences:

(a) when the Pole Access order for the requested pole route is complete, and the Access Seeker can commence installing its cable on the requested pole route.

(b) When the Sub-Duct Access order for the requested sub-duct route is complete and when the Access Seeker can commence installing its cable into the requested sub-duct route.

(c) When the Duct Access/ Direct Duct Access order for the requested duct route is complete, and the Access Seeker has access to the Eircom Duct route to commence its rod and rope activity.

(d) When the Dark Fibre order for the requested PI route is complete.

6.6.4 Requirements on engineering, planning and design rules

6.292 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

[386] NBI Submission, p. 43.

equipment in Eircom's ducts, sub-ducts, chambers or poles. As such, this includes any requirements on work instructions that Eircom may require from Access Seekers in relation to work on Eircom's PI.[387]

6.293 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.

6.294 More specifically, Eircom is required to make 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;

(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; and

(i) any other requirements with respect to work instructions that Eircom may impose on Access Seekers.

[387] See concern raised by Virgin Media in its Submission, p. 16.

6.295 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. To the extent that such Engineering, Planning and Design Rules are yet to be fully documented, Eircom is required to do so and have them published at the same time as the PIARO, namely within 7 months from the Effective Date of this Decision, having notified ComReg one month prior to publication. 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.

6.296 In its Submission, Eircom noted that for it to produce the Engineering, Planning and Design Rules, would require considerable effort and ComReg had not justified why seven months was a proportionate timeline. Eircom expressed the view that based on its experience of producing similar types of documentation, it would be more proportionate to allow for up to twelve months for Eircom to produce the documentation so as to ensure that it is accurate and understandable.[388]

6.297 However, having regard to Eircom's ongoing deployment of PI at scale, the input required for the Engineering, Planning and Design Rules should be readily available for Eircom to consolidate and any additional information that may be required can be documented within the seven-month timeline.

6.298 As such, seven months is more than sufficient time for Eircom to undertake the necessary work to produce to the documentation.

6.6.5 Details of operational processes

6.299 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;

[388] Eircom Submission, paragraphs 279-280.

(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; and

(g) Specification of equipment to be used on the network.

6.300 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. Eircom is required to publish the process and criteria, including the input values and calculations, used by it for the purpose of prioritisation.

6.301 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.

6.302 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.

(d) Eircom is required to 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. This is 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.

6.303 Eircom is also 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.

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

6.305 Finally, in alignment with its obligation of non-discrimination, Eircom is required, within seven (7) months of the Effective Date of this Decision, to 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 ('**Systems and Processes Description**'). This includes in particular, the systems and processes used for pre-ordering, ordering, provisioning, fault reporting and repair for PIA.

6.306 ComReg notes in this regard, Virgin Media's suggestion in its Submission to Consultation that Eircom be required to produce an Internal Reference Offer ('**IRO**') setting out all the differences in process between how PIA is used by Eircom's downstream arm versus how PIA is used by Access Seekers including any areas where Eircom is supplying services to itself on a non-EOI basis.[389] ComReg believes that this is very similar to the requirement that Eircom publish a Systems and Processes Description and that this requirement will facilitate understanding and monitoring of compliance by Eircom of its obligation of non-discrimination at the EoI standard.

6.6.6 Service supply and quality conditions

6.307 In line with the BEREC Guidelines, 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.

[389] Virgin Media Submission, p. 19.

6.6.7 General terms and conditions of the agreement

6.308 Finally, the draft contract offer published as part of the PIARO shall 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

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

6.310 In exceptional circumstances, in respect of information that is required to be made available under the 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 shall 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

6.311 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. Accordingly, 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

6.312 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, 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.

6.313 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.

6.314 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; or

(e) Where changes are made to the general terms and conditions offered by Eircom to Access Seekers.

6.315 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.

6.316 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 believes 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 is therefore no 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.

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

6.318 As an exception to the 1 + 2 advance notification rule, Access Seekers should 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. 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 is therefore required to set out the objective reasons in this documentation as to why such an IT change is considered necessary.

6.319 Eircom in its Submission raised concerns about the implementation of the 1 + 6 advance notification rule on the basis that Eircom could not know whether proposed changes will require work by Access Seekers on their IT systems without an obligation on Access Seekers to inform Eircom in a timely fashion early in the product development process, and this in turn would be open to abuse, absent an obligation on Access Seekers to objectively demonstrate the need for changes to their IT systems.[390] However, what triggers the 1 + 6 advance notification rule is not, as such, changes required to Access Seekers' IT systems, but rather changes to Eircom's IT systems requiring Access Seekers to carry out development work without which Access Seekers could not continue to order existing products, services or facilities or be able to order new or amended products, services or facilities. Such changes are therefore those which could prevent Access Seekers from continuing to consume data in existing fields on a like-for-like basis or the introduction by Eircom of new fields in the technical interfaces that Eircom makes available to Access Seekers.

6.320 Where the 1 + 6 advance notification rule is triggered, it also applies to any accompanying change to the price/the PIARO Price List. This approach is appropriate and proportionate and provides Access Seekers with the necessary information and notice relating to such changes.

6.321 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

[390] Eircom Submission, paragraph 396.

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 67 of the ECC Regulations.

6.322 In its Submission, Eircom referred to what it considered to be a number of necessary exceptions that must be automatically incorporated into existing contracts for regulatory purposes. These included changes on foot of regulatory obligations including pricing and non-pricing amendments, the outcome of Eircom's dispute resolution procedures, the definition and limitation of liability and indemnity, glossary of terms relevant to wholesale inputs, and changes associated with products, services and associated facilities or to their technical characteristics.[391]

6.323 ComReg notes in this respect, first, that the principle that Eircom may not unilaterally make changes to the general terms and conditions set out in a contract with Access Seekers only applies in respect of the general terms and conditions that govern the Access agreement (category (d) at para 6.281), rather than changes to the terms and conditions for the provision of network access (category (a)); the operational processes (category (b)) or the services supply and quality conditions (c)). Changes to the latter will of their nature normally be incorporated subject to, and in accordance with, the relevant provisions in the general terms and conditions.

6.324 Insofar as changes to the general terms and conditions of the Agreement are concerned then, changes to those will be automatically made to existing contracts only where they are changes mandated by ComReg, and whether or not this is the case will depend on the actual circumstances of the changes. This means that changes to the definition and limitation of liability and indemnity, for instance, or the dispute resolution processes set out in the general terms and conditions, would only be incorporated where the changes have been directed by ComReg, including for instance as part of a dispute resolution.

Timeline variation with respect to advance notification timelines

6.325 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

[391] Eircom Submission, paragraphs 271-272.

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 product or associated with a change of operational processes.

6.326 In this regard, ComReg is maintaining 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

6.327 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.

6.328 In the Consultation, ComReg proposed an approach for a PI Rollout Plan by which Access Seekers would be informed of planned PI and the Ready for Order ('**RFO**') date from when such PI could be used or reserved by Eircom or Access Seekers.[392] In its Submission, Eircom proposed an alternative approach in relation to the PI Rollout Plan[393] whereby it would formally facilitate, by means of an order acceptance stage, the advanced ordering by Access Seekers for PI routes marked "proposed" in its quarterly extracts, or denoted by green dotted lines in eMaps, or included in a published monthly build plan ('**PI Rollout Plan'**). Then on a weekly basis Eircom would share information to alert all Access Seekers of the duct having become ready and then proceed to prepare the installed PI for cabling for both self-supply and for those Access Seekers with pending PI orders.

6.329 Eircom noted also that PI for this purpose can only include infrastructure owned by Eircom, which would exclude PI installed by developers of new housing estates or commercial buildings.[394] ComReg notes however that PI in this context includes all PI over which Eircom has operational control. In this regard the Eircom document 'open eir's full fibre gigabit network',[395]

[392] Consultation, paragraphs 6.215–6.216.

[393] Eircom Submission, paragraph 276.

[394] Eircom Submission, paragraphs 273-275.

[395] Eircom document 'open eir's full fibre gigabit network', available at https://www.openeir.ie/wp-content/uploads/2022/11/New-Development-Tech-spec-final-16112022.pdf

published for developers of housing estates, outlines the civils and infrastructure required for individual properties within a property development. This document refers to Eircom entering into agreements with developers whereby Eircom is granted exclusive use to the infrastructure installed by developers. Such infrastructure is under the control of Eircom and falls under PI that is subject to the obligations imposed in this Decision.

6.330 Eircom also submitted that any obligation would only apply in respect of new property developments.[396] However there is no reason to exclude work that may be carried out by Eircom with respect to PI outside or not related to new property developments. In this regard, PI for the purpose of the PI Rollout Plan is new PI that extends or adds to existing PI or remediates existing PI resulting in a change to the PI's characteristics. This applies whether or not the PI in question is in a new property development or outside or unrelated to such a development.

6.331 Having considered Eircom's proposal, and subject to the above clarifications as regards its scope of application, ComReg considers that this alternative approach can, if correctly implemented, achieve the same objective of informing Access Seekers of planned PI at the earliest opportunity and allowing Access Seekers to order and use PI on a non-discriminatory basis. ComReg notes in this regard, for the avoidance of doubt, that Access Seekers ordering Duct Access must be treated on a non-discriminatory basis compared to Eircom's own self-supply of Duct and accordingly, weekly updates from Eircom identifying that a route(s) has become 'ready' will be confirmation to Access Seekers that their activities with respect to the installation of their sub-ducts can commence.

6.332 Eircom accordingly is required to:

(a) Provide the following information with respect to proposed PI routes:

(i) the allocation of a 'proposed' attribute to all proposed routes in the quarterly PAR GIS files made available to Access Seekers

(ii) visually identify proposed routes via online resources from which PAR may be viewed by Access Seekers; and

(iii) publish a single consolidated file on a monthly basis containing proposed route information (the '**PI Rollout Plan**').

(b) Allow Access Seekers to place advance orders in respect of proposed PI routes;

[396] Eircom Submission, paragraph 274.

(c) On a weekly basis, update the PI Rollout Plan setting out in addition to any PI proposed routes, a status update as regards such routes including in particular whether any routes have become 'ready' (including as the case may be following notification of same by a developer) and usable, thereby triggering the 'order activation stage'.

(d) Activate the orders, that is, for those routes in respect of which advanced orders for Sub-Duct Access have been made, prepare the installed PI for cabling for both self-supply and for those Access Seekers at the same time, commencing when the routes associated with such orders are identified as becoming 'ready' for use via the above weekly status updates. For Duct Access orders, the weekly status updates identifying whether any routes have become 'ready' will be confirmation to those Access Seekers that have submitted advance orders for such routes that their activities with respect to the installation of their sub-ducts can commence.

6.333 In order that Access Seekers can efficiently import the planned PI data into their own GIS systems, in addition to clearly documenting the implementation of the above requirements, Eircom is also required to include at least the following details in a single consolidated file as part of the PI Rollout Plan:

(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.

6.334 The timing of the release of information with respect to new infrastructure to be made available by Eircom should correspond to the earliest decision to install or have installed the infrastructure (for example, the release of work order or equivalent or the reaching of an agreement with a developer for exclusive use 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.

6.335 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 of this Decision 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 installation status.

6.336 For the avoidance of doubt, all underground and aerial route information is to be added to the PI roll out plan following the earliest decision made by Eircom that the PI is to be installed or installed on its behalf.

6.337 In light of its commercial sensitivity and potential impact on competition, Eircom shall limit 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

6.338 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.

6.339 Having considered the suggestions by Virgin Media[397] and ALTO[398] for ComReg to impose what Virgin Media referred to as quality of service standards and what ALTO referred to as minimum standards in the PIA market, for the time being, ComReg does not propose to intervene by way of setting applicable service levels and accordingly leaves the levels of service for negotiation between Eircom and Access Seekers, for the reasons set out in paragraphs 6.208 to 6.241 above. ComReg however does reserve the right to intervene in accordance with the requirements of Regulation 51 of the ECC Regulations and ComReg will keep the matter of service levels under close review.

6.340 ComReg notes in this regard that the transparency provided by Key Performance Indicators ('**KPIs**') is critical in order to allow for effective monitoring. In particular, there should be transparency in respect of key milestones of end-to-end lifecycle of the PIA products, services, and associated facilities. To that effect, Eircom is required to monitor and measure its performance and 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; and

[397] Virgin Media Submission, pp. 14-18.

[398] ALTO Submission, p. 6.

(c) PI fault repairs.

6.341 In the Consultation, ComReg had proposed to set out a number of requirements in respect of the timelines for the publication of the PIA KPI Report. ComReg had also noted its intention 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. In its Submission, Eircom expressed the view that ComReg should consult on all aspects of its proposed KPI regime at the same time as its Consultation.[399] Eircom also requested clarification that ComReg did not intend to reserve the right to impose new KPI processes or metrics without public consultation and notification as required under the Code.[400] Virgin Media also noted that it would be desirable that the timing of a consultation on such KPIs is aligned with the timing of the market review on PI.[401]

6.342 ComReg has since consulted on KPIs for PIA[402] and concluded the consultation with publication together with the present Decision, of ComReg Decision DXX/YY Physical Infrastructure Access (PIA): Key Performance Indicator (KPI) Metrics, which specifies further Eircom's obligation to monitor and publish KPIs.[403] The issues raised by Eircom as regards further specification in particular as regards consultation and notification accordingly do not arise.

Performance with respect to Service Level Agreements

6.343 Eircom is required to 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 shall 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

[399] Eircom Submission, paragraphs 263-265.

[400] Eircom Submission, paragraph 402.

[401] Virgin Media Submission, pp. 16-18.

[402] ComReg document 'Key Performance Indicator (KPI) Metrics: Physical Infrastructure Access (PIA)', ComReg reference 23/41 published 08 May 2023.

[403] ComReg document Physical Infrastructure Access (PIA): Key Performance Indicator (KPI) Metrics, ComReg reference YY/XX published nn Month 2023.

(b) the performance targets and actual performance achieved for each activity.

6.344 Eircom is also required to publish and maintain on its publicly available website, a report with respect to paragraph 6.343 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.

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[404];

(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[405] ('**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+'**)[406] methodology, and the top down historic cost accounting ('**TD**

[404] This includes the costing methodologies, the cost modelling approach, the cost sharing approach, the pricing approach, the one-off charges, PIA rental prices and pricing options for duct related access.

[405] 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.

[406] This reflects current replacement costs.

HCA')[407] 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**')[408] from its Historic Cost Accounts ('HCAs'). 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[409] (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 exchanges in and around the Dublin area compared to areas outside of

[407] This reflects actual historic costs from Eircom's accounting statements.

[408] 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.

[409] These are exchanges in urban areas, as listed in Annex 14 of the 2016 Access Pricing Decision.

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**')[410], 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 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 PAM[411] and a DAM[412].

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[413] ('**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 Areas**") and access by NBI in more rural areas (referred to as the "**Intervention Area**" or "**NBP IA**").

7.11 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

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

411 The PAM is the cost model used to calculate the costs of an efficient operator providing Pole Access in Ireland.

412 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.

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

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. The **NBP IA**, also referred to by DECC as the non-commercial 'Intervention Area', corresponds to the target areas for State intervention under the NBP, for its contract with NBI, on the basis that there is no existing or planned commercial high speed broadband services available. This area included circa 537,000 premises (delivery points).

7.12 The EC expressed serious doubts with ComReg's proposals, as outlined in its Serious Doubts Letter of 25 November 2021.[414] 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.[415] 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.[416] ComReg stated that it would revisit the price control for ducts and poles in this Decision. 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

7.13 In December 2021, ComReg adopted ComReg Decision D11/21 on Regulated Wholesale Fixed Access Charges (ComReg Document 21/130[417]) ('**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., FTTC.

7.14 The ANM model looks at costs in three different footprints i.e., Urban Commercial Area, Rural Commercial Area and NBP IA. The ANM model is

[414] See Circabc (europa.eu).

[415] 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.

[416] https://www.comreg.ie/publication/information-notice-update-on-pricing-of-eircoms-civil-engineering-infrastructure.

[417] https://www.comreg.ie/media/2021/12/ComReg21130.pdf.

comprised of six modules, 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.

7.15 The PAM and DAM cost models used in this Decision 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, compared to 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 weighted average cost of capital ('**WACC**') has been updated. The financial/costing data used in the PAM and DAM for PIA pricing is based largely on 2022 data, whereas the ANM Decision was based on 2019 data. 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) has not been updated as ComReg considers that those inputs from the ANM remain appropriate for setting the PIA prices for the price control period, for the reasons set out at paragraphs 7.224 and 7.228.

7.16 In the rest of this section ComReg sets out the costing/pricing approach that is applied for setting the prices for PIA in this Decision, for the next five years. Our conclusions take account of the outcome of the market analysis, the competition problems identified as well as the Submissions[418] to the Consultation, in determining 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 methodologies.

7.17 The 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 (nationally averaged versus geographically deaveraged). Table 10 below provides a summary of the main changes from the 2018 Decision (highlighted in red).

[418] Eircom submitted two separate response papers, one dealing with Questions 5 – 20 of the Consultation relating to the price control obligation. ComReg refers to it as "**Eircom's Pricing Submission**". Eircom's other response paper deals with the remaining questions regarding the market analysis and non-pricing remedies, including Question 21 on the cost accounting and accounting separation obligations. ComReg refers to it as "**Eircom's Submission**".

Table 10 Summary of main changes to the price control obligation

	2018 approach	New approach
Price control	Cost Orientation	Cost Orientation
Cost methodology	BU-LRAIC+ and TD HCA	BU-LRAIC+ and TD HCA
Cost sharing approach	Poles: Per operator Duct: Per metre of cable	Poles: Per operator Duct: Per metre of duct access equivalents
Pricing approach	Poles: Deaveraged prices Ducts: Deaveraged prices	Poles: National averaged price Ducts: Deaveraged prices

7.18 Since the Consultation, the main change made by ComReg has been in relation to duct pricing where prices are no longer set based on Eircom's exchange areas or spit by surface type, but instead reflect the costs for the geographic footprints of the National Broadband Plan Intervention Area and Commercial Areas, for the specific purpose of setting differentiated prices according to the costs associated with these particular footprints. This is discussed at section 7.7.1 below.

7.3 PIA price control obligation

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

(a) Benchmarking;

(b) Retail minus;

(c) Margin squeeze test; and

(d) Cost orientation.

7.20 ComReg considers that a price control obligation should be imposed on Eircom for PIA in the form of an obligation of cost orientation.

7.21 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, WDC and WCA) and retail broadband (and related) markets.

7.22 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.

7.23 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.

7.24 Hence, ComReg considers that Eircom's existing obligation of cost orientation should be maintained.

7.25 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. ComReg is also required to ensure that the obligations it imposes are based on the nature of the problem identified, proportionate and justified and are only imposed following a consultation process. In particular, ComReg must take account of Section 12 of the Communications Regulation Act 2002, Regulation 4 of the ECC Regulations, Regulation 42(1) of the EEC Regulations, Regulation 50(5) of the EEC Regulations and Regulation 56 of the EEC Regulations.

7.26 ComReg's regulatory objectives, in line with Section 12 of the Communications Regulation Act 2002, include 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 Regulation 4 of the EEC Regulations also 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 56 of the EEC Regulations, when imposing a price control obligation. 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.

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 of 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. This view was echoed by Virgin Media in its Submission, where it stated that cost orientation:

> *"…is the only form of price control that is likely to fully address the competition problems identified and it provides continuity and certainty, which will be of benefit to access seekers in terms of making investment decisions, while allowing Eircom to recover its efficiently incurred costs."*[419]

7.31 In Eircom's Pricing Submission Eircom stated that ComReg appears to place greater weight on ensuring cost recovery than sending informed build-or-buy signals and in its view it should be both.[420]

7.32 To reiterate, 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

[419] Virgin Media Submission, p. 20.

[420] Eircom's Pricing Submission, paragraph 19, p. 7.

of return on past and future investments. This is discussed further below as part of the preferred costing methodology.

7.33 ComReg considers that the less intrusive forms of price control, including benchmarking, retail minus or margin squeeze tests, are not 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)[421], 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 set out 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.

[421] Benchmarking is provided for in Regulation 56(5) pf the ECC Regulations.

7.4 Implementing the price control for PIA

7.4.1 Costing methodology

7.34 In the section below ComReg sets out the costing/pricing methodology that shall apply to determine the costs and prices for PIA including Pole Access, Duct Access, Direct Duct Access and Sub-Duct Access[422].

7.35 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:

7.36 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.[423]

[422] 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.

[423] 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.

7.37 Table 11 below describes the cost standards that may be used for allocating costs to the underlying services.

Table 11: Cost standard descriptions

Concept	Description
(Pure) Long Run Incremental Cost ('LRIC')	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 'Pure LRIC'). 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.
Long Run Average Incremental Cost ('LRAIC')	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.
Long Run Average Incremental Cost plus an allocation for corporate overhead costs ('LRAIC+')	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 ('EPMU'). 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.
Fully Allocated Cost ('FAC')	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.

	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.

Historic costs or current costs:

7.38 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.

7.39 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**').

7.40 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.

7.41 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:

7.42 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.

7.43 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.

7.44 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.

7.45 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[424] and depreciated over their remaining useful life[425].

7.46 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.

7.47 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.

7.48 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.

[424] Fixed Asset Register.

[425] The regulatory asset lives of assets are intended to reflect the economic asset life and may differ from the statutory asset lives of assets.

7.49 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.

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

7.4.2 Costing methodology for PIA

7.51 Taking account of the Non-Discrimination and Costing Methodologies Recommendation, ComReg has further specified 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.

7.52 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).

7.53 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.

7.54 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.

7.55 In Eircom's Pricing Submission Eircom suggested splitting the valuation of ducts based on the potential for competition, such that in the Commercial Areas, where the primary concern is sending the right build-and-buy signal, the duct would be valued at CCA. Eircom referenced an approach used by Arcep called the "Coûts Courants Économiques" or CCE approach, which does not assign a value to fully depreciated assets. Rather, for as long as the duct has a remaining asset life, its GBV is included in the RAB using a depreciation profile from the year the acquisition was made based on a tilted annuity on the GBV from the year of the investment. Alternatively, in the NBP IA, Eircom suggested that where cost recovery is the primary concern, the duct should be valued at historic cost, and upfront remediation costs would be charged to the operator seeking access and none of these would be included in the RAB.[426]

7.56 ComReg does not agree with Eircom's proposal, for the reasons set out below. In short, ComReg considers that the PIA prices should reflect historic costs in the case where duct and pole assets are reusable while the BU-LRAIC+ costs should be reflected in the prices where duct and poles are no longer reusable and need to be renewed.

7.57 In setting cost-oriented PIA prices, ComReg recognises that the reuse of existing PIA is an essential aspect of encouraging efficient investment.

7.58 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…"*

7.59 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.[427] Reusable civil engineering assets should be valued on the basis of a RAB approach derived from the

[426] Eircom's Pricing Submission, paragraphs 39-41, p 14.

[427] "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."

SMP operator's accounts, as set out in the Non-Discrimination and Costing Methodologies Recommendation and which is discussed further below.

7.60 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 is 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.

7.61 This reflects the approach recommended in the Non-Discrimination and Costing Methodologies Recommendation which states as follows:[428]

> *"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."*[429]

7.62 PIA costs are such that duct and poles are unlikely to be replicated by other Access Seekers at a material level of scale. Hence, the "build" option for PIA is not economically feasible, nationally. As regards Eircom's suggestion of a CCA approach in the Commercial Area, ComReg notes that Eircom do not produce CCA accounts. Furthermore, Eircom's suggestion of a CCA approach in the Commercial Area is not consistent with our objectives. Instead, PIA should be priced in such a way so as to encourage efficient entry by providing other alternative network providers 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

[428] Recital 187 of the EECC is also relevant and this is discussed further later in this section.

[429] Similar provisions are included at Paragraphs 46, 47 and 48 of the European Commission's Draft Gigabit Connectivity Recommendation (https://digital-strategy.ec.europa.eu/en/library/gigabit-connectivity-recommendation).

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.

7.63 Hence, there is a need to balance on the one hand cost recovery for Eircom of investments made and promoting continued investment by Eircom in its existing access network when assets need to be replaced for rolling out NGA services while on the other hand encouraging 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 56(5) of the EEC Regulations.

7.64 Hence, for the reasons set out above, ComReg concludes 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

7.65 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.

7.66 In 2018, ComReg specified that common corporate costs[430] 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[431] (the '**2018 Pricing Decision**'). This was based on the premise that the provision of fixed line access services outside commercial areas was largely uneconomic.

7.67 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

[430] 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.

[431] 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.

wholesale markets. This is because Eircom is expected to become a significant provider of PIA in the Intervention Area or 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 Intervention Area or NBP IA (and similarly costs for some common cost categories will scale back as a consequence of Eircom's withdrawal of fixed access services).

7.68 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.

7.69 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[432] 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.

7.70 NBI stated in its Submission that it is unclear what ComReg means by "copper-based services" provided by Eircom in the Intervention Area (NBP IA) being made available at "negative margins". In NBI's view, the implication of this assumption is that a higher portion of Network Rates should be allocated to the NBP IA in the cost model on a forward-looking basis and/or that PIA should take on a greater portion of Network Rate costs than downstream services. In NBI's view such an assumption may feed into an over-estimation in "Non-Urban" pricing. NBI added that ComReg ignores the extent to which there has been historical under-investment in the NBP IA, where Eircom has "sweated" assets for years, and where the modelled

[432] 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.

copper costs which assume no such underinvestment will by extension wrongly imply “negative margins” where there are none.[433]

7.71 To clarify, ComReg's statement on negative margins follows from the fact that the cost-oriented prices for copper-based services were based on the national average cost, and that those lines in the NBP IA footprint would typically be above the national average cost-oriented price. As a result, the national prices for copper-based services would give rise to higher margins for the shorter, lower cost lines in dense Urban areas being offset by lower/negative margins for the longer, more expensive lines in the NBP IA. Hence, lines in the NBP IA do not have sufficient margin to make a contribution to common cost recovery including Network rates.

7.72 Corporate finance costs will also 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.

7.73 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.

7.74 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.[434] 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 Decision all PI Access Seekers will make a contribution to all of Eircom’s common corporate costs.[435]

7.75 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 EPMU

[433] NBI Submission, pp. 28-29.

[434] This takes account of the comments made by the EC in its Serious Doubts letter. 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).

[435] 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.

method for allocating common corporate costs to the relevant PIA services is discussed further in the cost modelling approach below.

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

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

Reusable PIA Assets:

7.77 In the 2013 Non-Discrimination and Costing Methodologies Recommendation the EC defines reusable civil engineering assets as:

> *"…those legacy civil engineering assets that are used for the copper network and can be reused to accommodate an NGA network."*

7.78 Reusable civil engineering assets include duct, trenches, poles and chambers (the '**Reusable Assets**'), which can be reused for the rollout of NGA services.

7.79 Paragraph 34 of the Non-Discrimination and Costing Methodologies Recommendation[436] 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."*

7.80 Those principles established in the Non-Discrimination and Costing Methodologies Recommendation for Reusable Assets, are also provided for in Recital 187 of the EECC, which states that:

[436] A similar provision is included in Paragraph 49 of the European Commission Draft Gigabit Connectivity Recommendation.

> *"…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."*

7.81 To date, ComReg has based the valuation of Eircom's Reusable Assets on Eircom's HCA Accounts. This was done by taking the accounting 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.

7.82 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.

7.83 Also, ComReg considers that an indexation of Eircom historic accounting values would require Eircom to implement a CCA-FCM[437] 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 the 2016 Access Pricing Decision and more recently with the valuation of poles and ducts for setting downstream fixed line services in the ANM Decision.[438]

7.84 To set PIA prices, ComReg carries forward the RAB approach used in the 2016 Access Pricing Decision, but with some refinements. The RAB used in

[437] CCA - Financial Capital Maintenance ('**FCM**'), which is discussed further below.

[438] Please see paragraph 4.119 of ComReg Consultation Document 15/67 for further details.

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.

7.85 By using the RAB approach based on Eircom's HCAs for Reusable Assets, the more duct and poles that Eircom replaces 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.

7.86 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 Paragraph 34 of the Non-Discrimination and Costing Methodologies Recommendation.

7.87 As such, the Reusable Assets should continue to be valued based on a RAB and set by reference to Eircom's HCAs.

Non-Reusable PIA Assets:

7.88 In the 2013 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."*

7.89 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 faulty infrastructure or clear congested sections and blockages so that sub-ducts can be deployed to accommodate new fibre cables.

7.90 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.[439] 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.[440]

7.91 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[441]. 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.

7.92 Since 2016, however, the following relevant developments have taken place. Eircom has gained significant experience and data from the deployment of its 300k FTTH Rural Network in the Rural Commercial Area. In addition, Eircom plans to overlay FTTH to pass another 1.6m[442] premises in the Urban Commercial Area, over the next few years, and where it has already reached over 1 million of these premises. Another key development is the fact that Eircom's PIA network will be used by NBI to serve circa 560k premises (delivery points) over the course of the next number of years in the NBP IA.

7.93 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 by and large as reusable for NGA. ComReg is of the view that the full costs of Eircom's RAB on these routes is determined by the value of these assets

[439] A similar provision is included in Paragraph 48 of the European Commission's Draft Gigabit Connectivity Recommendation.

[440] A similar provision is included in Paragraph 46 of the European Commission's Draft Gigabit Connectivity Recommendation.

[441] 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.

[442] 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/

as derived by a full (100%) TD valuation of these assets as recorded in Eircom HCAs for year ended 30 June 2019.[443] It should be noted, as discussed in the cost modelling section below, that the PAM has allowed for future pole replacement in the Rural Commercial Area. 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, pole replacement driven by NBI and pole replacement as a result of storm damage or other incidents.

7.94 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 NBP IA so as to facilitate the deployment of NBI's FTTH network over the next number of years.

7.95 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 is 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 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[444] 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.

7.96 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

[443] 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".

[444] A network is 100% NGA Ready when all of the duct and poles in the network can be used to deploy new cables.

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. NBI stated in its Submission that it has concerns about an overestimation of Eircom's starting RAB in the current review and in particular that Eircom has been capitalising costs incurred by NBI in its regulatory HCAs and so artificially inflating its RAB based on investments made by NBI. NBI requested confirmation from ComReg that these capital costs have not been included in Eircom's RAB i.e., not capitalised on the FAR.[445]

7.97 Eircom, in its response to the data requested under Section 13D of the Communications Regulation Act at paragraph 7.162, confirmed that it has not capitalised the costs of remediation work that was paid upfront by NBI. In addition, based on ComReg's review of Eircom's 2022 HCAs and in particular the Income Statement for Wholesale Access[446], the cost of sales of c.€30m for the 30 months to December 2022 includes all the costs associated with NBI's upfront payments. As a result, ComReg is assured that the cost of duct remediation for NBI's duct access service is not being capitalised on Eircom's FAR, and so will not form part of the starting RAB that would determine the duct access rental price when Access Seekers opt to pay for duct remediation upfront.

7.4.5 Depreciation methodology for PIA assets

7.98 The telecommunications industry is a capital-intensive industry which requires significant up-front investments. An operator investing in a given network asset bears an up-front cost and expects that the asset should generate revenues over its useful life. Therefore, throughout its useful life, the value of the 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 WACC to set regulated prices.

7.99 Firstly, in terms of the WACC, ComReg has applied Eircom's fixed line WACC rate (currently set at 4.93%), based on the WACC methodology set in

[445] NBI Submission, p. 28.

[446] See page 11 of https://www.eir.ie/opencms/export/sites/default/.content/pdf/regulatoryinformation/HCA.pdf.

ComReg Decision D10/20[447] ('**2020 WACC Decision**')[448] in deriving the cost-oriented prices for PIA. Under the 2020 WACC Decision, the fixed line telecoms WACC is subject to an annual update. ComReg has used the latest available WACC fixed line rate (of 4.93%), as set out in Information Notice 23/56[449] on 23 June 2023, in order to set the PIA prices.

7.100 In the previous 2022 WACC annual update, ComReg decided that no changes were necessary to the WACC methodology and the underlying comparators used to set Eircom's fixed line WACC as a result of NBI's access to Eircom's PIA, based on the advice from Europe Economics in ComReg Document 22/47a[450]. Europe Economics 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.*

[447] 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.

[448] 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.

[449] https://www.comreg.ie/media/2023/06/ComReg-2356.pdf.

[450] 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*."

7.101 For these reasons, ComReg concluded that the Fixed Line WACC comparators and the WACC methodology remained valid and do not need to be amended as a result of NBI's access to Eircom's PIA.

7.102 In Eircom's Pricing Submission Eircom contended that in order that the price control for access to Eircom's PI in the Intervention Area (NBP IA) adequately reward the investment made in these new PI assets, ComReg should consider "…*a premium to the WACC*." This would be justified given that building significant new PI for NBI's roll-out means, both in terms of costs and expected revenues, a higher risk profile than that associated with legacy PI.[451]

7.103 However, ComReg notes that in the NBP IA, Eircom has a guaranteed revenue stream for the provision of PIA for the purposes of the NBP over a 25 year period. In addition, given that NBI pays for duct remediation costs upfront[452], the WACC rate only applies to the residual value of Eircom's legacy duct, not new investment. Furthermore, a condition of the NBP contract is the fact that the State can "step-in" in the event that NBI fails to comply with the agreed terms and conditions of the contract[453] thereby reducing the risks involved for Eircom as provider of PIA in the NBP IA. Previously in ComReg's 2021 CEI Pricing Draft Decision, ComReg's Consultants, Europe Economics, considered that there are "…*lower risks associated with selling CEI access to NBI for Eircom…*" given "…*the guaranteed revenue streams and the step-in rights*." Hence, ComReg considers that a premium to the WACC would not be appropriate or justified.

Depreciation approach:

7.104 When making an investment, an operator will bear costs to cover the returns required by its investors namely dividends paid and interest payable to lenders. These financial costs must be considered to make sure that the

[451] Eircom's Pricing Submission, paragraph 28, pp. 9-10.

[452] Eircom's Pricing Submission, paragraph 172, p 54.

[453] As set out in Clause 73 'Step In Rights' of the NBP contract.

operator is fully recovering its costs. The sum of the two items (depreciation charge and cost of capital) is called the annuity.

7.105 Given the scale of investment in the required fixed assets, the depreciation methodology used to amortise these upfront costs is material. Possible depreciation methodologies include:

(a) Straight-line (or HCA) approach;

(b) Standard annuity;[454]

(c) Tilted annuity;

(d) Economic depreciation;

(e) CCA - Operating Capital Maintenance ('**OCM**') or CCA-OCM;

(f) CCA - Financial Capital Maintenance ('**FCM**') or CCA-FCM.

7.106 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.

7.107 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 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.

7.108 ComReg considers that the straight-line approach is 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.

7.109 PI (which includes 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.

[454] The standard annuity is a flat annuity based on the depreciation charge and the cost of capital i.e., annuity = depreciation + 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.

7.110 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. 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.

7.111 NBI claimed in its Submission that by opting to reverse the position taken in the 2016 Pricing Decision in favour of straight-line depreciation now, ComReg is no longer aligning the cost structure of inputs (i.e., Eircom's PIA) to the cost structure of downstream services. In NBI's view this means prospective infrastructure investors will face higher input prices than Eircom did when it rolled out its FTTx networks. NBI referred to the 2021 CEI Pricing Draft Decision where ComReg took the view that the underlying cost structure of inputs to FTTC (i.e., PIA) should follow a tilted annuity approach in order to promote investment in Commercial Areas where rival operators could extend their networks to compete directly with Eircom in downstream wholesale markets.[455]

7.112 In addition, NBI argued that there is a better case for maintaining a tilted annuity approach for PIA. According to NBI, by using the straight-line approach, ComReg is placing a greater emphasis on the 'buy' signal for Eircom's PIA which NBI says is not required as NBI has no option but to purchase PIA from Eircom and so straight-line depreciation is undermined in the NBP IA. In addition, NBI submits that choosing straight-line depreciation nationally risks placing undue emphasis on ensuring cost recovery for Eircom even though it is unclear why a tilted annuity would present a higher risk.[456]

7.113 SFG stated in its Submission that ComReg's preference for defining a national PIA market is driving the preference for straight line depreciation, but there is nothing preventing ComReg from applying different depreciation

[455] NBI Submission, p.31.

[456] NBI Submission, p. 32.

methodologies to reflect different underlying competitive conditions in the Commercial Areas and in the NBP IA.[457]

7.114 ComReg acknowledges that a different depreciation approach is now being used for PIA i.e., straight-line, compared to other downstream services like FTTC in the ANM Decision, to which a tilted annuity approach is applied. ComReg agrees with NBI that in theory this change in depreciation approach for PIA may give rise to higher input prices for prospective infrastructure investors in the short term, however, ComReg considers that its objectives are more appropriately met by applying a straight-line approach, as further discussed below.

7.115 The duct and pole network is unlikely to be replicated by other Access Seekers, and so ComReg's main objective is to encourage reuse of existing PIA on a national basis. In using a straight-line depreciation method, ComReg notes in particular that where reuse is prioritised, and the "build" option for ducts and poles is not considered to be economically feasible by Access Seekers nationally, 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 a 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.

7.116 Furthermore, a straight-line depreciation approach is more appropriate than a **tilted annuity** approach for PIA. In particular, 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. 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. This recalibration is avoided with the straight-line approach.

7.117 Furthermore, a tilted annuity would not necessarily provide a better alignment between the cost structure of inputs to the cost structure of downstream

[457] SFG Submission, p. 17.

services when compared with straight line depreciation. Access Seekers availing of PIA services are usually making long term commitments and will start paying rental charges for PIA in advance of initial cable deployment while the revenues necessary to fund PIA rental charges will depend on the eventual uptake of downstream services, which may not mature until many years after the network is built. As a result, a misalignment between the timing of PIA rental payments and the ability to fund those rental payments from downstream service revenues can arise, regardless of whether the rental price is informed by the use of straight-line depreciation or a tilted annuity.

7.118 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 decision to use Eircom's HCAs to monitor 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 going forward over the price control period.

7.119 In Eircom's Pricing Submission Eircom stated that ComReg should commit to refraining from revising the depreciation methodology between pricing reviews unless there are very compelling and good reasons to do so. In Eircom's view, changes to the depreciation methodology are complex and can create uncertainty for stakeholders.[458] ComReg considers that a consistent depreciation approach prospectively between price control periods is easier to adhere to when a straight-line depreciation method is in place, given that the depreciation costs going forward should be based on Eircom's HCAs.

7.120 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 relatively weighted to earlier periods after the asset is first deployed compared to methods which use tilts. 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.

7.121 At the time of the Consultation ComReg estimated that the price for Pole Access was 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

[458] Eircom's Pricing Submission, paragraph 54, p. 18.

equal. However, there were other changes to the underlying costs and the model assumptions in the PAM which reduced this impact.[459]

7.122 NBI stated in its Submission that using a straight-line depreciation methodology where a much lower WACC is (belatedly) being applied (NBI referenced the previous rate of 5.56% versus historic WACC of 8.18%) and using unreasonably short asset life durations will result in a greater over-estimation of costs than under a high WACC scenario.[460] However, determining the appropriate asset life and the relevant depreciation approach are independent decisions. In addition, according to Recital (35) of the 2013 Non-discrimination and Costing Methodologies Recommendation, the costing approach should take into account the extent to which costs have already been recovered by the SMP operator to avoid the risk of over recovery for reusable legacy civil infrastructure. Hence, fully depreciated PIA assets that are still in use after the regulatory asset life has elapsed will have zero value in the RAB regardless of which depreciation approach is used and ComReg will monitor the RAB as part of the annual review (discussed later in Section 7.7.2) for any possible over or under recovery of costs.

7.123 In contrast to straight line depreciation and tilted annuity, 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. Therefore, an Economic Depreciation approach would not 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 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.

7.124 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

[459] 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 Pole Access rental prices in this Decision do not include these (as Eircom should recover those costs upfront).

[460] NBI Submission, p. 31.

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. This is because any changes in depreciation would be mitigated by holding gains/losses in the Income Statement. 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, 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 solely to monitor PIA prices would be a significant additional burden on Eircom. Hence, ComReg is of the view that the CCA FCM is not appropriate for setting Eircom's PIA prices.

7.125 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 build their own or to rent it from Eircom. Accordingly, 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 "build or buy" signal. For Sub-Duct Access, the tilted annuity approach is consistent 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.

7.4.6 Asset lives for ducts and poles

7.126 In this section ComReg considers whether any changes should be made to the length of the regulatory asset lives for ducts (including sub-ducts) and poles.

7.127 In ComReg Decision D03/09[461] (the '**2009 Asset Lives Decision**') ComReg revised the regulatory asset life for poles from 15 years to 30 years to more

[461] 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**').

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 2013 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."*

7.128 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)*

7.129 ComReg considers that the existing **asset lives for poles** of 30 years reflect their average economic useful lives, as determined in the 2009 Asset Lives Decision.

7.130 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 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 are also 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.

7.131 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.[462]

7.132 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

[462] For example, with a 15 year life, an asset would incur an annual depreciation charge equivalent to 6.67% (100% ÷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% ÷ 20 years).

reduce the load that the pole is expected to carry and could justify a longer asset life.

7.133 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."*

7.134 In 2019 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 was 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.

7.135 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 tolerating sub-standard poles in the network longer than would be deemed appropriate from an efficiency perspective.

7.136 In its Submission, NBI suggested that the pole asset life of 30 years should be changed to 40 years on the basis that:

(a) Fibre cables are lighter and so the future asset life of poles should be higher;

(b) The majority of poles have in fact continued to be in use beyond 40 to 50 years;

(c) Reflecting the actual pole lifetime would disincentivise Eircom from sweating the assets;

(d) The difference of 15 years between the regulated asset life of poles in the Irish electricity market set at 45 years and telecoms pole at 30 years cannot be justified by the possibility of technology changes in telecoms i.e., future mobile/FWA services shortening the economic life of telecoms poles; and

(e) Ofcom has recently changed its asset life for poles to 40 years.[463]

[463] NBI Submission, p. 33-35.

7.137 NBI also stated that maintaining the pole asset life at 30 years is inconsistent with the implied lifetime in ComReg's modelled BU calculations of future pole replacement in the PAM, which NBI understands is 75 years (i.e., based on a 1.3% annual replacement rate).[464]

7.138 ComReg does recognise, based on data provided by Eircom on its pole replacement programme,[465] that, based on a 10 year pole testing programme, Eircom's poles can have a lifespan in excess of 30 years with some lasting up to 40 or 50 years. ComReg also recognises that an asset life of 30 years is not entirely consistent with the pole replacement rate that has been observed in recent years (and which ComReg has carried over into future years). However, ComReg considers that 30 years continues to be a reasonable basis to set the average useful economic life of the pole for regulatory purposes.

7.139 ComReg notes in this regard that increasing the asset life from 30 to 40 years will not change the level of costs that Eircom will be able to recover. This is because pole access prices are set at a level that will allow Eircom to recover its efficiently incurred investments, which, according to the Non-discrimination and Costing Methodologies Recommendation, requires the NRA to take account "*of the costs already recovered by the regulated SMP operator*"[466] by "*setting the RAB for this type of assets at the regulatory accounting value net of the accumulated depreciation at the time of calculation*[467]" As a result, poles that are still in use after the regulated 30 year asset life will have a regulatory accounting value of zero when future pole access prices are assessed as they will have been fully depreciated.

7.140 Therefore, while maintaining the 30 year asset life for poles does mean that the annualised pole costs in the early years after the initial investment has taken place will be higher, it also means that the rate of decline in annualised pole costs each year will be greater than if the asset life is 40 years. Indeed, pole Access Seekers are benefitting in this price control period from the fact that the asset life of poles was 15 years up to 2009 and has been 30 years since 2009, as the residual regulatory accounting value of Eircom's reusable pole base, and hence the derived pole access prices over this price control period, are lower than they would have been if the asset life had always been set to 40 years.

[464] NBI Submission, p. 34.

[465] Information request sent by ComReg to Eircom on 16 March 2023.

[466] 2013 Non-discrimination and Costing Methodologies Recommendation, paragraph 35.

[467] 2013 Non-discrimination and Costing Methodologies Recommendation, recital 34.

7.141 NBI is also expected to emerge as the only user of poles in the NBP IA when Eircom removes its redundant copper cables after copper switch-off at which time the pole access prices that NBI will be charged will have to recover the full cost of the pole as Eircom will no longer share the pole. Accordingly, while a 30 year asset life will mean the annualised costs that inform the pole access price in this price control period are higher than they would be with a 40 year asset life, both NBI and Eircom will contribute to the recovery of those costs, as both operators continue to share the pole base. However, the higher rate of pole depreciation will also mean that future users of the pole base will face lower charges, which would benefit NBI if, as expected, it emerges as the sole user of the majority of Eircom's pole base after copper switch-off.

7.142 Therefore, by maintaining the 30 year useful economic asset life ComReg takes account of the risk that Eircom will not be able to recover its investments in pole assets in the future, but the write down of the regulatory accounting value relating to that investment in Eircom's RAB also ensures that future users of those poles will not be charged for using poles that have been fully depreciated but remain in use.

7.143 In addition, ComReg surveyed eight NRAs to obtain information on the asset life of a telecoms pole imposed on incumbent operators in their respective EU jurisdictions. In summary, based on the responses received, two NRAs applied a pole asset life of 15 years, three NRAs applied 20 years and one NRA applied 25 years. For the two remaining NRAs, one confirmed that there was no pole deployment in their country and the other did not impose price regulation for poles. Hence, Ofcom seems to be the exception as the majority of those NRAs surveyed have a regulatory asset life for poles below the 30 year regulatory asset life applied to telecoms poles in Ireland.

7.144 ComReg also 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.

7.145 ComReg considers that an asset life of 40 years for Duct is reasonable. In Eircom's Pricing Submission, Eircom agreed that 40 years is an appropriate **asset life for duct** (and manhole assets). Eircom submitted that a high

proportion of reusable underground assets found during its NGA fibre cable deployment for FTTC and the rural FTTH deployment between 2012 and 2019 suggest that prior investments in trench, duct and manholes have an economic life exceeding 20 years, provided that any annual charge on these assets implemented in a price control is not subject to any back-loading as was implemented by the tilted annuity from the Revised CAM.[468] ComReg considers that given there was no material demand for PIA during this period, almost all of Eircom's duct and pole costs would have been recovered through the prices for WLR and FTTC VUA. As a result, it is unlikely that the use of tilted annuities when previously setting PIA prices would have materially affected cost recovery.

7.146 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.

7.147 As an Access Seeker has the choice to install (or build) its own sub-duct by availing of Duct Access or rent Eircom's sub-duct, ComReg considers that the investment incentives might be more appropriately based on a shorter asset life than 40 years.

7.148 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.

7.149 In Eircom's Pricing Submission, Eircom disagreed with the assertion that the sub-duct asset life can be associated with the duct asset life. According to Eircom, sub-ducts are solely used to introduce fibre cables into a duct route and sub-ducts and fibre cables have essentially become a single element in the access network, stating that it is not possible to remove one without

[468] Eircom's Pricing Submission, paragraphs 56, p. 19.

removing the other from the duct.[469] Eircom suggested that the asset life for sub-duct should be 20 years, consistent with the asset life of underground fibre cable which is 20 years.[470]

7.150 ComReg does not accept Eircom's argument that "*sub-ducts and fibre cables have essentially become a single element in the access network*". Sub-duct Access means allowing access to a sub-duct for the purpose of an Access Seeker installing a cable or cables into a sub-duct. Hence, the sub-duct has to be accessible by the Access Seeker so that the cable can be installed and withdrawn from the sub-duct, otherwise it is not considered to be Sub-duct Access. In the case of Sub-duct Access, ComReg continues to consider that an asset life of 30 years is justified and appropriate as it gives Access Seekers the appropriate investment incentives described at paragraphs 7.146 to 7.148.

7.5 PIA Cost Modelling Approach

7.5.1 Overview

7.151 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 7.106-7.125) and the approach to the recovery of common corporate costs has been revised (discussed at paragraphs 7.65-7.75).

7.152 Cartesian consultants have supported ComReg in developing the PAM and DAM. During the Consultation period, access to the draft non-confidential versions of the PAM and the DAM, as well as the related documentation, was made available to interested parties likely to be affected by this Decision. For access to the final non-confidential versions of the PAM and DAM and the related documentation, please contact ComReg's regulatory pricing team by email.[471]

[469] Eircom's Pricing Submission, paragraphs 57-59, pp. 19-20.

[470] Eircom's Pricing Submission, paragraph 61, p. 20.

[471] Email Pedro.fontes@comreg.ie and caroline.jordan@comreg.ie with the subject matter of the email stating "*Access to PAM and DAM*".

7.153 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).

7.154 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'.[472] 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.

7.155 The PAM and DAM models used in the Consultation were largely based on Eircom's financial data as at 30 June 2019. Following the Consultation, ComReg obtained updated information from Eircom and NBI through its Section 13D information gathering powers. ComReg has obtained updated financial/costing information from Eircom, including updated FTTH rollout information. ComReg obtained from NBI financial and volume data in relation to its use of Eircom's PI as well as information on its FTTH rollout. The PAM and DAM now reflect the most recently available information, including Eircom's Fixed Asset Register and volume data as at 31 December 2022. In addition, the PAM and DAM models have been re-aligned with Eircom's new financial reporting period i.e., January-December.

7.5.2 Cost model structure

7.156 The PAM and DAM 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 Decision as the 'Urban Commercial Area'.

(b) The Rural Commercial Area: corresponding to the footprint comprised of the premises 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 –

[472] In 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. More recently in 2023, ComReg collected additional and updated duct and pole data.

commercial deployment commitment.[473] This footprint is referred to throughout this Decision 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. This area, which is defined by reference to the areas depicted in white in the Map at Schedule 11 of the contract entered between the State and NBI in November 2019,[474] includes circa 537,000[475] premises (delivery points) and Eircom's physical infrastructure which Eircom has not transferred to FNI. It is referred to throughout this Decision as the NBP IA.

7.157 Together the Urban Commercial Area and the Rural Commercial Area form the '**Commercial Areas**'.

7.158 In the Consultation when deriving the PIA (ducts and pole) costs in the PAM and DAM ComReg 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.[476] 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.

7.159 Figure 15 below illustrates the structure of the various modules in the ANM.

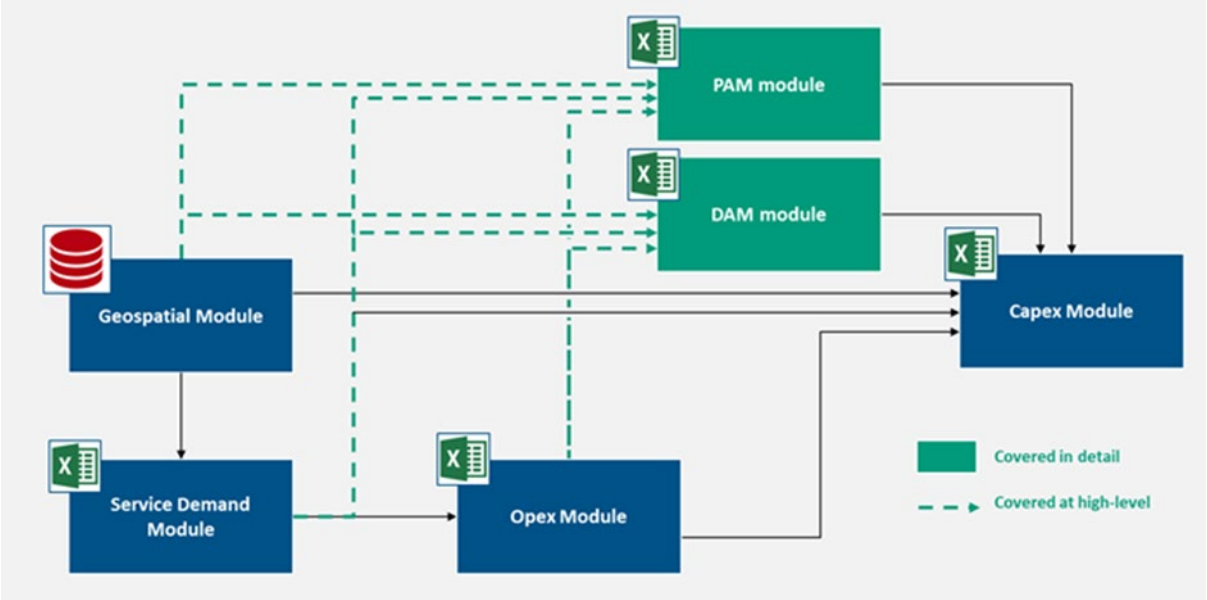
[473] The PAM/DAM models reflect that Eircom rolled out high speed broadband to 340,000 premises rather than the 300,000 agreed to with the DECC.

[474] In the EC State Aid Decision, the area requiring intervention is called the "white" NGA areas.

[475] At the time of this Decision 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.

[476] The total number of poles per footprint was provided by Eircom.

Figure 15: Overview of structure of various modules in the ANM



Source: Cartesian Consultants

7.160 In Eircom's Pricing Submission Eircom complained that ComReg had only made available for the Consultation the PAM and DAM even though these modules are a subset of the ANM, with the other modules in the ANM being "locked", seemingly assuming a linearity in the ANM model, i.e., that changes in the PAM and the DAM have no influence on the rest of the ANM but with no explanation as to how this is so. For Eircom, ComReg's approach had made it impossible to assess potential implications of changes to the PAM and DAM as they provide input to the Capex module in the ANM.[477] In addition, ComReg had not adequately documented the several changes and updates to the geospatial and operating cost inputs made to the PAM and DAM as compared with those used in the ANM leading up to ComReg Decision D11/21 so they were impossible for Eircom to assess.[478] Eircom also claimed that the ANM's Geospatial module was not appropriate for dimensioning the access network of a hypothetical efficient operator with Eircom's network presence in Ireland. In this regard, ComReg would have failed to recognise the complexity of multiple demands for individual premise; modelled unachievable efficiencies in rural areas; and failed to provide evidence of meaningful calibration with Eircom's actual network.[479]

[477] Eircom's Pricing Submission, paragraph 65, pp. 21-22.

[478] Eircom's Pricing Submission, paragraph 68, pp. 22-23.

[479] Eircom's Pricing Submission, paragraph 67, p. 22.

7.161 However, the PAM and DAM models used in this Decision are not a "subset of the ANM". Rather, the PAM and DAM models are standalone models, used for the purposes of setting the pole and duct access prices. Furthermore, the PAM and DAM used in this Decision make use of the information updates and further analysis performed by ComReg (and Cartesian) and incorporate an update of Eircom's network inventory data, its fibre rollout data as well as operating cost information rather than rely on these inputs from the ANM model. Based on this, the use of the ANM, is significantly reduced and limited to the assumptions made on the changes in the fixed active line base, which are used to scale certain categories of operating costs that are indirectly associated with the pole and duct networks, the split of network volume data for the non-NBP IA footprints and the mark-up to allow a recovery of Eircom's common costs. These are discussed further later in this section.

7.162 The updated data used by ComReg includes Eircom's own network volume data instead of data from the ANM Geospatial module including detailed information in relation to Eircom's pole and duct network volumes. For ducts this included: (i) a disaggregation of underground duct track (trench) lengths by footprint and by Eircom exchange; (ii) information on duct capacity and the surfaces where it is deployed; (iii) information on use of duct by number and type of cables (e.g., access and core cables[480]); and (iv) information on the number and size of chambers. As noted above, the use of the Geospatial module from the ANM has been limited to those instances where Eircom could not provide specific network data. These mainly relate to the disaggregation of the non-NBP IA network volumes between the Urban Commercial Area and the Rural Commercial Area footprints.

7.163 As regards the ANM OPEX module, not only are Eircom's concerns as regards calculating operating costs in the context of a BU model addressed in the ANM Decision (Decision D11/21) but in any event, the approach used for setting prices for ducts and poles is a TD approach, where the operating costs reflect Eircom's actual costs (without efficiency adjustments) and issues as regards cost calculation in a BU model are not relevant.

7.5.3 Cost modelling approach

Determining the RAB

7.164 As set out in section 7.4.4, the RAB value of Reusable Assets is set by reference to Eircom's HCAs and the RAB value of Non-reusable Assets is

[480] To clarify, in the DAM ComReg uses Eircom's data (provided by way of the Section 13D statutory information request) to estimate the relevant share of duct capital costs relevant to the access network. (Eircom's Pricing Submission, Paragraph 70 (c), p. 23).

based on current replacement costs. To allow for widespread use of Eircom's PI network for NGA purposes, in addition to 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 each of the three geographic footprints.

7.165 As a first step, the current value for Reusable Assets is calculated with reference to Eircom's HCAs (for the financial year ending 31 December 2022). 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.

Reusable Assets

7.166 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.

7.167 Eircom's capital expenditure in poles and ducts is recorded in specific asset classes in its FAR, as part of its HCAs. Up until 2014, 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). However, in the period from 2014 to 2019 the cost recovery of PIA services was largely based on a tilted annuity method.

7.168 In Eircom's Pricing Submission Eircom stated that ComReg is required to update the price path to take account of the under recovery it faces with the move from the historic use of tilted annuities to the straight-line depreciation approach.[481]

7.169 To clarify, ComReg has, in order to ensure a degree of consistency in the path of cost recovery and in line with its objectives, calculated the NBVs based on the previous tilted annuity depreciation method using the WACC of 8.18%, in place during that period. As a result, the RAB has been reset for the next price control period.

7.170 The PAM and DAM use Eircom's FAR (currently based on the financial year ending 31 December 2022) 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

[481] Eircom's Pricing Submission, paragraph 51, p. 17.

excluded on the basis that they are incremental to the copper network and hence provide no benefit to an Access Seeker.[482] The external labour costs of pole replacement excludes the incremental labour associated with replacing poles with furniture, which are considered 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, supplemented by a similar analysis of its capital costs from 2019 to 2022.

(b) For ducts, in the Consultation the DAM excluded the costs of street cabinet assets on the basis that they were not relevant to a wholesale duct related service.[483] This calculation was based on a bottom-up cost valuation of the inventory[484] (derived from the geospatial module in the ANM) mapped to the duct asset class and the relative share of street cabinet assets calculated and applied to the historic NBVs.[485] In its response to the Section 13(d) data request at paragraph 7.155, Eircom confirmed that it could not identify the capital cost historically incurred in relation to copper street cabinets. Furthermore, a review of data provided by Eircom indicated that spending on copper street cabinets since 2013 has been negligible. As a result, ComReg considers that continuing to apply a bottom-up approach to exclude elements of duct capital costs is no longer warranted and could undermine Eircom's cost recovery. For this reason, ComReg has removed this adjustment from the DAM.

(c) In the Consultation, ComReg had also proposed to exclude the costs incurred by Eircom in self-providing unstructured duct[486] to resolve conflicts on its aerial cable network.[487] However, this approach is no longer justified given that the DAM now reflects Eircom's actual duct track length in kilometres (rather than an estimated duct track length

[482] 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.

[483] 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.

[484] Trenches, ducts, chambers, street cabinets, line terminations, etc.

[485] ComReg used a similar approach in the Revised CAM.

[486] 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.

[487] 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.

calculated in the Geospatial module) including unstructured ducts; no exclusion is made accordingly in the DAM in respect of unstructured/transition duct costs in order to ensure consistency between duct costs and duct volume/length in Eircom's network

(d) 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, in the Consultation the capital costs were 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 were then weighted by the average trench capital cost per meter in each of these footprints reflecting relative differences in trench size and surface types[488]. This approach reflected 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 was 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 was assumed to be related to duct build or renewal in Commercial Areas (and not in the NBP IA).

[488] By surface type we mean carriageway, footway and verge.

7.171 In Eircom's Pricing Submission, Eircom disagreed with ComReg's proposal that no allowance should be made for the recovery of historic NBVs for duct in the NBP IA. Eircom stated that this was "highly problematic" as it disregards changes made to the duct asset life in 2009. ComReg notes that Eircom's views on this point are at odds with Eircom's response to the Consultation 20/101[489] on the Access Network Model (ANM), where it stated that, "*The preliminary assumption made by ComReg, …, that the residual duct NBV relates to the Commercial Areas (and not to the NBP IA), is a reasonable one*".[490]

7.172 Furthermore, Eircom stated that of almost €400M that was invested in its duct infrastructure between 1989 and 2008, almost €250M was for duct that was deployed between 1998 and 2008. According to Eircom, these investments had been depreciated by 50% or less at 2009 when the extended asset life was implemented and are all still being depreciated at 2023. Eircom considered that there is no way of knowing at this point which investments took place in the NBP IA but given the amount involved, Eircom submitted that setting this charge to zero has serious risks of distortion and fails to meet ComReg's requirement to ensure regulated prices allow for cost recovery including an allowable rate of return. Eircom referred to its duct additions between 2008 and the beginning of its FTTC programme (2012) that were close to €8M per annum, suggesting that this underlying investment which has been made in duct across all geographies should be added (pro-rata with duct length by geography) in the DAM every year.[491]

7.173 While ComReg accepts Eircom's argument that some duct deployment would have been undertaken in the NBP IA footprint up to 2012 and that would not have been fully depreciated given the fact that the asset life of duct is 40 years, data on the actual NBP IA and Commercial Area split of duct assets was very limited when ComReg modelled duct costs in 2020. However, more data on the distribution of duct track lengths between the NBP IA and outside the NBP IA (i.e., Commercial Areas) for each local exchange area is now available. This indicates that circa [✂ [redacted] ✂] of national duct track length is in the NBP IA footprint.

7.174 ComReg has also been able to analyse the duct related data on Eircom's FAR to determine what investments were recorded against each local exchange area in each calendar year. This has allowed ComReg to isolate

[489] ComReg20101.pdf

[490] Eircom Submission to Consultation 20/101, paragraph 171.

[491] Eircom's Pricing Submission, paragraphs 135-138, pp 44-45.

the investment that was capitalised prior to the start of Eircom's NGA programmes in 2012 from the investments that were capitalised in later years.

7.175 Therefore, in order to address Eircom's concerns, ComReg has assumed that all the residual duct asset NBVs prior to 2013 are attributed between the NBP IA and Commercial Areas in each exchange area based on the relative duct track lengths, while all investments from 2013 are assumed to be in the Commercial Areas to support Eircom's deployment of its FTTC and FTTH networks. This results in circa 5% of the duct related NBV of Eircom's network being attributable to the NBP IA footprint on the basis of the relative duct track lengths in each footprint.

Non-Reusable Assets

7.176 The RAB for Non-reusable Assets is based on valuing replacement costs for NGA purposes at current replacement costs and so that is the approach used to calculate pole replacement costs and duct remediation costs.

7.177 ComReg has maintained the approach used in the ANM, whereby we uplift the RAB capex annuities to allow for the fact that a full 'NGA-ready' PIA network is only available for access upon completion of the FTTH rollout. In each year of the FTTH rollout, an uplift is calculated based on the annualised capex associated with the volume of PIA yet to be made 'NGA-ready' (i.e., number of poles to be replaced and kilometres of ducts to be remediated). Hence, the outstanding balance of PIA to be made 'NGA-ready' — and therefore the uplift — will be at its highest at the start of the rollout and will reduce to zero in the last year of the rollout.[492][493]

Pole replacement costs

7.178 Pole replacement capital costs are calculated by footprint 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 in each of the three geographic footprints, across

[492] As the uplift is a capex allowance that is not actually incurred by Eircom and included in its RAB in any given year, ComReg uses a standard annuity methodology to annualise this expenditure (see point raised by Eircom in its Pricing Submission at Paragraph 52, p. 17).

[493] This is consistent with the point raised by Eircom in its Pricing Submission at Paragraph 70 (g) p.24 that "…the annualised values are based on the cumulative (remaining) costs not the actual capital expenditure of the year and these costs are annualised in the year in question but are then zero in all future years."

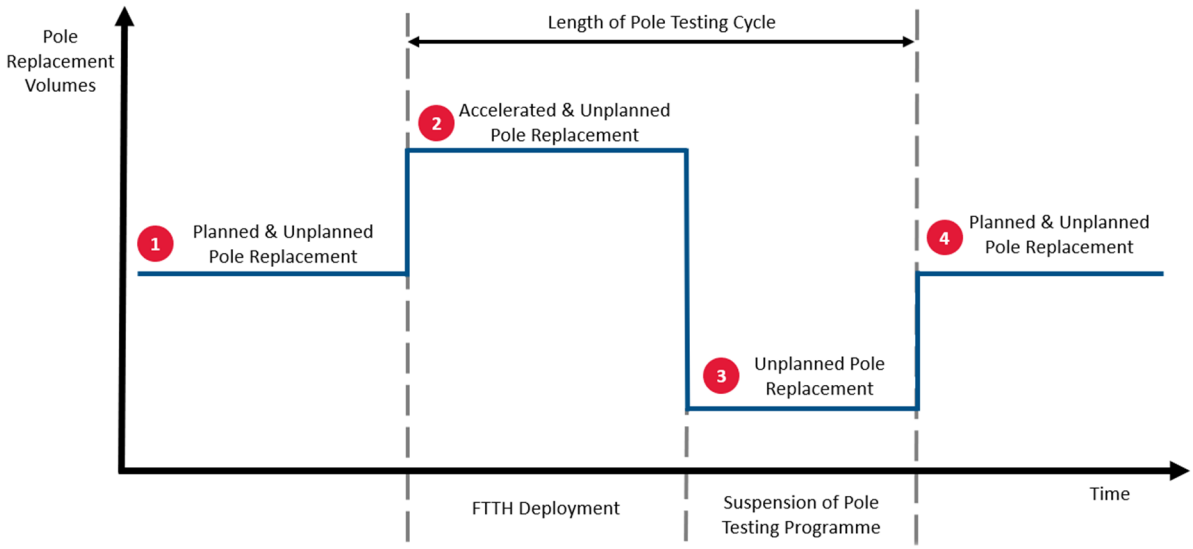
all pole sizes. This is consistent with the approach taken in the PAM in the ANM Decision.

7.179 ComReg notes that the replacement of Eircom's poles generally happens because poles have come to the end of their useful lives and 'business as usual' ('**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 any performance targets imposed on Eircom under the USO. In addition to this planned replacement, unplanned replacement may also occur where require immediate replacement of a pole is required as a result of unforeseen events such as severe storms or accidents.

7.180 The BAU level of replacement may be accelerated during an FTTH rollout programme as in advance of rollout, all poles are tested and replaced where needed. 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.

7.181 In addition, in normal operations when testing has identified some poles as needing replacement in the near future, Eircom could schedule that replacement to take place 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. This means also that on completion of a FTTH rollout and for the remaining duration of a pole testing cycle, no further planned testing activity takes place. This approach is illustrated in Figure 16 below.

Figure 16: Forecast pole replacement volumes



Source: Cartesian *Consultants*

7.182 In light of this, 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.

7.183 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 NBP IA (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 as provided by Eircom. As the level of pole replacement observed in these footprints is below the average BAU replacement set in the Revised CAM[494], 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

[494] This may have been caused by Eircom's operational focus being diverted to its 300k FTTH Rural Network.

over the FTTH rollout period,[495] now set to complete in calendar year 2026 based on the updated FTTH rollout plans provided to ComReg. The increased rate of pole replacement has accordingly been extended to the calendar year 2026.

(b) In all three geographic footprints, based on updated information from Eircom, the planned pole test failure rate has been calibrated to a rate of 13% over a full testing cycle, based on a 10-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 the NBP IA 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 NBP IA footprint.

(c) In the case of the Rural Commercial Area footprint, since the Consultation the unplanned pole replacement rate has been uplifted by ComReg, based on the pole remediation activity driven by NBI's rollout, as discussed below.

7.184 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.

7.185 To estimate the level of pole replacement in each year of a FTTH rollout, in the Consultation ComReg used the pole base derived from the ANM geospatial analysis, based on the exchanges which in any given year become FTTH enabled. This was carried out for each of the geographic footprints in the PAM. Since the Consultation and further to the updated information received from Eircom and NBI, ComReg has updated the FTTH rollout plans by exchange for the IFN (Urban Commercial Area) and the NBP IA, with the level of pole replacement re-set accordingly for the years 2023 to 2026. In addition, ComReg has incorporated Eircom's pole base by exchange as provided by Eircom, instead of using the ANM geospatial analysis. However, because Eircom only provided a split between the combined Commercial Areas and the NBP IA, ComReg continues to use the ANM geospatial

[495] In the Consultation this period was set at 2020-2024. However, Eircom's press release in February 2023 states that its urban deployment will be completed by end of 2026: https://www.eir.ie/pressroom/Ireland-now-one-of-best-countries-in-Europe-for-broadband-as-eir-fibre-passes-1-million-homes/

analysis to disaggregate further the pole base between the Urban Commercial Area and the Rural Commercial Area footprints.

7.186 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 NBP IA footprint, NBI's rollout of its fibre broadband is assumed to occur over a six year period starting in 2021 and ending in calendar year 2026,[496] using a very significant share of Eircom's poles in this footprint. To make way for NBI's rollout, ComReg assumed a total level of pole replacement of 20% (over the entire six year period) similar to that observed in the Rural Commercial Area over the NBI rollout period. Updated information submitted by Eircom suggests a level of pole replacement in the NBP IA footprint over the FTTH rollout lower than ComReg's assumption of 20%.[497] However, ComReg has decided to maintain the assumed 20% pole replacement rate in the NBP IA on the basis that the NBP IA (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 Rural Commercial Area, and to have a similar pole age profile resulting from pole testing being regularly performed. This is also supported by information provided by NBI.[498]

[496] NBI Submission, pp. 38-39. NBI notes that its own rollout is not likely to complete until 2026/2027; ComReg understands, however, that the later date may be driven by differences in lead times between the PIA remediation (as part of the 'Eir Make-Ready') and the FTTH network. In the absence of data to inform a potential adjustment, NBI's roll-out is assumed to complete in calendar year 2026.

[497] Eircom further confirmed, as part of the data gathering process, it had no issue with ComReg's assumptions on the level of pole replacements for the entire IFN Urban Commercial and the NBP IA FTTH deployments.

[498] NBI has provided data on pole testing failure rates in the NBP IA Intervention Area for network poles (i.e., carrier poles) and drop poles (used for connections), in the context of it accessing Eircom's pole network. ComReg assumes that for network poles the number of poles failing the test is a reasonable proxy for the numbers of poles replaced. Based on the NBI's Low Level Design data covering [✂ ✂].

(c) For the Urban Commercial Area, ComReg has assumed that the FTTH rollout would take place over the period 2020-2026 to reflect updated information provided by Eircom, and a level of pole replacement of [✂ [redacted] ✂] i.e., less than 20%. This is based on Ireland Fibre Network ('**IFN**') data provided by Eircom[499], regarding its Urban FTTH deployment (IFN)[500]. Based on this data, the number of poles that Eircom expects to replace in the Urban Commercial Area is [✂ [redacted] ✂]. In addition to this level of planned pole replacement, ComReg has also allowed for a proportion of unplanned pole replacement. The pole replacement acceleration in the PAM is now assumed to take place up until calendar year 2026.

(d) A further uplift has been applied, based on the data obtained from Eircom and NBI, to the pole replacement rates in the PAM to reflect the fact that there is a level of pole replacement outside the NBP IA that is driven by NBI's FTTH rollout. The uplift is calculated based on the difference between the pole replacement projection provided by Eircom (which includes all pole replacements) and ComReg's own current forecast for the Urban Commercial Area footprint, which excludes NBI-driven pole replacements and for the Rural Commercial Area, which to date only accounted for the Eircom-driven pole replacement (as part of its Rural FTTH programme). ComReg estimates that for the period 2020-2023 NBI will drive a total of circa 30K poles outside the NBP IA.

7.187 In summary, the updated total pole replacement, including Eircom and NBI driven replacement, for the period 2020-2026 is shown in Table 12 below.

Table 12: Total pole replacement for the period 2020-2026

	PIA Consultation		PIA Decision	
Footprint	**No. Poles**	**%**	**No. Poles**	**%**
Urban Commercial	25.7K	21.0%	45.7K	30.5%
Rural Commercial	13.5K	3.6%	52.0K	11.5%
NBP IA	192.7K	19.9%	199.8K	21.2%

[499] In the Urban Commercial Area Eircom is also upgrading its ducts and poles to facilitate its own Urban FTTH deployment or IFN.

[500] This data was provided by Eircom as part of the 2021 CEI Pricing Draft Decision.

7.188 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)[501] of the Communication Regulation Act 2002 (as amended). The capital costs include materials (of which the pole timber is the main element),[502] Eircom labour and sub-contractor labour. While material costs are generally not differentiated across footprints, Eircom's IFN data indicate that poles in the Urban Commercial Area are on average lighter compared to those in Eircom's 300k FTTH Rural Network and this has been reflected in the PAM in the material costs for poles in the Urban Commercial Area.

7.189 Sub-contractor labour is a significant cost component which ComReg has estimated using the rates agreed between Eircom and its sub-contractors. The sub-contractor rates do not differentiate between different areas but do differentiate between 'targeted' and 'non-targeted' pole replacement programmes. ComReg has 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. NBI stated in its Submission [✂ [redacted] ✂][503] The contractor rates agreed by Eircom include a differentiation so it is appropriate to continue to apply this differentiation in the PAM. As compared with the Consultation, however, rates have been updated to reflect the recent rate card agreed between Eircom and its contractor, which shows an increase in the rates for pole replacement work of circa [✂ [redacted] ✂] when compared to the 2020 rate card.

7.190 Materials and Eircom labour have been estimated using updated Eircom information reflecting recent supplier rates and the level of occurrence of material items[504] based on a sample of capital works orders associated with aerial route remediation. Eircom's labour costs have also been updated based on the data from its internal financial reporting systems for labour related to its IFN rollout and for NBI's deployment, as well as changes to reflect recent wage increases. ComReg has adjusted the internal labour in the NBP IA footprint to exclude programme management costs for NBI

[501] Based on information collected from Eircom during 2019 and updated more recently based on data from 2022.

[502] Other materials include for instance pole stays or anchors, pole steps or pole labels.

[503] NBI Submission, p. 39.

[504] As part of this analysis, and consistent with the Consultation approach, ComReg has excluded pole fittings associated with the provision of copper services (in addition to pole furniture).

following Eircom's confirmation that these activities are directly recovered from NBI.

7.191 In light of the current macroeconomic conditions, which are characterised by a high degree of price uncertainty, ComReg is of the view that a 0% price trend is no longer appropriate to ensure that Eircom recover its efficiently incurred pole replacement (and duct remediation) costs. Although as pointed out by NBI in its Submission, Eircom's quarterly financial Company Reports and Presentations for 2021 and 2022, do not explicitly mention the impact of inflationary pressures or wage growth as a key driver of its FTTH roll-out capex or other costs,[505] Eircom evidence shows that [✂ [redacted] ✂].[506] As such, long term sub-contractor rates agreed by Eircom for its FTTH roll-out in the Urban Commercial Area up to 2026, may be insufficient to protect Eircom from inflationary pressures during this period.

7.192 In light of the above an annual adjustment to costs is justified in order to ensure Eircom recovers its efficiently incurred costs and thereby maintaining its investment incentives. Accordingly, in the PAM (and in the DAM) ComReg has applied an adjustment to external labour costs and Eircom's labour costs to reflect an inflation factor based on the European Commission's forecast for inflation for 2024.[507] ComReg has maintained this inflation assumption for the entire price control period of five years. ComReg is satisfied that this adjustment will be sufficient to ensure adequate cost recovery by Eircom. The impact of the inflationary adjustment is detailed in the price variance analysis in Table 15 (PAM) and Table 18 (DAM).[508]

[505] NBI Submission, pp. 37-38.

[506] Eircom's Pricing Submission, paragraph 149, p. 48.

[507] European Commission Economic forecast for Ireland (europa.eu), update of 15 May 2023

[508] Eircom also stated in its Submission (Eircom's Pricing Submission, paragraphs 31-32, p. 11.) that it does not consider it appropriate to adjust costs in its HCAs for inefficiencies. According to Eircom, there is a real danger that ComReg's level of efficiency adjustment could lead to unrealistic and unattainable levels of efficiency, resulting in under-recovery of efficiently incurred costs. However, no adjustment for efficiencies have been made and Eircom's concern is unwarranted. Eircom also stated that when dealing with legacy copper technologies, even in terms of duct and pole engineering, ComReg should consider that the associated labour cost is likely to increase over time as knowledge and expertise in the field continues to decline. ComReg is satisfied that in the circumstances indexation on inflation is sufficient.

7.193 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.

7.194 In Eircom's Pricing Submission, Eircom referred to the future asset retirement obligation per pole installed[509] stating that this number would appear to differ significantly from the Revised CAM.[510] To clarify, ComReg has included the fair value of the future cost of the ARO and not the value at the time the obligation is generated (i.e. the cost paid to the contractor for the appropriate disposal of the failed poles at the present time).[511]

7.195 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

7.196 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 follow damages resulting from, e.g., soil subsiding, silt or water ingress, or to make ducts ready for new cables capable of supporting high-speed broadband or for leased lines.

7.197 ComReg's review of the costs incurred by Eircom in its 300k FTTH Rural Network deployment indicates 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

[509] Referring to the PAM "Input Parameters, cells F38 (I.Par.11)".

[510] Eircom's Pricing Submission, paragraph 70 (a) 'PAM module', p.25.

[511] To provide greater transparency, the PAM model includes the details of the calculation, which has been updated for the change in the WACC rate and an allowance for operating costs.

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 of a BAU level of duct replacement or renewal, only duct replacement or renewal costs during a FTTH rollout programme.

7.198 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.

7.199 A significant activity when remediating duct is the **clearing (or unblocking) of duct blockages**, to allow the installation of sub-duct in Eircom's ducts. Unblocking may be limited to de-silting work or involve 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 considers 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.[512]

7.200 In the Consultation ComReg assumed in the DAM 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. This equated to a capital cost per kilometre for duct remediation of circa €7,800 per kilometre, based on the costing information available at that time.

7.201 In its Pricing Submission Eircom stated that the average number of blockages per kilometre of three is not appropriate for more general application in modelling duct remediation costs for duct where no fibre has previously been

[512] 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.

deployed. Eircom claimed that a significant proportion of duct used for its Rural FTTH deployment (340k) has already had blockages located and cleared during the earlier FTTC programme and that an average of three blockages per kilometre substantially underestimates the actual number of blockages encountered when remediating duct in which new cable has not been deployed in the recent past. According to Eircom, more recent remediation shows that blockages in duct under grass verge occur more frequently than the average across surface types, and blockages in footway and carriageway duct, less frequently. Eircom referred to a study of costs in preparing the duct network in the Cavan OLT site for NBI to run fibre past the NBP IA premises in Cavan and nine surrounding exchanges, showing nine blockages cleared for every kilometre of duct fitted with new sub-duct. Eircom claimed that as NBI moves into more rural areas the duct will only ever have contained copper and the duct will be characterised by substantially higher number of blockages than were reported for its Rural FTTH deployment.[513] According to Eircom the blockages in the NBP IA should be significantly higher than in the Commercial Areas.[514]

7.202 Since the Consultation ComReg has refreshed the data in the DAM, including the duct remediation costs but Eircom was unable to provide detailed information on the occurrence of duct remediation activities, including the number of duct blockages cleared per kilometre for its Commercial Area footprints. As a result, in the absence of contrary evidence, ComReg has maintained the assumption of **three duct clearances** per kilometre of underground route for these footprints. This has resulted in the capital cost per kilometre for duct remediation being set at circa €7,849 per kilometre in the DAM, based on updated costing information.

7.203 For the NBP IA, Eircom provided data based on a sample of NBI's Deployment Areas completed by Eircom, which showed a total of circa [✂ [redacted] ✂] duct clearances per kilometre of duct. ComReg also obtained data from NBI on duct blockage clearances. On a larger sample of route remediated, NBI recorded a total of circa [✂ [redacted] ✂] duct clearances per kilometre of duct, with the higher incidence in verge routes and those classified by NBI as [✂ [redacted] ✂]. For

[513] Eircom's Pricing Submission, paragraphs 76-79, pp. 26-27.

[514] Eircom's Pricing Submission, paragraph 81, p. 28.

completeness, ComReg has included a figure of 13 duct clearances per kilometre of duct in the DAM.[515]

7.204 NBI stated in its Submission that the PAM and DAM should exclude all PIA-related costs that Eircom has not funded to date or will not fund in the future and referred to ComReg's exclusion of Eircom's sub-duct related capital costs in the Rural Commercial Area over the period 2015-2019 to support Eircom's own downstream FTTH services. According to NBI, the level of this capital cost in the pre-2015 period could be significant, as this period included Eircom's wide-scale deployment of FTTC, which is likely to have driven the need for the addition or renewal of sub-ducts to house the associated fibre cabling.[516]

7.205 As Eircom does not currently capitalise sub-duct specific costs to a separate asset class in its FAR, ComReg has estimated the capital costs based on the data from Eircom's AFIs, which contains a cost entity for sub-duct in its regulatory accounting model, assuming those cost have been incurred since 2012 and excluded sub-duct capital costs from the DAM based on this estimate.

7.206 SFG stated in its Submission that ComReg should create an incentive for Eircom to identify spare duct in its PAR information which it should share with Access Seekers. SFG suggested that for every km that has been correctly identified as spare, these could be deducted as contributing to overall duct cost recovery i.e., they would come out of the denominator and result in a marginal increase in duct prices, which should create an incentive for Eircom to remove redundant cables.[517]

7.207 ComReg accepts that this a valid concern. ComReg has not assessed the spare duct cables in Eircom's network. ComReg considers that when Eircom is providing duct related access to an Access Seeker and it requires the removal of redundant duct cable, the associated capital costs of undertaking this work can be recovered by Eircom. In addition, this cost should be included in the assessment of the financial threshold applied to duct remediation (similar to the release of duct capacity as a result of clearing duct blockages). ComReg is of the view that this approach provides reasonable incentives for Eircom to remove redundant cables.

[515] Given the pricing approach for setting duct prices as described later in section 7.7 the higher blockage number is not actually reflected in practice in the Duct Access prices set for the NBP IA.

[516] NBI Submission, pp 36-37.

[517] SFG Submission. pp. 19-20.

7.208 For the **remaining remediation activities**, ComReg has assumed in the DAM an average occurrence per metre 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 including update information from Eircom shows that most of the duct cost being incurred is to clear blockages 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 are assumed for the NBP IA and the Urban Commercial Area as those calculated for the Rural Commercial Area, using updated analysis of Eircom's 300k FTTH Rural Network programme and updated cost classifications based on a better understanding of Eircom's accounting information. This has resulted in small changes to ComReg's original estimates of rates of occurrence for duct remediation in the Consultation. Noting that there are limitations to the data provided by Eircom, ComReg is of the view that its estimates are a reasonable proxy to those of Eircom's. For example, ComReg's estimates for chamber remediation (of circa one remediated chamber per kilometre), which apply to all footprints, are in the same order of magnitude as the estimates that can be inferred from Eircom's data based on a sample of completed NBI Deployment Areas. For new ducted trench, Eircom proposed an annual increase in the IFN duct network, based on an estimate of new housing developments. Although in the DAM ComReg has not explicitly modelled an increase in the duct network, ComReg's estimates for new duct occurrences (of 8 metres of new duct per kilometre) provide a reasonable level of capital costs to allow for new house builds. For other remediation ComReg has updated the occurrence assumptions and costings per metre based on a better understanding of Eircom's data, which are higher than the per metre estimates provided by Eircom based on a very small sample of NBI Deployment Areas. ComReg also notes that Eircom has been unable to provide data on duct remediation activities other than records of duct blockage clearances.

(c) The level of duct replacement or renewal in each year of a FTTH rollout in each footprint has been calculated using the trench length in the exchanges which become FTTH enabled by either Eircom or NBI in any given year by reference to Eircom's and NBI's updated FTTH rollout

plan dates by exchange for the IFN and the NBP IA, with the level of duct route remediated re-set accordingly for the years 2023 to 2026 as compared with the Consultation (which relied on the ANM Geospatial module). In addition, ComReg used the kilometres of duct by exchange provided by Eircom, instead of the ANM geospatial analysis. Similar to the approach in the PAM, ComReg uses the geospatial analysis to disaggregate further the duct data between the Urban Commercial Area and Rural Commercial Area footprints.[518]

7.209 The capital costs for duct in the DAM include materials, Eircom labour and sub-contractor (external) labour. These are calculated on the basis of the updated material costs data provided by Eircom since the Consultation, including sub-contractor labour costs, which represent most of the costs incurred under each of the remaining duct remediation activities and estimates on payments to local authorities or the National Road Authority relating to the presence (or disturbance) of Eircom's network on public spaces. External labour costs for duct blockages clearances and other duct remediation activities in the DAM reflect Eircom's updated contractor rate card for 2022, involving an increase for new duct build and for associated duct remediation activities of circa [✂ [redacted] ✂] as compared to the previous 2020 contractor rate card. As for the PAM, ComReg has applied an annual adjustment to external labour costs and Eircom's own labour costs to account for wage inflation, taking the EC forecast for inflation for 2024.

7.210 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 for each of the duct remediation activities outlined above at paragraph 7.198. 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.

7.211 In its Pricing Submission Eircom stated that it is challenging to accurately estimate the amount of reusable duct on any given route, as the relevant share can vary significantly. In addition, Eircom claimed that it is also difficult to determine whether actual non-reusable duct was different than that provided for in the regulatory price path and so Eircom considers that there

[518] The service demand matrix of 0;1 in the DAM reflects NBIs updated rollout data (provided as part of the 13D information gathering process) which is randomised in the DAM (Eircom's Pricing Submission Paragraph 70 (d), page 24).

is a risk that it will under-recover its efficiently incurred costs.[519] The DAM reflects the significant investment that is required to remediate non-reusable ducts so that it can accommodate new cable deployments. These levels of duct related investment can be readily identified in the DAM and have been informed also by ComReg's significant data gathering exercise to assess the level of duct remediation and the associated capital costs in each of the three geographic footprints. Where available from Eircom, ComReg has based its analysis on large datasets to estimate the level of network remediation across all three geographic footprints. Any risk of under-recovery, including at route level (noting that remediation can vary significantly by route) is further addressed by the use of a financial threshold as discussed later in this section, and the planned annual review discussed at Section 7.7.2.

7.212 Furthermore, the results presented in Eircom's 2022 HCA Accounts for the provision of Eircom's Wholesale Physical Access services show that Eircom has been able to recover its incurred costs to date. During a period where PIA has emerged as the most significant component in Eircom's Wholesale Physical Access business, the returns for the 12 month financial year to 31 December 2022 are 25%, while the returns for the previous 18 month financial year to 31 December 2021 are reported as 124% (annualised 82%).

7.213 In Eircom's Pricing Submission Eircom also stated that current forecasts for the NBI IA programme and the Eircom IFN programme in the Urban Commercial and Rural Commercial footprints show that virtually all duct in the Eircom access network will have been subject to remediation for some form of NGA deployment by mid-2026. Eircom called on ComReg to recognise this commitment in the DAM such that the forecast RAB, which will be the basis for the rental charges, will reach a stable position during 2026.[520]

7.214 In this Decision, ComReg has set PIA prices for the next five years. ComReg's approach to setting the PIA prices during the price control period is to forecast the RAB for the five years of the control period. For assets with long lives such as duct and pole assets, and which are not easily replicated, regulatory certainty is a key element to provide investment incentives for Eircom to replenish its network and for Access Seekers to deploy competing fibre networks using Eircom's PI. ComReg plans to monitor the RAB as part of the annual review of Eircom's HCAs, as discussed in paragraphs 7.356-7.357. Hence, ComReg considers that its approach is reasonable and justified, while ensuring that it meets its regulatory objectives.

[519] Eircom's Pricing Submission, paragraph 36, p. 13.

[520] Eircom's Pricing Submission, paragraph 80, p. 28.

Sub-Duct Access specific costs

7.215 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.

7.216 Under this approach the charge faced by the Access Seeker will only depend on the length of sub-duct section it actually uses. The Access Seeker can request access to Eircom's sub-duct which can be provided by using existing spare 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.

7.217 In its Pricing Submission, Eircom contended that the price paid by an Access Seeker should cover the costs of the length of sub-duct accessed but also the costs of the length of sub-duct that Eircom says, is "sterilised", that is the length of sub-duct that the Access Seeker may not be accessing but that is rendered useless or inaccessible to others by the use of the first Access Seeker. Otherwise, Eircom contends, as failure to recover the cost of sterilised sub-duct would not allow Eircom to recover its costs, including a rate of return over the long run. Were an Access Seeker not to pay the sterilised sub-duct, the Access Seeker (and Eircom) would not be contributing to the cost of the shared network on equivalent terms nor would benefits be distributed equally or fairly. In Eircom's view, a similar analysis applies in the case of access granted to a spare bore in a subset of a full multiway sub-duct section.[521]

7.218 However, Eircom's arguments hold true only if the sub-duct price was based on the costs that Eircom had actually incurred in deploying its sub-duct network, taking account of the assets' elapsed economic life and thus of the costs already recovered by Eircom to date, as all Eircom's sub-duct is a Reusable asset. However, while ComReg is trying to encourage reuse of existing duct as duplication of the duct asset itself is not considered economically efficient, this is not the case with the sub-duct asset.

7.219 Hence, a BU approach is adopted to cost the sub-duct element of the duct access charge as it better informs the 'build or buy' decisions for both Eircom

[521] Eircom's Pricing Submission, paragraphs 82-84, pp. 28-29.

and the Access Seeker. In the case of Eircom, it can opt to 'build' a new sub-duct that is precisely tailored to meet the Access Seeker's request in the knowledge that it will be compensated for the costs that it incurs based on the length of duct that it is providing access to. Alternatively, Eircom can use spare capacity in an existing sub-duct to meet the Access Seeker's request. This means that Eircom avoids the costs of deploying a new sub-duct, but it should do so knowing that it will not be compensated for any "sterilisation" of existing sub-duct that this decision gives rise to.

7.220 Consequently, Eircom can make a commercial decision to opt to incur the cost of deploying a new sub-duct to meet the Access Seekers request or avoid making any new investments and opt to meet the Access Seeker's request from existing spare capacity. Similarly, the same costs are informing the Access Seeker's build-or-buy decision as to whether it should buy sub-duct access from Eircom or deploy its own sub-duct in the Eircom duct.

7.221 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. Since the Consultation ComReg has updated the estimates for materials and labour, based on a review of the cost data provided by Eircom at paragraph 7.155. ComReg's estimates reflect the increase of circa [✂ [redacted] ✂] in contractor rate for sub-duct installation when compared to the previous 2020 contractor rate card from Eircom.

Operating costs

7.222 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, as discussed below.

(b) **Common corporate costs:** These are costs relating to general and corporate overheads, as discussed at paragraphs 7.65 to 7.75.

(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.

7.223 At the time of the Consultation the operating cost information used to derive the draft PIA prices was taken from Eircom's HCAs based on an average of the two financial years ending 2018 and 2019 as a typical year. Since the Consultation, ComReg has updated the operating cost information to reflect the information gathered at paragraph 7.155. As a result, the operating cost information used to derive the final PIA prices set in this Decision are based on Eircom's HCAs for the financial year ending 2022. ComReg notes that there has been a steady decline in Eircom's direct repair and preventive maintenance costs over the last number of years and using the latest set of Eircom's HCAs (2022), as opposed to an average of two previous years (2018 and 2019) as at the time of the Consultation, is likely to better reflect Eircom's future operating costs.

7.224 The base year operating costs (based on Eircom's HCAs for FY2022) have been scaled in the PAM and DAM to project these costs for all of the remaining years in the price control period, based on an estimate of the split of costs that are fixed and variable and on a forecast of the Eircom's total line base (demand). While ComReg has not updated the total line base from the time of the ANM Decision or the fixed and variable split of costs, ComReg considers that these inputs remain appropriate for the PIA price control period. In this regard, ComReg has cross checked the total line base forecasts to the updated service demand data in the draft FTTH cost model which is being developed in the context of the WLA/WCA market review for reasonableness. Nevertheless, operating costs represent only a small proportion of the total costs. For future years ComReg has applied in the PAM and DAM the same yearly adjustment for wage inflation, as applied to external labour costs i.e., using the EC forecast for inflation for 2024 (discussed at paragraphs 7.191-7.192), given that these costs consist mainly of Eircom's pay costs.

7.225 To improve the transparency of the standalone PAM and DAM models, ComReg has incorporated the operating cost calculations that were previously included in the ANM Opex module, to the updated PAM and DAM workbooks.

Direct operating costs

7.226 For determining the direct operating costs of repair and preventative maintenance, ComReg has used Eircom's latest HCAs (FY 2022), and Eircom's activity-based cost model. As 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, the PAM and DAM rely on the following assumptions:

(a) For **repair costs**, a share of the total direct costs[522] derived from Eircom's latest HCAs (FY 2022) has been attributed to the physical repair of poles and ducts, based on analysis of faults provided by Eircom from its fault handling system. Where 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] of Eircom's overall tree trimming costs, on the basis that tree trimming is primarily an aerial activity.[523](The percentage estimates above have not changed between the Consultation and the Decision).

(c) For **preventive maintenance for ducts**, the DAM reflects an estimate of [✂ [redacted] ✂][524] of the total costs attributed to preventive maintenance of the underground network in Eircom's HCAs (FY 20227.223), 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). (The percentage estimate above has not changed between the Consultation and the Decision).

(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.

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[522] The direct costs are the pay and non-pay costs of Eircom's service assurance field force.

[523] The recovery of tree trimming costs associated with preparing aerial cable routes is discussed later in this section as part of one-off charges.

[524] 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.

7.227 In addition to the above, the PAM and DAM include an estimate of Eircom's wholesale costs e.g. product management, billing and account management, to reflect in the PIA prices those costs incurred over the duration of access. They are calculated by leveraging information from Eircom's 2022 HCAs and using information from Eircom's AFIs in order to provide a disaggregation of the relevant wholesaling activities. As PIA services are currently not provided at scale, Eircom's activity based model largely allocates cost centre costs to activities either directly associated with its main business segments i.e., broadband, ethernet or interconnect services, or to activities supporting a broader set of services. At the same time, there are some activities associated with IT systems which may not have supported PIA services in the past but this may change in the near future. For example, IT systems associated with Eircom's Unified Gateway wholesale ordering platform[525] may be recovered from PIA services in the future. As a result, as well as considering all activities which are specifically associated with PIA services in Eircom's activity cost model, ComReg has taken a set of current access services (excluding core network or retail related activities) as a proxy for PIA wholesaling costs, operating at a similar scale as the current services. Based on this, ComReg has calculated a mark-up of 2% on capex, which ComReg has included in the PAM and DAM cost models. A breakdown of this mark-up consists of two-thirds of the costs relating to IT systems activities and the remaining one-third of costs associated with product and account management and billing costs.

Common corporate costs

7.228 The approach for the recovery of common corporate costs has been described earlier in section 7.4.3. ComReg calculates these costs in the PAM and the DAM as a mark-up of 23% on the capital annuities. The percentage mark-up is calculated in the ANM by dividing the total common costs by total capex modelled in the ANM (excluding the specific copper cable capex in associated services in the Intervention Area).[526] The mark-up for common corporate costs (which includes network rates) is applied across all users of PI in all footprints 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 NBP IA.[527]

[525] https://www.openeir.ie/unified-gateway/

[526] This is consistent with the approach taken by ComReg in the ANM Decision D11/21, see paragraphs 5.460 to 5.479.

[527] ComReg has reviewed the latest cost data for the Wholesale Access market in Eircom's most recent set of HCA Separated Accounts and concluded that maintaining the existing value of 23% is appropriate.

7.6 Cost sharing approach / pricing methodology

7.229 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.

7.230 In the price control under the 2018 WLA Market Decision, pole costs were allocated on a 'per operator' approach whereby the total pole costs are divided by the number of operators using the pole, and duct costs were allocated on a 'per metre of cable' basis. For the reasons set out below, ComReg has maintained the cost sharing approach used in respect of poles but amended that used for ducts.

7.6.2 Cost sharing approach for Pole Access

7.231 ComReg considered two options for cost sharing for Pole Access, as follows:

(a) Per operator approach; or

(b) Per cable approach.

7.232 ComReg has decided 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 the number of cables), including Eircom itself. 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, regardless of the number of cables each has on the pole.

7.233 NBI queries in its Submission whether Eircom and FNI were to be treated as one or two separate operators under a 'per operator' cost sharing approach, in those instances when they will have fibre (FNI) and copper (Eircom) on the same poles.[528] However, as set out in paragraph 3., ComReg treats Eircom and FNI's PI as one and the same network and it follows from that that they are also treated as one operator for the purpose of pole cost sharing.

7.234 The main advantage of the 'per operator' approach is straightforward and relatively simple to implement i.e., the total Pole Access costs are spread across the number of operators sharing the pole.

[528] NBI Submission, p. 42.

7.235 It also gives appropriate migration incentives to Eircom for copper retirement and withdrawal of copper cable, particularly in the NBP IA. 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. Its 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. However, ComReg is of the view that this disadvantage is not significant having regard to Eircom's stated intention to proceed to switch-off its copper network in the future while giving appropriate migration incentives to Eircom for copper retirement and withdrawal of copper cable.

7.236 NBI raised concerns in its Submission that in many areas, in both the NBP IA and Rural Commercial Area Eircom/FNI have multiple cables (copper and fibre) connected to poles and that a "per operator" charging mechanism places a disproportionate burden on NBI. NBI stated that this will be particularly so if Eircom and/or FNI fails to remove copper cables when its copper network is decommissioned in the NBP IA and Rural Commercial Areas.[529] The 'per operator' approach means that Eircom has no incentive to remove unused cables and SFG noted in particular that there is a long-term incentive to leave them in-situ in order to reduce the asset lives to accelerate cost recovery particularly under a straight-line depreciation methodology.[530]

7.237 However, this is not correct. The 'per operator' approach means that where a pole is shared between an Access Seeker and Eircom and both have one or more cables on the pole, the Access Seeker (including NBI in the NBP IA) will pay 50% of the Pole Access costs 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 provides Eircom with reasonable incentives to migrate services from its copper network to NBI's fibre network in the NBP IA, as appropriate, and remove the copper cables which will have become redundant.

7.238 NBI in its Submission pointed out that ComReg had "not even considered a 'per customer' pole cost sharing approach" and that this was an omission that was "difficult to reconcile with the fact that ComReg [had] considered in certain instances (e.g., in relation to the IA at least) that a 'per customer' cost sharing approach was the optimal approach in its 2021 draft Decision". For NBI, the reasons why the per customer approach was not pursued in 2021

[529] NBI Submission, p. 42.

[530] SFG Submission, p. 19.

no longer apply; furthermore, if not a per customer approach, then NBI regarded a "per cable", or in default of that, "a per cable per operator" approach are better alternatives than the per operator approach. [531] Eircom submitted that a 'per operator' approach in the Commercial Areas was reasonable, but was "problematic in the IA". Eircom proposed a variant of the 'per customer' approach which Eircom called a 'per customer glidepath approach'. [532]

7.239 However, the **'per customer' approach** that was presented by ComReg as an option in Consultation 20/81 had a different purpose in the context of a different pricing regime, where a distinction would be made between PIA for the purpose of the NBP, and generic access. The per customer approach only sought to share costs between NBI and Eircom in the NBP IA and did so in proportion to the relative number of active copper and fibre customers served off the relevant pole(s), while both operators would also pay the incremental costs arising from their pole access demand requirements. In contrast, in this Decision, the same costing/pricing approaches and methodologies will apply across all Access Seekers of poles across all geographies. Its implementation requires active customer line data which is not available from Eircom. In its response to Consultation 20/81, Eircom was opposed to the 'per customer' approach stating that "…*it is generally the case that it is not possible to establish the number of customers that each operator is serving with eir's infrastructure or even the number of customers that can be served by that infrastructure*". Moreover, even if active customer line data were available, implementing a per customer approach across all Access Seekers would be very complex as it would require identifying the number of active customer lines being served by each of those operators.

7.241 The **'per customer glidepath' approach** proposed by Eircom seeks to avoid those difficulties by relying not on actual active customer lines served off the relevant pole(s), but by making assumptions as regards the percentage of customers migrating over to NBI's network between 2023 and 2028.[533] In particular, Eircom's approach proposes to assume that Eircom has 95% active lines in 2023 and the line base gradually reduces by c.19% over a five-year period until it reaches zero, at which point it is assumed that all active lines have migrated to NBI by the end of 2028.[534] Pole costs would not be shared in direct proportion to the relative number of customers actively

[531] NBI Submission, p. 42.

[532] Eircom Pricing Submission, paragraphs 105-107, p. 35.

[533] Eircom Pricing Submission, paragraphs 104-107, p. 35.

[534] Eircom's Pricing Submission, paragraph 108, p. 36, see Table 1.

connected to the poles; rather NBI would always pay at least 50% of the cost of the pole regardless of active customers being served off the relevant poles (unlike the 'per customer' approach where the costs are shared in proportion to the relative number of active customers served off the poles).[535] For example, in 2023 where NBI has 5% of customers (and Eircom 95%) NBI will pay 52.5% of the cost. Hence, Eircom's approach distorts the underlying principle of the 'per customer' approach and on that basis ComReg does not agree that the 'per customer glidepath' approach would arrive at a fair or appropriate sharing of costs between NBI and Eircom.[536]

7.242 ComReg further notes that the protection that Eircom sees as being included in the per customer glidepath approach is ineffective. In particular, Eircom proposes that in order to provide protection to NBI at the end of the glidepath in 2028, where Eircom could have remaining residual copper customers at the wholesale level, it would start the copper switch-off programme to decommission one year after either the glidepath of active lines reaches zero or NBI finishes its roll-out — whichever comes later.[537] However, this is entirely insufficient to ensure a proportionate and equal sharing of costs. As Eircom's 'per customer glidepath' approach assumes it will not withdraw copper cables before 2028, NBI will continue to incur more costs each year up to 2028 even though Eircom has not removed its copper cables. Furthermore, this approach does not give Eircom any incentive to withdraw its copper cables as NBI could be paying 100% of the costs of those poles that still have Eircom's copper cables on them. ComReg also considers that Eircom's assumption that all customers will have migrated to NBI's network in the next 5 years is optimistic.

7.243 ComReg considers that Eircom's justification by reference "to the uncertainty related to copper switch-off"[538], that "ComReg are now also taking a leading role in copper switch-off, which represents a regulatory risk" and that "eir will have less flexibility in its ability to set the direction and control copper switch-off"[539] misrepresents the role of ComReg in copper switch-off. ComReg 23/102, the Decision (D09/23) of ComReg on copper switch-off sets a Framework for migration from legacy infrastructure and timeframes that will apply when Eircom decides to switch-off its copper network. It is also the case

[535] Eircom's Pricing Submission, Figure 2, Paragraph 109.

[536] Eircom Pricing Submission, paragraph 113, p. 37.

[537] Eircom's Pricing Submission, paragraph 113, p. 37.

[538] Eircom Pricing Submission, paragraph 107, p. 35.

[539] Eircom Pricing Submission, paragraph 114, p. 37.

the market for Fixed Access and Call Origination ('**FACO**')[540] has been deregulated as has Current Generation ('**CG**') Broadband.

7.244 ComReg also notes that NBI advocates in place of a 'per operator' approach, as second in its preference after a 'per customer' approach, the use of a **'per cable'** approach[541] or in default of that, a '**per operator per cable type**' approach. Under the 'per cable' approach, Pole Access costs are shared based on the number of cables on a pole. This approach involves dividing the total Pole Access costs for each pole 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. Under a 'per operator per cable type' approach, costs would be shared per operator but taking into account how many types of cables of that operator a pole carries. An operator with a copper cable and a fibre cable on a pole would pay twice the price that an operator with two copper cables on a pole would pay.

7.245 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.[542]

7.246 ComReg notes that as compared to the 'per operator' approach, 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 whether a drop wire would be considered as being equivalent to a cable for pricing purposes.

[540] ComReg-2250.pdf

[541] NBI Submission, pp. 42-43.

[542] Paragraphs 8.32-8.33 of the 2016 Access Pricing Decision.

7.247 NBI suggests that a 'per operator per cable type' approach would address the key objectives in NBI's view of ensuring that operators with multiple cables on poles contribute more to the cost of the pole than those with one cable, and providing incentives to operators to remove cabling that is no longer in use. According to NBI, a 'per operator per cable type' approach ought to promote efficient investment by helping to extend the asset lives of poles as it would provide Eircom with a clear incentive to decommission copper services and remove copper cables from its poles, in particular outside the NBP IA.[543]

7.248 However, ComReg does not believe that adopting a 'per operator per cable' approach is appropriate at this point in time. In particular, Eircom is not in a position to remove copper cables from poles when there are active customers using those cables and Eircom is subject to regulated Access obligations. Eircom may only remove all copper cables on a route after copper switch-off has been achieved for all customers using those cables, including those customers that will ultimately be served by NBI's FTTH network in the NBP IA. ComReg does not expect that copper switch-off will be completed in all exchanges during the current market review period. However, after copper switch-off, Eircom will be in a position to remove copper cables and the cost sharing approach may then be revisited where and if necessary and appropriate.

7.249 Having considered the Submissions above, ComReg remains of the view 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.

7.6.3 Cost sharing approach for Duct Access / Direct Duct Access / Sub-Duct Access

7.250 ComReg considered the following cost sharing options for duct related access[544]:

(a) Price per metre of cable;

(b) Price per metre cm2;

(c) Price per metre of duct access equivalents.

[543] NBI Submission, p. 43.

[544] 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.

7.251 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.

7.252 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).

7.253 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.

7.254 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.

7.255 Alternatively, the **per metre cm^2** approach calculates a unit cost for duct related access by dividing the total costs of duct by the total volume (in cm^2) of cables to derive a cost per meter.cm^2. 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^2) and length of the cable are the determining factors in deriving the duct related prices incurred by the Access Seeker.

7.256 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.

7.257 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.[545]

7.258 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 is 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^2 (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^2, then the duct access service would be assigned 20% (490/2,500) of the average per metre duct cost.

7.259 In its Pricing Submission Eircom claimed that the key parameters used to implement this new duct cost sharing approach are from the Geospatial module in the ANM model but that it is not possible to confirm the accuracy of these estimates. Eircom further submitted that it understands from the model specification that these are expressed in terms of equivalent 25mm sub-ducts with a cross sectional area of 490mm^2 but the ANM model specification does not mention this approach or provide additional information. Eircom claims that ComReg should provide the additional detail necessary and consult on this issue transparently.[546]

7.260 However, ComReg provided Eircom with the Geospatial module as part of the ANM Decision and as part of the Consultation ComReg provided Eircom with the file that performed the conversion from the ANM average trench occupancy outputs to the number of 25mm sub-duct equivalents over a 10 year period, both pre and post transition to a fibre network i.e., by moving from copper only to copper/fibre to fibre only. Hence, ComReg has provided Eircom with the relevant information and we have been transparent about it.

7.261 With respect to the **minimum cross-sectional area**, 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.

[545] 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.

[546] Eircom's Pricing Submission, paragraph 116, p. 39.

7.262 BT agreed with the 'per metre of duct access equivalents' approach and stated that it "…*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*." BT also stated that it should ",,,*help prevent space wastage and the potential for ho[a]rding that may prevent others entering the duct and the minimum 25mm sizes provides added confidence to price stability*." and that it *"… assume this will apply to copper and this should act as an incentive for Eircom to migrate from Fibre to Copper.*" BT requested confirmation from ComReg on the latter point.[547]

7.263 To clarify, the 'per metre of duct access equivalents' approach is to encourage efficient reuse of available duct space and to provide certainty to Eircom in terms of cost recovery, where Access Seekers will contribute to Eircom's efficiently incurred costs based on the space they consume. This approach does not provide incentives for the removal of redundant copper cables, as suggested by BT. As set out in Section 6 of this Decision, Eircom may not refuse to meet a PIA order on the basis that there is no capacity available where redundant cables may be removed, and in such circumstances, Eircom is required, on receipt of a PIA order, to remove the redundant cable(s). However, cable removal is not considered to be technically feasible where removal of the redundant cable could damage existing cables, duct or other infrastructure and so in such circumstances, to avoid potential damage, the redundant cables can be left in situ. Hence, ComReg considers that pricing incentives are not required to incentivise Eircom to remove its copper cable.

7.264 With regard 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; in contrast, large-scale retrieval of redundant copper cables is not anticipated in the short run. While ComReg recognised in the Consultation that there would be some variation in duct occupancy during the price control period, ComReg proposed not to reflect the expected variations in duct occupancy but instead to set the duct occupancy based on a forward-looking fibre-only access network. ComReg considered that providing a duct cost sharing rule that would 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.

7.265 As a result, ComReg proposed 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, to estimate that a cross-sectional

[547] BT Submission, p.12.

area equivalent to a 25mm sub-duct should apply, which is approximately one third (⅓) of the estimated occupied duct space in a fibre-only access network.

7.266 Eircom's Pricing Submission stated that the assumption of 3 [cables/subducts] for duct occupancy across all geographic areas needs a "…*fundamental review and rethink*". Eircom claimed that the "Average Trench Occupancy" for the NBP IA after NBI has deployed their ODN will be 2, and it called on ComReg to consider the position once copper switch-off starts, which Eircom anticipates should ramp up during 2027. Eircom anticipates that the duct occupancy in the NBP IA will fall to a value of 1 as the only revenue generating cable in those trenches will be NBI's fibre and NBI should bear the full cost of the duct remediation. In contrast, in the Commercial Areas, Eircom submitted that the average occupancy is greater than 3 [cables/subducts]. Eircom submitted that "*E-side Urban Commercial trench*" contains multiple ducts with several large copper cables servicing downstream street cabinets. In addition, there are 24-fibre feeder cables for FTTC (that are being re-used for the IFN FTTH deployment) and "D-side trench" often have two 110 mm bores each carrying at least one moderately sized copper cable and increasingly the D-side trench will also carry several sub-ducts carrying 12-fibre feeds. This indicates, according to Eircom, that duct occupancy differs substantially between geographies and will change over time. A more reasonable approach, according to Eircom, would be to set the number of cables to 4 in the Urban Commercial Area, 3 in the Rural Commission Area, and 2 in the NBP IA.[548]

7.267 NBI stated in its Submission that while using a single sharing percentage across the duct network is in principle correct, basing this percentage on the estimated occupancy for a forward-looking fibre-only access network is not. It is not appropriate because it implies that Eircom will not contribute to ducting costs in the areas where it will not deploy an FTTH access network i.e., in the NBP IA, even in periods when it continues to offer downstream services using its copper access network in these areas. As Eircom will continue to provide a significant volume of copper-based services in the NBP IA over the next price control period, given NBI's FTTH roll-out is not due for completion until the end of this period, and Eircom is likely to continue to offer copper services for a period after NBI has deployed its network, ComReg's calculation of duct occupancy should reflect the duct capacity occupied by sub-ducts containing Eircom's copper cables in the NBP IA, until Eircom

[548] Eircom's Pricing Submission, paragraphs 139-144, pp. 45-46.

switches off its copper services in this area and removes the copper cable from its duct network.[549]

7.268 The national average duct occupancy rate of 3 cables/subducts proposed by ComReg in the Consultation was determined by the ANM Geospatial analysis undertaken by Cartesian as part of the cost modelling process. The output of the Geospatial analysis produced very little variation in duct occupancy between the three geographic footprints i.e., 2.9 in IA, 3.3 in the Rural Commercial Area and 3.1 in the Urban Commercial Area. Based on this, ComReg used in the DAM, an average duct occupancy rate of 3 cables/subducts nationally.

7.269 There are a number of reasons why the actual duct occupancy rate in Eircom's network may differ from the duct occupancy rate derived from the ANM geospatial analysis.

7.270 The engineering rules that are used to dimension the duct and cable deployments of a hypothetical efficient operator in a BU model like the ANM are unlikely to precisely replicate the incumbent operator's actual duct and cable deployment, which has evolved over many decades and has included a series of network expansions and upgrades. For example, it is possible that some cable routes that would have been dimensioned by the ANM geospatial analysis as overhead (routes with lower capacity d-side cables) would, for various reasons, have been deployed underground by Eircom. Similarly, the ANM Geospatial analysis also assumed that an operator would always deploy separate core and access cables, whereas operators can, in fact, assign fibres from the same cable to be used to support either core or access deployments.

7.271 ComReg's main objectives in terms of duct pricing is to ensure that the duct access prices incentivise re-use of existing duct without undermining an efficient cost recovery by Eircom. ComReg acknowledges that access to duct in the NBP IA other than by NBI is uncertain and analysis of actual cable data, provided by Eircom since the Consultation and as part of its Section 13D information request, supports Eircom's contention that duct occupancy in urban areas is higher than in rural areas. Based on this, and taking account of the Submissions from Respondents, ComReg has revised the average duct occupancy rate in the NBP IA from 3 to 2 but maintained the assumption of 3 in the Commercial Area based on the ANM Geospatial analysis. This should avoid uncertainty for Eircom in terms of the recovery of its efficiently incurred duct costs. Evidence of a third operator in the NBP IA, in addition to

[549] NBI Submission, pp. 44-45.

Eircom and NBI, using Eircom's ducts, could prompt ComReg to revisit the assumptions on duct occupancy. ComReg will keep this under review.

7.272 Applying a cross sectional area 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.

7.273 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), this will result in the Access Seeker facing a higher duct access related price. The higher charge should be proportionate to the relative increase in cable/sub-duct size above the standard allowance. For example, if the minimum allowance is 490mm^2 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%.

7.274 In other words, a "linear" approach is used 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.

7.275 NBI stated that if Access Seekers are paying for Duct Access on the basis of sub-duct with a diameter of 25mm, then they should be able to request that Eircom installs a sub-duct with a diameter greater than 14mm if that is what they require.[550]

7.276 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-

[550] NBI Submission, p.45.

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[551]). Furthermore, the maximum annual prices (at Table 16 assume the assignment of a minimum cross-sectional area in a duct equivalent to a sub-duct of 25mm diameter, and hence, an Access Seeker availing of the Duct Access may install sub-duct up to 25mm diameter (or combined sub-ducts with overall cross-sectional area of 490mm^2) and pay no more than the maximum annual price listed in Table 16.

7.277 For the reasons set out above, duct costs accordingly are shared/allocated among Access Seekers, including Eircom, based on the 'per metre of duct access equivalents' approach.

7.7 PIA prices and pricing options

7.7.1 Differentiation of PIA rental prices

7.278 In determining the Pole Access, Duct Access (including Direct Duct Access) and Sub-Duct Access rental prices, ComReg considered whether the differences in costs in ducts and poles in the different geographic footprints, set out earlier in this section, requires geographically differentiated prices. ComReg considers that the differences in cost profiles between different geographic areas provides justification for access prices to be tailored to reflect these factors, despite the fact of a national PIA Market.

7.279 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

[551] All things being equal, this may result in lower incentives for the Access Seeker to avail of the Sub-Duct Access service but ComReg considers that Eircom retains flexibility to re-balance these incentives by offering more space in its Sub-Duct Access offer.

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.

7.280 ComReg considered two main options set out below for setting the wholesale regulated prices for Pole Access and for Duct Access (including Direct Duct Access) and Sub-Duct Access:

(a) Set a single national rental price for poles and for ducts based on the national averaged cost of providing the relevant service; or

(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.

7.281 In summary, and for the reasons set out below, ComReg has decided to remove any differentiation of rental prices in respect of poles and set a national price. ComReg, however, has maintained the differentiation of prices for ducts but based on geographic footprints (NBP IA and Commercial Area duct prices) as opposed to exchanges areas.

Pole Access

7.282 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., the Commercial Areas and the NBP IA.

7.283 Eircom will be required to invest in its pole network in the NBP IA 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 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.

7.284 In this context, where investment in poles is taking place across all three geographies, there is no justification for differentiated prices for Pole Access across the different geographic footprints.

7.285 In its Submission, NBI disagreed on the basis that there is currently a material difference in the PAM in the estimated cost of providing Pole Access over the next price control period across the three footprints. In particular, NBI noted that the cost in the NBP IA is less than it is in the Rural Commercial Area and the Urban Commercial Area; setting a single national price for Pole Access would mean that NBI's significant use of Pole Access in the NBP IA is

subsidising other operators' use of poles in the Commercial Area. NBI stated that this would not accord with cost orientation principles, as Eircom would be over-recovering from Pole Access in the NBP IA and under-recovering from Pole Access provided elsewhere. According to NBI, there is a strong argument, for the five-year price control, for Pole Access charges to be differentiated between the NBP IA, the Urban Commercial Area and the Rural Commercial Area on the basis of the estimated differences in the cost of providing Pole Access in the three areas.[552]

7.286 However, any cost differences across the Commercial Areas and the NBP IA for Pole Access have more to do with the timing differences of when the pole investments take place, than with differences in the 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.[553]

7.287 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[554] are not significant enough to require differentiation by use or one by footprint, which would be complex and administratively burdensome for Eircom to implement.

7.288 A **national price** based on the national average cost of providing Pole Access across all three geographic footprints (Urban Commercial Area, Rural Commercial Area and NBP IA) smooths out pole investment timing differences and provides a simpler pricing structure while allowing full cost recovery for Eircom over time.

7.289 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

[552] NBI Submission, p. 46.

[553] Eircom tested all poles across its network as part of its 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.

[554] 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.

the WLA Market by encouraging other alternative infrastructure players to 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.

7.290 For the reasons set out above, a single national price, based on the national averaged costs, should apply for Pole Access.

Duct related access

7.291 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.

Duct prices differentiated by surface type

7.292 In the Consultation ComReg explained that surface types lead to different costs of trench excavation and surface re-instatement. 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.

7.293 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.

7.294 Given this, and the continued cost differential between surface types, ComReg considered in the Consultation that it was proportionate and justified to differentiate prices for access to the duct network based on surface types i.e., carriageway, footway and verge. ComReg considered that this should ensure certainty regarding the recovery of costs for Eircom while also providing Access Seekers with the appropriate build-or-buy signals.

7.295 In the Consultation ComReg explained that Eircom's surface type costs had 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 applied a price gradient to the average per metre duct costs for surface types that were modelled in the DAM. The implementation of this gradient was however limited to the cost components which were 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 the table below).

7.296 Table 13 shows the estimates of distribution of surface types by footprint,[555] based on data collected from Eircom, which was included in the draft DAM at the time of the Consultation.

Table 13: Estimates of surface types in the draft DAM

Surface Type =>	Carriageway	Footway	Verge
Urban Commercial Area	25%	50%	25%
Rural Commercial Area	25%	10%	65%
NBP IA	25%	10%	65%

7.297 In the Consultation, ComReg considered that differentiation of duct access prices by surface type was justified in the context of the cost orientation obligation as the level of investment per metre of duct 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 to deploy a duct under a carriageway surface type than under verge.

7.298 In deriving the proposed charge per metre of surface type, ComReg relied on estimates from Eircom (as set out above) on the proportion of surface types for its duct network to calculate an average per metre cost 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 in the Consultation assumed 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 meant that the duct related charge was 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

[555] Estimates for the Urban Commercial Area were based on very dense geo types, based on data collected for the Revised CAM. For the NBP IA 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.

in remediating the duct to deploy new sub duct/cables would be dependent on the surface type that exists at present.

7.299 In the Consultation ComReg considered that this was 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, ComReg considered that the onus would remain on Eircom to ensure that its duct related access charges remain cost oriented and the costs that it recovers would be consistent with the residual value of the RAB. Therefore, ComReg considered in the Consultation that where it can be reasonably determined that the current observed surface does not correspond to the original surface, Eircom's cost orientation obligation should require that the historic cost element of the duct access rental charge be based on the costs pertaining to the original surface type.

7.300 ComReg also considered that 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.

7.301 In its Pricing Submission Eircom advocated the use of a single national duct rate rather than different rates according to the surface type. According to Eircom there is no IT system available to Eircom staff that will allow automatic billing of duct rental by surface type. Eircom submitted that the "original surface type" issue while not a widespread issue could give rise to significant billing errors over the life of the long contract that will characterise NBI's use of Eircom's duct. Eircom also stated that even if the full extent of duct shared by NBI in the Urban Commercial and Rural Commercial areas and used exclusively in the IA were surveyed to establish the initial surface type, this will change over time as roads are widened, or footpaths laid over existing verge. The administrative burden to record changes in surface type and to charge according to the access that occurred at that time is disproportionate

and inconsistent with ComReg's objective of cost recovery and build/buy signalling, according to Eircom.[556]

7.302 Eircom also stated that there is a high probability that different occurrences of duct blockages across the various surface types will result in separate surface type average remediation costs per kilometre, closer to the overall average, because including the duct remediation costs means the cost differential between surface types is smaller. This undermines the case for charging different rates by surface type.[557]

7.303 NBI suggested in its Submission in order to reduce the administrative burden and scope for disputes, to apply a weighted average of the surface type mixes.[558]

7.304 Having considered the Submissions, ComReg accepts that maintaining different rates for different surface types is no longer warranted. In particular, ComReg notes that a significant component of the duct related investment being undertaken for FTTH deployment relates to blockage clearance and ComReg has observed duct in verges incur a higher number of blockages than duct in other surface types. A higher remediation cost for verge will offset the fact that surface reinstatement costs are lower compared to other surface types with the result that the costs do not vary by surface type to the same extent as would be the case if the investment was concentrated on deploying new duct.

7.305 Both NBI and Eircom suggested a single/weighted average rate for surface type, given the administrative burden in recording the various surface type reinstatements. Not differentiating the duct rates by surface type also addresses the issues raised by Eircom and NBI as regards identifying the surface type that existed when the duct was originally deployed. Therefore, it is reasonable and appropriate that the duct rates/prices no longer differentiate between surface types. This represents a change from the Consultation.

Duct prices differentiated by geography

7.306 In terms of geography, ComReg understands that the rates agreed 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

[556] Eircom's Pricing Submission, paragraphs 127-130, pp 42-43.

[557] Eircom's Pricing Submission, paragraphs 131-132, p. 43.

[558] NBI Submission, p 49.

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 to 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.[559]

7.307 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 NBP IA for NBI. These differences in cost are also manifest in the fact that Eircom transferred to FNI the subset of its physical infrastructure which corresponds to the Commercial Areas where Eircom intends to provide fibre-based downstream services, and not those in the NBP IA.

7.308 Eircom is currently remediating its duct network in the NBP IA to provide PIA to NBI for the NBP where the historic investments in the pre-existing duct network in the NBP IA is heavily depreciated. ComReg proposed in the Consultation that no material allowance for the recovery of historic NBVs in respect of the share of duct network in the NBP IA was required.

7.309 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.

7.310 Duct cost differences, as a result of differences in the timing of duct investments, are also 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

[559] Up to 2009 the asset life of duct was 20 years, so all duct installed prior to 1989 would be fully depreciated.

pole testing/replacement programme. Therefore, observed differences in the average costs across geographic areas are likely to continue for ducts.

7.311 Furthermore, 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 that this type of work has to be carried out outside of normal business hours to minimise traffic disruption.

7.312 Hence, for the reasons set out above, ComReg considered in the Consultation that a single national duct rental price was not appropriate and proposed 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 the NBP IA. In order to avoid implementation issues arising from the fact that Eircom did not record its duct asset infrastructure to the geographic footprints set in the DAM i.e., Urban Commercial Area, Rural Commercial Area and the NBP IA, ComReg proposed 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, included all exchanges with over 3,000 lines ('Urban exchange area') and the balance of exchanges with less than 3,000 lines constituted the 'Non-Urban exchange area'. ComReg proposed that 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. This approach (of using Urban exchange area and Non-Urban exchange area) would facilitate implementation as Eircom already records its duct infrastructure based on these exchange areas. It also reflected the cost differences associated with providing duct related access in different parts of the country and so it was consistent with the cost causation principle.[560]

7.313 In its Pricing Submission Eircom proposed that ComReg consider a simplification of duct pricing and move to a single national rate for the shared use of duct, regardless of geography (or surface type). Eircom submitted that there is strong evidence from the NBI deployment to date that there are more

[560] ComReg noted in the PIA Consultation that it may revisit the geographic area types for setting the prices for Direct Access / Direct Duct Access based on its assessment of the distinction of PIA assets used by FNI and Non-FNI (Eircom), and as a result, may require Eircom to revise its duct related prices depending on the materiality of any such differences.

blockages per kilometre for duct under verge[561] (largely present in the NBP IA) than for duct under more expensive carriageway (mainly present in the Commercial Areas). Eircom suggested also that further analysis of remediation costs per kilometre for the NBI deployment is required.[562]

7.314 NBI submitted that the basis for the level of "reaggregation" of costs being proposed by ComReg into an "arbitrary" definition of Urban and Non-Urban exchanges was questionable. NBI pointed out that ComReg's approach meant that NBI would pay over 80% more in Duct Access charges for infrastructure it uses within the NBP IA based on the "converted" rates as compared to those calculated by the DAM. NBI added that it was not apparent to it why ComReg had opted for such an approach, which in NBI's view would, in effect, amount to a subsidy from the Intervention Area to the Commercial Areas while also risking increased public subsidy costs for the NBP.[563] NBI suggested a single charge for Duct Access rental in Rural/ IA.[564]

7.315 Since the Consultation, ComReg has been able to establish that Eircom now has the ability to geographically identify its PIA assets as between the NBP IA and the Commercial Areas. Therefore, the perceived implementation issues that deterred ComReg from setting the duct prices according to NBP IA and Commercial Area footprints have been largely eliminated. As a result, ComReg has decided to set different duct prices in the NBP IA and the Commercial Areas.

7.316 ComReg understands that **implementation of duct access prices** based on the NBP IA footprint and Commercial Area footprint will not be an issue for Eircom going forward. This is supported by the fact that Eircom has transferred, as part of the FNI Transaction, discussed at Section 3.3.2, physical infrastructure assets including ducts and poles that are located outside the NBP IA to FNI. In doing so, Eircom had to identify those assets (in this case duct) that are located in the NBP IA and those ducts that are outside of the NBP IA. ComReg's position is further validated by the fact that Eircom provided to ComReg, in response to an Information Requirement issued under Section 13D of the Communications Regulation Act 2002, a split of its duct length between the NBP IA and Commercial Areas. Eircom also states in its Pricing Submission that it is considering offering a voluntary commitment in relation to duct access pricing in the NBP IA, which indicates

[561] For clarity, verge surface types are more common in the NBP IA.

[562] Eircom's Pricing Submission, paragraphs 131, 132, 134, pp. 43-44.

[563] NBI Submission, p 48.

[564] NBI Submission, p 49.

that Eircom itself considers it has the ability to implement a different duct price in the NBP IA (and outside of it).[565]

7.317 A geographic differentiation of duct prices by the NBP IA and Commercial Area footprints also addresses the issues raised by Eircom and NBI in their respective Submissions. It will provide a better alignment between prices and average costs consistent with the obligation of cost orientation. It also addresses some of the key concerns raised by operators in relation to cost recovery and possible cross subsidisation between footprints arising from a higher level of duct remediation in the NBP IA footprint and evidence of a likely lower average duct occupancy rate in the NBP IA footprint.

7.318 As discussed later in this Decision at subsection 7.7.6, Access Seekers have the option to pay a standard (full)[566] duct rental price or a reduced (discounted)[567] duct rental price, subject to a financial threshold which is discussed further in the subsection below.

7.319 ComReg sets out below for each geographic area (NBP IA and Commercial Areas) the costs that are reflected in the reduced duct rental price and separately in the standard duct rental price, in order to ensure consistency with Eircom's obligation of cost orientation.

7.320 First, in the case of the **reduced duct rental price in the Commercial Area**, ComReg considers that the price should reflect the condition of the network that the Access Seeker is having to remediate. Therefore, the price should be based on Eircom's RAB (or TD HCA costs) measured at the point in time prior to the access request. Eircom has noted that the agreement it has entered into with NBI requires NBI to pay upfront for all duct remediation undertaken to facilitate NBI's access requests.[568] The fact that NBI began accessing Eircom's network at scale in 2020 means that the reduced duct rental price in the Commercial Area (and in the NBP IA) can be derived only with reference to the residual value of the investments that Eircom had made in its duct network up to 2020, as NBI is paying upfront for all relevant expenditure (e.g. the cost of clearing all duct blockages in the track it is accessing) that is being incurred post 2020.

7.321 In terms of the **reduced duct rental price in the NBP IA,** Eircom's duct investment since 2013 has been focused on the Commercial Area footprints,

[565] Eircom's Pricing Submission, paragraph 15, p.6.

[566] In the Consultation ComReg referred to this as the "full" duct rental price.

[567] In the Consultation ComReg referred to this as the "discounted" duct rental price.

[568] Eircom's Pricing Submission, paragraph 172, p.54.

with the result that the residual value of the duct network is much more heavily depreciated in the NBP IA than in the Commercial Area. This means that the reduced duct rental price in the NBP IA is lower than it is in the Commercial Area.

7.322 However, when an Access Seeker opts to pay the standard duct rental price, the price has to reflect not just the historical investment that has been undertaken in the network but also all duct remediation investment that does not exceed a certain financial threshold (as set by ComReg and discussed below).

7.323 In the **Commercial Area**, ComReg considers that the **standard duct rental price** should make a contribution to the RAB (TD HCA costs) associated with ducts in the Commercial Area, measured at the point in time of access. The standard duct rental price should also make a contribution to the costs of remediating the duct network in that footprint for FTTH, which is calculated using a BU-LRAIC+ approach in the DAM, taking an estimated average level of remediation per kilometre.

7.324 In setting the **standard duct rental price in the NBP IA**, ComReg is mindful that there is very little prospect of a material level of demand for Duct Access emerging in the NBP IA, in the case where the Access Seeker decides that Eircom should carry out the remediation work. NBI pays Eircom upfront for all the duct remediation costs it generates in the NBP IA.[569] ComReg expects this practice to continue, at least, until NBI completes the NBP deployment. Eircom has also submitted that it does not intend to deploy new cables in the NBP IA, with the result that investment in underground assets in the NBP IA "*is entirely driven by NBI requirements*".

7.325 However, ComReg is also aware that operators other than NBI have expressed a preference for a pricing approach that recovers all duct related costs through the recurring duct rental prices rather than by means of upfront charges.[570] As a result, in the unlikely event that an operator does seek duct access in the NBP IA and does not opt to pay for all remediation costs upfront, the operator should be charged the same standard duct rental price in the NBP IA as applies in the Commercial Area. Charging the same standard duct rental price in the NBP IA and the Commercial Area has the advantage that it will reduce the administrative burden for operators, as Eircom will not have to establish a different price on its billing system for a service for which there is expected to be little, if any, demand, while the Access Seeker that opts to

[569] Eircom's Pricing Submission, paragraph 172, p. 54.

[570] SFG Submission, p 22.

pay the standard rental price will not have to consider if the duct it is accessing is located in the NBP IA or Commercial Area.

7.326 Furthermore, it is also the case that the standard duct rental price for the NBP IA set at the same level as in the Commercial Area footprint is likely to be a reasonable proxy for a cost-oriented price in the NBP IA. ComReg considers that, in the future, any operator seeking duct access in the NBP IA is likely to generate the same level of duct remediation as is currently being generated in the Commercial Area. This is because NBI's funded duct remediation, as it completes the NBP network across the NBP IA, will equate to a significant network refresh similar to that being undertaken in the Commercial Areas where Eircom is deploying FTTH. This, in principle, should mean that a future duct access request in the NBP IA will drive a similar incidence of blockage clearances to that being experienced in the commercial parts of the network.

7.327 In updating the DAM model there has been an increase to the duct access costs in the NBP IA, compared to the costs modelled in the Consultation. In particular, ComReg has decided, taking on board Eircom's concerns on the recovery of historic NBVs for its duct network in the NBP IA [571], to revise the NBV share of the duct network in the NBP IA from a 0% allocation in the Consultation to approx. 5% allocation, based on an estimation using Eircom's data on track length and FAR additions per year. The DAM also reflects a reduced average duct occupancy rate in the NBP IA from 3 cables/subducts to 2.

7.328 Hence, while the standard duct rental price for the NBP IA is set based on the costs in the Commercial Area, ComReg expects, based on the changes outlined above, some convergence towards the standard duct rental cost in the Commercial Area.

7.329 The differences in the timing of duct investments and differences in the technical characteristics of the duct network across the three footprints lend themselves to a distinction in duct costs by geography. As these differences are of an enduring nature such that the observed differences in duct costs between geographic areas at a point in time are likely to persist across multiple price control periods, a geographical differentiation in prices is warranted. In particular, a geographical differentiation will assist in ensuring that the cost orientation obligation (with Eircom's TD costs aligned with the rental revenues it generates) is applied effectively. This is particularly relevant in the case of the reduced duct rental price in the NBP IA, given that NBI has and is expected to continue to fund the duct remediation in this footprint through upfront payments to Eircom. However, this also means that applying

[571] Eircom's Pricing Submission, paragraph 135, p. 44.

geographic differentiated prices for the standard duct rental price is not justified from a cost recovery point of view nor is it proportionate given the limited demand that is expected in terms of duct access in the NBP IA other than from NBI.

7.330 When setting the standard duct rental price in the NBP IA on the basis of the Commercial Area cost ComReg has made certain key assumptions:

(a) that significant demand for duct access in the NBP IA by Access Seekers other than NBI will not emerge during this market review period; and

(b) NBI will continue to pay its duct remediation costs upfront until completion of the NBP rollout.

7.331 Should another Access Seeker(s) opt to access a significant proportion of ducts in the NBP IA on the basis of the standard duct rental price this would likely result in Eircom over-recovering its costs, during this market review period. This is because Eircom would already have funded a significant proportion of the costs of the duct assets in the NBP IA from the upfront payments made by NBI. As a result, ComReg would have to intervene to address such over-recovery. Likewise, if NBI decides to cease paying the duct remediation costs upfront, ComReg would be required to intervene to re-assess what impact this might have on the valuation of duct assets in the RAB and the implications for cost oriented prices in the NBP IA. In any case, ComReg plans to monitor these assumptions to ensure they remain reasonable during the market review period.

Financial threshold for Duct Remediation costs

7.332 As discussed earlier in section (7.5), a significant activity when remediating duct is the **clearing (or unblocking) of duct blockages**, which allows the installation of sub-duct in Eircom's ducts. As the Duct Access/Direct Duct Access standard rental prices are calculated to reflect the average level of costs or expenditures in respect of duct remediation in the Commercial Area network, based on available data from Eircom's fibre programmes[572], there is a risk that the average costs incurred on certain specific routes are significantly exceeded and so Eircom does not recover its efficient costs and overall, that Eircom is at a risk not to recover its costs.

7.333 In particular, on certain routes, there may be significantly more duct blockages than the average duct blockage clearances per kilometre of duct as modelled in the DAM. It may be the case that the average level of expenditure on other duct remediation activities (e.g. desilting, box repair,

[572] Eircom's FTTH 300k Rural Deployment and Eircom's IFN deployment.

surface reinstatement, etc.), could also be exceeded to a material degree on some routes.[573] In order to mitigate any risk that a price set on the basis of 3 duct blockage clearances on average will not be sufficient to ensure that Eircom recover its efficiently incurred costs[574], ComReg considers that a threshold (of a cost per kilometre of duct) should apply in respect of duct remediation for Duct Access / Direct Duct Access beyond which the costs are considered not to be recovered in the rental charge and are to be borne separately by the Access Seeker.

7.334 In its Pricing Submission Eircom stated that a standard deviation and a desired level of confidence (such as 90%, 95%, or 99%) is required to set a threshold and determine whether observations fall within or outside an acceptable range of variation from the average cost. In addition, Eircom stated that this data should be available at cost category level, for example, blockage costs, chamber remediation/expansion, re-instatement etc.[575] Such a granular analysis requires access to a representative sample of data yet when ComReg requested Eircom to provide such data, Eircom's response was limited to data based on a sample of one Deployment Area.

7.335 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 per kilometre that is experienced on different routes, ComReg set the limit/threshold at **€11,000 per kilometre of duct** to include capital expenditure on all associated duct remediation activities **in the Urban Commercial Area**, namely duct blockage clearances (including de-silting), chamber remediation/rebuilding, footpath/carriage reinstatements, new

[573] The duct remediation costs are relevant to the Duct Access/Direct Duct Access prices and the duct costs in the Sub-Duct Access price.

[574] Regulation 56(2) of the ECC Regulations provides that: "…*to encourage investments by the undertaking, 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 undertaking which the Regulator considers relevant. Where the Regulator considers price control obligations to be appropriate, it shall allow the undertaking a reasonable rate of return on adequate capital employed, taking into account any risks involved specific to a particular new investment network project.*"

[575] Eircom's Pricing Submission, paragraph 95, p 32.

trench/duct and ancillary duct remediation activities, including related capitalizable local authority/traffic management costs.[576]

7.336 In determining the appropriate level of the threshold for duct remediation, ComReg had regard to the following:

(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.

(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.

7.337 The threshold is calculated based on the average duct remediation cost of €7,849 per kilometre projected for the Urban Commercial Area. This is based on the estimated levels of occurrence for duct remediation activities in the Commercial Area. For example, for duct blockage clearances, in the absence of additional data provided by Eircom, ComReg has used the average occurrence of duct blockage clearances of 3 per kilometre in the 300k FTTH Rural Footprint as the basis for the typical blockages encountered by Eircom in all of the Commercial Areas. ComReg considers that setting the threshold within a range of 30%-50% above the average duct remediation cost of €7,849 provides Eircom with a reasonable level of certainty that it will be able to recover its efficient costs in providing access to its ducts. It also avoids the risk of any potential double-recovery of costs between the additional costs that are recovered from the Access Seeker for expenditure that is above this threshold and the average expenditure that is already factored into the duct recurring standard rental prices.

[576] The threshold value proposed by ComReg in the Consultation reflected an average level of remediation costs (equal to three duct blockages per kilometre of duct) across the combined Urban Commercial Area and NBP IA footprints for the period 2020 to 2026). To maintain equivalence and to ensure non-discrimination between PIA requests from external Access Seekers and Eircom's internal use of duct, the threshold applies to Eircom when it is remediating routes.

7.338 SFG in its Submission questioned the need for a threshold if non-reusable PIA assets are priced based on replacement costs, which Eircom recovers in the rental prices.[577] SFG also claimed that instances of non-reusable remediation more than €3,200 below the average of €7,800 are just as likely to occur as those above and yet Eircom will enjoy the benefit of charging standard duct rental prices on a route that costs far less than the average make-ready cost and in this case over recovery of costs is not consistent with Eircom's cost orientation obligation.[578] NBI raised concerns around 'double-charging', where an Access Seeker would pay upfront for duct remediation and then pay rental charges which include an element compensating Eircom for the same remediation costs.[579]

7.339 ComReg notes, however, that there are not separate duct rental prices for access to reusable and non-reusable ducts. Duct remediation is undertaken to ensure that all ducts can be used to deploy new cables and so the duct rental price includes a contribution to the recovery of both legacy duct costs and duct remediation costs. The fact that any remediation costs that are not recovered in the form of upfront charges are capitalised over a 40 year asset life, means that all future users of the duct network will contribute to the recovery of such costs. The threshold is intended to ensure that, on those exceptional occasions when a duct access request gives rise to an average remediation cost for the project that is significantly above the average costs, it is appropriate that the Access Seeker contributes to the recovery of the excess costs.

7.340 ComReg notes further that the standard duct rental price is derived to recover the average costs of all duct routes in that area and it is inevitable that specific duct routes can give rise to costs that are above and below this average. ComReg considers that the remediation costs encountered on any individual route will largely depend on how recently the duct on that route has been used to deploy new cables. For example, the higher remediation costs that are being experienced in the NBP IA are consistent with there being no significant cable deployments or network upgrades on these duct routes for a number of years. Conversely, a duct route that has been recently remediated, as is increasingly the case given the scale of remediation being undertaken in advance of Eircom's and NBI's FTTH deployments, will likely display a lower level of remediation expenditures when facilitating the access requests of other operators. As a result, ComReg considers that it is

[577] SFG Submission, p 16.

[578] SFG Submission, p 16.

[579] NBI Submission, p. 40.

reasonable that the standard duct rental price faced by all Access Seekers is based on the derived average costs for that footprint.

7.341 SFG claimed in its Submission that it will be partially funding a 40 year asset but it will not be guaranteed a return on that expenditure over a two to three year business contract. In addition, SFG suggested that if remediation work is likely to exceed the proposed threshold them Eircom should be required to offer Dark Fibre to the Access Seeker.[580] SIRO and SFG[581] were concerned that the €11,000 per kilometre duct remediation threshold is too low, especially for urban areas.

7.342 ComReg considers that a sufficiently low threshold should provide SFG with the appropriate 'build or buy' decision i.e., either buy PIA from Eircom or build its own duct, as well as consider alternative options like Dark Fibre (where it is available). ComReg does not believe that a threshold set at €11,000 per kilometre of duct is too low. In recent years, average remediation costs per track length have been lower in the Commercial Area footprints than in the NBP IA and ComReg is satisfied that the €11,000 per kilometre of duct threshold is set at the right level including in respect of urban areas.

7.343 In its Pricing Submission, Eircom submitted that it is unclear how the threshold will be applied, e.g., whether the threshold applies: (i) at entire project level; (ii) in respect only of those parts of the project with a non-zero cost of remediation; or (iii) separately to each kilometre of duct.[582]

7.344 ComReg notes that in order that the threshold meets its objectives, and having regard to the assumption that the price for each kilometre of duct allows for the remediation of three blockages including other remediation activities, the threshold can only meaningfully apply at a project level, that is, by reference to the average cost of remediation of the project as in any given project there will be routes which require no remediation and routes which require remediation.

7.345 Large scale access should be treated as a set of multiple projects, in which case the average cost of remediation should be calculated over the entire route accessed for *each* project, with the threshold applying accordingly at this level. This is to ensure that the effectiveness of the financial threshold in reducing risk for Eircom is not undermined. For example, in the case of NBI's duct access Eircom should treat each of the 200+ NBP Deployment Areas as

[580] SFG Submission, p. 11-12.

[581] SFG Submission, p. 11.

[582] Eircom's Pricing Submission, paragraph 93, pp. 31-32.

one project, or in the case of Eircom's own use (for its IFN fibre rollout), it should treat each of its 180+ exchange areas or OLT areas as one project.

7.346 Furthermore, ComReg considers that in assessing the remediation costs associated with a small scale project, Eircom must ascertain the average remediation cost of the particular route being accessed by the Assess Seeker, while also taking into account the other cumulative routes being accessed by the Access Seeker within that same area (which may have been accessed under separate projects) so as to determine overall the excess costs above the financial threshold, over a reasonable timeframe like 12 calendar months. This approach should ensure that for small scale projects Access Seekers share the risk with Eircom in a reasonable and proportionate way.

7.347 All costs incurred up to the financial threshold should be capitalised by Eircom as a duct asset and will form part of the RAB that will inform the level of future duct charges, so that all users of Eircom's duct access network will contribute to the recovery of such costs over the asset life. But, 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 upfront charges in excess of the threshold level. Hence, this should prevent any risk that those Access Seekers would also be charged for these costs through future PIA rental prices. Furthermore, to maintain equivalence and to ensure non-discrimination, the threshold and the same principle for route remediation to facilitate Eircom's own cable deployments that is above the threshold apply: such expenditure should not be capitalised under the duct asset class but instead should be capitalised against the cable asset that is being deployed by Eircom.

7.348 In practical terms, this means that Eircom must assess the average expenditure it incurs by, for example, individual OLT Deployment Area, to determine if it has, on average, exceeded the financial threshold and, as a consequence, if there is a need to settle any 'excess' expenditure against non-duct related asset classes. Assessing the threshold in this way should eliminate the complexities that might arise if it were to be assessed for each individual route.

7.349 A number of concerns were raised by Respondents including Eircom and SFG as regards the application of the threshold across the Commercial Areas and the NBP IA. Eircom submitted that ComReg's proposed approach meant "cross-subsidising" build in the NBP IA and risked distorting competition in

the Commercial Areas.[583] Eircom submitted that in the Commercial Areas, ComReg must either remove the threshold and thereby require operators to pay the entire remediation cost upfront – with a resulting lower rental or reduce the cost accounting/accounting separation obligations to be more pragmatic,[584] and not apply any threshold in the NBP IA.[585] For SFG, as there was no geographic distinction on the threshold, the threshold does not mirror duct rental pricing from a cost perspective; remediation costs in urban areas being higher, the threshold should be higher. In addition, the financial threshold should also be linked to the surface types on the relevant routes. ComReg should reconsider its proposal in order to avoid "*material negative connotations for the leased lines market*" in Ireland which is concentrated around the Urban footprint.[586]

7.350 ComReg considers that its decision (in the subsection above) to set duct related access prices to reflect the Commercial Area and NBP IA footprints should address many of the concerns raised by respondents, including Eircom's concern that customers outside the NBP IA could somehow be "cross-subsidising" build in the NBP IA.

7.351 In addition, to date, as Eircom has noted, NBI is the only operator seeking to deploy cables in the NBP IA and has been paying for all remediation costs in the form of upfront charges. Although a commercial operator is not expected to deploy a network in the NBP IA, the fact that NBI is having to remediate and clear a significant amount of duct to deploy the NBP network means that, should any operator seek to deploy cables in ducts in the NBP IA in the future, it would not be expected to encounter the same levels of blockages as NBI has encountered. As a result, the standard of duct in the NBP IA is getting closer to the standard of duct in the Commercial Area footprints and so, ComReg considers that it is reasonable that the same financial threshold should apply in both the Commercial Area and the NBP IA.

7.352 If a separate financial threshold were to apply to the NBP IA based on the higher average of duct remediation costs (given higher duct blockages in the NBP IA that have been experienced to date), the level of this threshold would be consequently higher compared to the financial threshold set on the basis of the Commercial Area network. ComReg expects in the NBP IA there would be more extreme cases where duct remediation costs on exceptional routes are outside the normal expected range of costs and so there could be many

[583] Eircom's Pricing Submission, paragraphs 87-88, p 30.

[584] Eircom's Pricing Submission, paragraph 102, p. 34.

[585] Eircom's Pricing Submission, paragraphs 89-90, pp.30-31.

[586] SFG Submission, p. 11.

cases where the duct remediation work carried out by Eircom on behalf of Access Seekers would not reach the threshold and so Eircom would risk not recovering its costs. Hence, the financial threshold should be based on the lower costs of the Commercial Area network, which should apply across both the NBP IA and the Commercial Areas.

7.353 A financial threshold based on the Commercial Area network means the threshold is set based on the duct blockages (and duct remediation costs) encountered by Eircom in the Commercial Area. In the absence of additional data provided by Eircom, ComReg has used the average occurrence of duct blockage clearances of 3 per kilometre of duct in the 300k FTTH Rural Footprint as the base for the typical blockages encountered in all of the Commercial Areas. A duct blockage rate of 3 per kilometre of duct results in an average cost of €7,849 per kilometre which is then uplifted by 50% to determine the financial threshold level of €11,000 per kilometre of duct.

7.354 ComReg is aware that the introduction of a threshold requires 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 is required on the various duct remediation activities (and the related expenditure) undertaken by Eircom to facilitate both its own cable 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, which is further discussed in section 7.9 on the accounting separation obligation. SIRO considered that ComReg should provide for a review mechanism during the middle of the term of the review period to re-examine this with learnings from experience to date. ComReg intends to use the financial information obtained on an annual basis through Eircom's HCAs and other additional financial information ('**AFI**') to monitor Eircom's obligations, including its price control obligation.

7.355 In its Pricing Submission Eircom stated that ComReg's proposed mechanism for the financial threshold raises operational challenges. First, Eircom stated that it would need to collect, manage and provide quality assurance on three different levels (i) activity types (duct blockages, cable removal, repair, etc.) (ii) split between internal and external costs and (iii) costs incurred above and below the threshold. According to Eircom this would mean that systems and processes would need to be reconfigured, which is labour intensive. All processes and systems would be subject to an audit, which would increase costs. Second, Eircom claimed that there could be timing differences between duct remediation and cable deployment which would complicate efforts to link the two activities on the same route. This would involve Eircom having to maintain detailed records and apply accounting treatment following

deployment of cable assets, mapping deployments to the remediation. Third, Eircom stated that it was not clear on what basis Eircom would treat these remediation costs if the work was related to the deployment of multiple cable assets in the same duct, or if the remediation work was not related to the deployment of new cable assets.[587]

7.356 ComReg does not accept Eircom's contentions. Eircom should in any event be assessing the different levels of activities and costs in order to determine what costs are allocated to duct, sub-duct and cable assets, which have different asset lives. ComReg does not understand why deriving the split between internal and external costs would be an issue for Eircom given that Eircom prefers that external Access Seekers are charged upfront for the costs associated with their access requests.

7.357 In addition, it is not unreasonable to expect Eircom, as the network provider, to be able to derive the appropriate attribution/allocation rules for distributing costs to the relevant asset classes, and so Eircom should be in a position to allocate the relevant remediation costs against its cable assets. For example, capitalising activities that relate to Eircom's own cable deployments against duct assets would mean that the cost allocations are not consistent with its cost orientation obligation.

7.358 ComReg considers that it is proportionate and justified for 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. This should ensure that Eircom complies with its cost orientation obligation and that ComReg can review and monitor same. It is also proportionate that the financial threshold should apply to Eircom itself, similar to other Access Seekers, to ensure equivalence and compliance with Eircom's non-discrimination obligation. In this regard, Eircom should be in a position to maintain appropriate data and records for both the internal and external consumption of duct.

7.7.2 PIA Prices

7.359 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 the Decision, from the first day of the third month following the Effective Date of ComReg's Decision,[588] allowing Eircom time to update its billing systems. While in its

[587] Eircom's Pricing Submission, paragraphs 98-101, p. 33.

[588] The Effective Date is the date of this Decision as defined in the Decision Instrument and Eircom is not required to backdate prices to 1 July 2022; see query from NBI in its Submission, NBI Submission, p 50.

Submission NBI queried the length of time allowed to Eircom[589] to update billing systems, a period of two months is deemed necessary and sufficient but not excessive.

7.360 For example, Eircom will need to make changes to the pricing structure on duct, where Access Seekers have the option to pay duct remediation costs through the rental or pay upfront. In addition, there are changes to the upfront one-off ancillary charges like process costs (discussed at section 7.7.3 below), as these costs are no longer charged as part of the rental price but are now charged as an upfront cost. Furthermore, our revised pricing structure on duct related access means that duct pricing is no longer associated with exchange areas but rather linked to the NBP IA and Commercial Area footprints and so Eircom will need time to update its billing systems for this change.

7.361 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. 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.

7.362 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 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.

7.363 NBI in its Submission queried what constitutes a “material change" and the price change (10%, 20%, etc.) which would give rise to intervention.[590] ComReg is of the view that the materiality of any changes is best assessed

[589] Namely a full two calendar month period, not three months, as NBI appears to have misunderstood, NBI Submission, p. 50.

[590] NBI Submission, p 50.

on a case-by-case basis but that in general terms, only significant and enduring changes in costs should lead to changes in prices. Where cost recovery issues are apparent a more detailed review may be necessary before any possible price changes could be considered. It is important that any one-off increases or decreases to costs do not give rise to price instability and uncertainty. This also ensures consistency with the requirements of Regulation 56(6) of the ECC Regulations regarding the recovery of actual efficient costs plus a reasonable rate of return.

7.364 NBI also raised concerns in its Submission that Eircom has materially over recovered costs on PIA. NBI listed some examples, including that Eircom's HCAs for the year to December 2021 show a return on capital employed ('**ROCE**') of 11% for PIA, double the WACC rate relevant to 2021 of 5.56%. NBI stated that this over recovery is down to a higher WACC (of 8.18%) included in the current PIA prices and failure to take account of efficiencies and under investment by Eircom, particularly in the NBP IA. In addition, NBI considered that cost over recovery has occurred against the backdrop of an obligation of cost orientation on Eircom, and hence in its view this shows the risks of not having checks and balances in place to ensure compliance in practice.[591] ALTO had concerns in its Submission that there remains a cross subsidisation risk on the market in relation to the State NBP IA, which it considers should be assessed by ComReg on an ongoing basis.[592]

7.365 Since the Consultation, ComReg has updated the PAM and DAM to reflect the most up-to-date information obtained from Eircom and NBI and the most recently calculated fixed line WACC rate of 4.93%. In addition to the above, ComReg intends to use the financial information obtained from Eircom on an annual basis through its HCAs and Additional Financial Information ('**AFIs**'), as discussed at Section 7.9, to enable it to monitor Eircom's obligation of cost orientation for PIA.

7.7.3 Rental and other charges

7.366 The price control for CEI as set out in the 2018 WLA Market Decision provided 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 has amended this approach and requires 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.

[591] NBI Submission, p 26.

[592] ALTO Submission, p 7.

7.367 ComReg has introduced an element of flexibility to the manner in which costs are recovered whereby 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

7.368 Process costs include the costs of Eircom's staff who are engaged in planning, processing/ordering and managing the provision of PIA. These costs which 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, must be recovered upfront. Process costs do not include IT systems costs which are included in Eircom's Wholesaling costs or any general process costs, incurred over the duration of the access (such as product development and management, system related costs and billing or account management) which are already recovered as part of the PIA rental prices.

7.369 The price control under the 2018 WLA Market Decision provided for the recovery of process costs by way of the rental charge. Going forward, Eircom is to recover the PIA process costs by means of an upfront payment. This means 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 order are separately identified by Eircom and recovered in their 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.

7.370 The recovery upfront from the Access Seeker of the process costs associated with its order is also consistent with the principle of cost causation (i.e., users pay the costs they cause). 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, each Access Seeker should be liable to pay the process costs it causes to Eircom regarding its specific access request, as an upfront payment.

7.371 In its Submission SFG disagreed that process costs should be charged upfront by Eircom, claiming that this could have a "material detrimental impact" on the WDC market by giving scope to Eircom to engage in anti-competitive behaviour including because Eircom will have discretion on how it imposes the charges and an incentive to claim higher than justified process

costs for no other reason than to generate more revenue. SFG added that it will be extremely difficult to assess whether the purported labour activity is actually required when Eircom presents its estimated process costs to Access Seekers. SFG acknowledged that while this proposal makes sense for large projects like the NBP, it should not necessarily apply to smaller/single duct access orders and in the latter case ComReg should offer pricing options similar to those applied on duct remediation.[593]

7.372 It is not clear to ComReg how charging process costs upfront could have a material impact in the context of Leased Lines. Process costs in general terms are the costs of Eircom's staff involved in the planning and processing of specific duct and pole access orders, and it is difficult to see how recovery upfront of such costs could materially impact an Access Seeker's business case for Leased Lines.

7.373 In this regard, ComReg notes that the fact that process costs are not recovered as part of a rental charge does not mean that process charges are not cost-oriented. The obligation of cost orientation obligation does apply to process costs and issues as regards cost justification are no different depending on their recovery as part of the rental charge or as an upfront charge. Similar issues regarding the cost justification arise if the process costs are included in the ongoing rental. In particular, there could be a significant variation in contract timelines between Access Seekers like NBI who are seeking access to PIA for at least 25 years compared to smaller scale Access Seekers who may require access to PIA for significantly less time than this.

7.374 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, and as SFG noted in its Submission, to ensure that Access Seekers have price certainty on process costs,[594] Eircom is required to make available to Access Seekers a Process Costs List (as further described below) on the first day of the second month following the Effective Date, that is one month in advance of the Process Costs charges coming into effect on the first day of the third month following the Effective Date.

7.375 In addition, for clarity as regards applicable process costs, the Process Costs List must include sufficient detail setting out how the upfront process costs

[593] SFG Submission, pp 21-22.

[594] SFG Submission, pp 21-22.

are derived, together with a standard template or spreadsheet which set out the following information:

(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.

7.376 Eircom and NBI raised concerns in their respective Submissions that ComReg has only provided generic or high-level specifications for the template that Eircom must provide as part of its pre-notification of the process charges. Eircom claimed that there are various scenarios of access for PIA and questioned that process costs for NBI could be included as part of the template noting that Eircom has a team dedicated to the NBI programme.[595] NBI claimed that ComReg's generic guidance could lead to excessive pricing, higher administration costs, disputes and delays to Access Seekers consuming PIA.[596]

7.377 The Process Costs List and template which Eircom is required to publish should reflect the steps, and associated costs, which Eircom follows and incurs when processing a PIA order. ComReg notes that Eircom in the past has provided ComReg with spreadsheets detailing process cost items and drivers. Hence, Eircom is very well placed, based on its knowledge and expertise in providing PI, to set out the process(es) that it undertakes when completing a PI order for any Access Seeker, large scale or otherwise, and the costs recorded in its systems for each of the steps involved.

7.378 The process charges imposed on an Access Seeker can be differentiated according to the type of access requested. In particular, large scale access to Eircom's PIA or alternatively small scale access might give rise to different steps (or processes) in processing the specific access request, which may give rise to different cost(s), which ought to be reflected in the process charge(s) imposed on the Access Seeker, and transparently set out in the Process Cost List.

7.379 In order to facilitate understanding of the process costs and compliance with cost orientation, Eircom is required on notifying ComReg of the Process Costs List to provide ComReg with the rationale for each of the costs/charges included in the List.

[595] Eircom's Pricing Submission, paragraphs 155-157, pp 49-50.

[596] NBI Submission, p 27.

7.380 The cost orientation requirement for process costs means that Eircom may recover, and only recover, the efficient process costs incurred in respect of an order. This means that Eircom may recover any efficient costs incurred in the set-up of a PI order for an Access Seeker including where the Access Seeker subsequently decides not to proceed with the order.[597] Eircom should also be allowed to design charges so as to avoid incurring costs as a result of inefficient behaviour by Access Seekers. For example, in the case of a missed appointment by an Access Seeker, Eircom should be allowed to recover from the Access Seeker the efficient costs associated with the time spent by Eircom field staff (or its contractors) visiting the site in question where the Access Seeker failed to attend the appointment. [598] Any such behavioural charges, which should take the form of a one-off charge, should be set out in the Price List and justified appropriately.

7.381 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.

Pole furniture costs

7.382 Pole furniture includes the equipment for distribution points for overhead drop wires, cable management systems or closures for splices.

7.383 ComReg 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.

7.384 ComReg has decided that Eircom shall 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.

7.385 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 taking 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

[597] Eircom's Pricing Submission, paragraph 154, p 49.

[598] Eircom's Pricing Submission, paragraph 158, p 50.

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.

7.386 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.

7.387 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.

7.388 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**.

7.389 In Eircom's Pricing Submission Eircom stated that given the commercial agreement entered into with its contractors, there is [✂ [redacted] .][599] However, Eircom agreed that any additional cost of replacing a pole with pole furniture should be recovered as a one-off charge from the requesting operator.[600]

7.390 NBI stated in its Submission that where Eircom already has deployed staff to relocate its own furniture, the incremental cost to deal with an Access

[599] Eircom's Pricing Submission, paragraph 160, p 51.

[600] Eircom's Pricing Submission, paragraph 161, p 51.

Seeker's furniture should exclude all mobilisation costs and would only involve the direct additional incremental effort.[601]

7.391 ComReg considers that a one-off charge for the additional cost of pole furniture removal and replacement should allow Eircom to 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. In other words, in the PAM the pole costs used to determine the annual rental price per pole in this Decision do not include the incremental labour costs associated with replacing a pole that has pole furniture on it and so these may be recovered separately by Eircom by way of a one-off charge from the relevant Access Seeker where and when those costs arise.

7.392 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.

7.393 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.

7.394 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.

7.395 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

[601] NBI Submission, p 52.

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.

7.396 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.

7.397 Eircom should be required not to capitalise the additional cost of pole furniture removal and replacement against a pole asset. ComReg considered in the Consultation that 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 is associated with fibre cables, in its cost accounting systems.

7.398 In Eircom's Pricing Submission Eircom stated that this proposal introduces a significant amount of complexity in systems, accounting treatment and regulatory cost attributions for what is likely to represent a relatively non-material level of cost. According to Eircom, this proposal and its impact on the FAR, the cost accounting model and the operational systems would materially increase the complexity and scope of both the statutory and regulatory audit and so Eircom questioned the proportionality of this measure. Eircom suggested that to ensure equivalence between it and Access Seekers, and to avoid the significant complexity highlighted above, it may be more appropriate to expense external and internal pole related costs.[602]

7.399 ComReg does not have any issue with Eircom's proposal, and it appears to be a reasonable approach given that copper related pole furniture will become redundant at the point of copper switch-off. However, ComReg does not understand how Eircom's proposal materially reduces the overall "complexity" as Eircom will still have to isolate the costs of pole furniture removal and replacement and allocate them to the relevant network element, which would be either a fibre or copper cable network element depending on

[602] Eircom's Pricing Submission, paragraphs 162-165, pp 51-52.

the type of furniture. In essence, Eircom must ensure that the additional cost of pole furniture removal and replacement is not allocated to pole access related assets or network elements.

7.400 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 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.

7.401 Similar to the approach on upfront process charges, Eircom shall make available to Access Seekers a Pole Furniture Charge List setting how charges are derived. Please refer to the process outlined at paragraphs 7.374-7.379, which Eircom should follow in relation to one-off pole furniture charges.

Tree trimming costs

7.402 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.

7.403 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.

7.404 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.

7.405 As noted earlier in Section 7.5, the PAM assumes a small percentage of cost for tree trimming associated with pole replacement, as part of the pole access rental price.

7.406 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 considers that such tree trimming costs are incremental to a specific Access Seeker's request. In ComReg's view 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.

7.407 This may be particularly relevant in the case of NBI's access in the NBP IA where the prospect of other Access Seekers benefiting from that same investment in tree trimming in the future is limited.

7.408 NBI is likely to become the sole operator in the NBP IA 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 NBP IA. 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 PIA charge.

7.409 In its Submission, NBI stated that it undertakes tree trimming activities itself. NBI submitted that the tree trimming costs that it incurs to support its cable deployment has the effect of reducing the need for Eircom to carry out preventative maintenance along those routes and the tree trimming for route preparation will also reduce in-life cable damage which should reduce overall maintenance costs. NBI estimates that the savings accrued by Eircom in relation to costs avoided on tree trimming are [✂ [redacted] ✂] up to end of January 2023 and it called on ComReg to take account of the costs Eircom has avoided in the PAM in the calculation of the Pole Access prices.[603]

7.410 However, only 5% of the tree trimming costs incurred by Eircom are deemed to be pole related and are included as part of the operating costs in the PAM that informs the Pole Access rental price. The remaining tree trimming costs that have not been capitalised are regarded as cable related assets. ComReg

[603] NBI Submission, p 53.

also expects that, when Eircom undertakes tree trimming to support deployment of its cables, the associated costs are capitalised to the cable asset and not the pole asset, so it is not unreasonable that when another Access Seeker undertakes tree trimming to support its own cable deployment it is recorded as a direct cost to the Access Seeker.

7.411 As regards the benefits that might arise for Eircom in the form of reduced cable maintenance costs along routes where another Access Seeker carries out the tree trimming, ComReg notes that even the cost savings to Eircom could be quantified accurately those costs are not included in the PAM as they are cable related. Therefore, any benefit would only impact on the costs of the services that are provided over those cables in the Rural Commercial Area and NBP IA footprints. At present, these comprise FTTH broadband, which is not subject to cost orientation and CGA broadband and voice services, none of which will be subject to cost orientation after the sunset period has elapsed.

7.412 Therefore, it is reasonable to consider that the associated tree trimming costs that another Access Seeker incurs to support its cable deployment would be a direct cost to it and so it is not appropriate to include those costs in the Pole Access rental price.

7.413 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 7.374-7.379, which Eircom should follow in relation to one-off tree trimming charges.

7.7.4 Rental prices for Pole Access

7.414 The maximum annual rental prices per pole for Pole Access are set out in Table 14. The prices are calculated to recover all the national average costs of an operator obtaining access to Eircom's poles. They include a rate of return based on Eircom's fixed line telecoms WACC rate of 4.93%. In accordance with the 'per operator' approach, when the pole is shared with another user then the price below is shared based on the number of users on the pole (i.e., that have cables on the pole), including Eircom itself.

Table 14: Maximum annual national rental prices for Pole Access

Pole Access	1 [month] 2024 – 31 December 2024 €	1 January 2025 – 31 December 2025 €	1 January 2026 – 31 December 2026 €	1 January 2027 – 31 December 2027 €	1 January 2028 – 31 December 2028 €
National Annual Rental price per Pole*	21.31	22.51	24.53	24.59	24.63

*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.

7.415 The prices set out in Table 14 reflect the updates/changes to the PAM, following the consultation process. Table 15 below sets out the main changes between the draft average Pole Access price in the Consultation and the revised average Pole Access price set in this Decision.

Table 15: Main changes to Pole Access price

Description	€	Paragraph References
Draft Pole Access average price	22.32	
FAR update	(2.02)	7.170-7.175
Recalibration of pole replacement (Eircom IFN)	0.93	7.183 a) b)
CPI price trend	0.92	7.191-7.192
Pole replacement update (NBI)	0.85	7.183c)
WACC update	(0.62)	7.99
Updated unit capex	0.49	7.188-7.190
Wholesale mark-up	0.23	7.227
Other	(0.51)	-
Final Pole Access average price	**22.59**	

7.7.5 Rental prices for duct related access

7.416 The maximum rental prices for Duct Access / Direct Duct Access are set out in Table 16. Table 17 sets out the incremental annual cost per metre for Sub-Duct Access, which is added to the cost per metre of Duct to derive the annual rental charge for Sub-Duct Access. The prices and costs for duct related services set out in Table 16 and Table 17 are calculated to 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.

7.417 As noted in Section 6, 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.

7.418 The maximum duct prices include a rate of return based on Eircom's fixed line telecoms WACC set at 4.93%.

Table 16: Maximum annual prices for Duct Access / Direct Duct Access by geographic area and surface types

Duct Access / Direct Duct Access prices* *Per metre*	1 [month] 2024 – 31 December 2024 €		1 January 2025 – 31 December 2025 €		1 January 2026 – 31 December 2026 €		1 January 2027 – 31 December 2027 €		1 January 2028 – 31 December 2028 €	
	CA	IA	CA	IA	CA	IA	CA	IA	CA	IA
Standard price**	0.50		0.49		0.49		0.47		0.46	
Reduced price	0.37	0.29	0.36	0.29	0.35	0.28	0.34	0.27	0.33	0.26

**These prices assume the assignment of a minimum cross-sectional area in a duct equivalent to a sub-duct of 25mm diameter. Larger or additional sub-ducts / cables with a combined cross-sectional area above the minimum cross-sectional area are subject to higher prices.*

***Access Seekers are liable to pay for duct remediation costs above the threshold of €11,000 per kilometre of duct.*

Table 17: Incremental annual cost per metre for Sub-Duct Access*

Per metre	1 [month] 2024 – 31 December 2024 €	1 January 2025 – 31 December 2025 €	1 January 2026 – 31 December 2026 €	1 January 2027 – 31 December 2027 €	1 January 2028 – 31 December 2028 €
Sub-Duct Access Supplemental costs*	0.06	0.06	0.07	0.07	0.07

**The incremental cost per metre for Sub-Duct Access is added as a supplement to the price for Duct Access (in the table above) to determine the Sub-Duct Access price.*

7.419 Table 18 below sets out the main changes between the prices set in this Decision and the changes made as compared with the draft prices set in the Consultation.

Table 18: Main changes to Duct Access price

Description	€	Paragraph References
Draft Duct Access average price	0.65	
Change in duct length / other network data	(0.19)	7.162
FAR update	(0.05)	7.170-7.175
CPI price trend	0.05	7.191-7.192
Inclusion of street cabinets	0.04	7.170b)

FAR allocation to IA (5%)	(0.02)	7.175
Other	0.01	-
Final Duct Access average price	**0.49**	

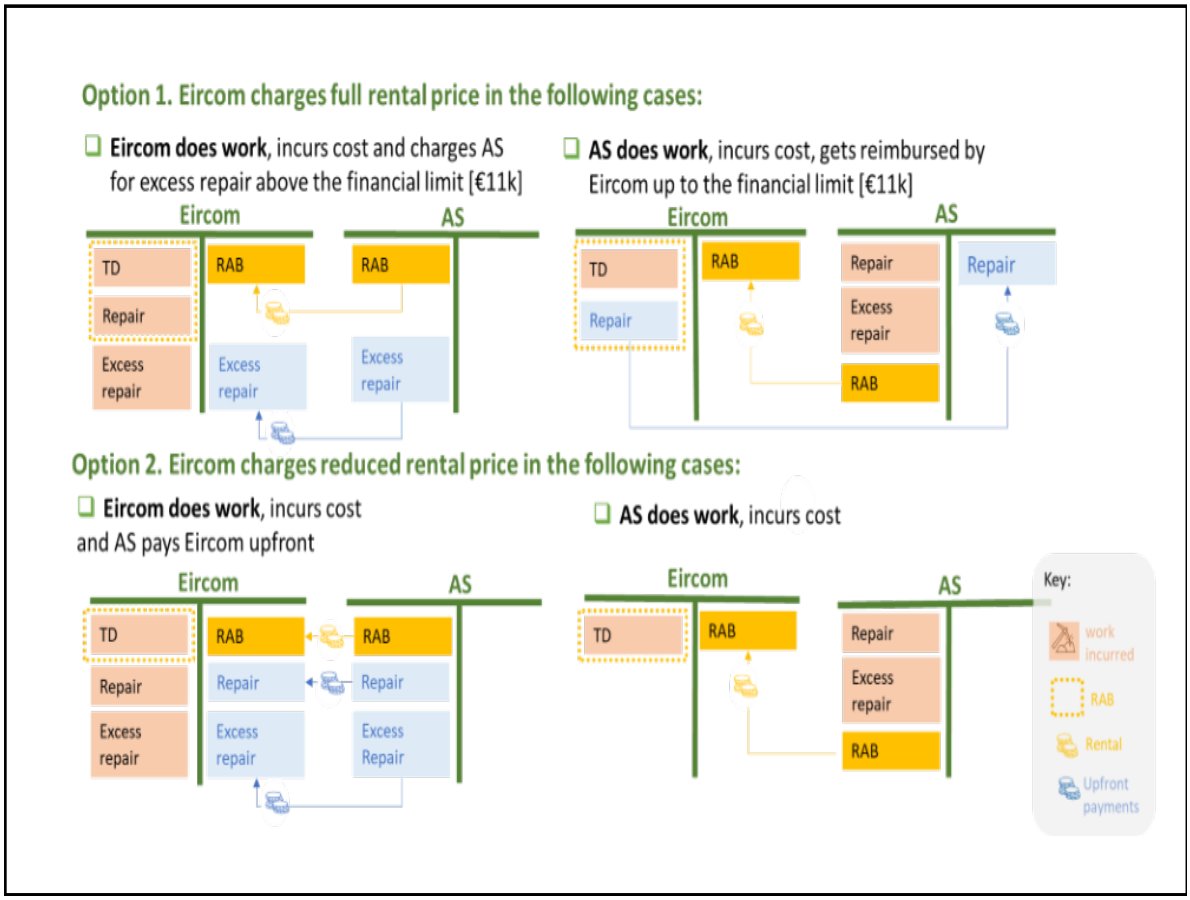
7.7.6 Pricing options for Duct Access Seekers

7.420 Eircom is required to give Access Seekers two pricing options with respect to Duct, with the view to allowing Access Seekers the choice of undertaking or not the remediation work themselves and to pay either the standard rental price or a reduced rental price.

Pricing options for Duct Access/Direct Duct Access

7.421 For Duct Access/Direct Duct Access, Eircom is required to make available to Access Seekers, the pricing options set out in Figure 17 and discussed further below, so that the Access Seeker can select the option(s) it wishes to use, in respect of each and every order that it makes.

Figure 17: 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

7.422 Under Option 1, Eircom charges the Access Seeker the **standard Duct Access/Direct Duct Access rental price**:

(a) Where the Access Seeker opts for **Eircom to undertake the duct remediation work**[604]**,** Eircom incurs the cost of such remediation up **to a financial limit of €11,000 per kilometre**[605] **of duct** as discussed earlier. In other words, the Access Seeker pays Eircom the standard 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[606], 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.

7.423 The standard 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 an Access Seeker undertakes the duct remediation work, the reimbursement payment from Eircom corresponds 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.

7.424 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.

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[604] Duct remediation work in the context of this Decision includes repair of the duct and desilting of the duct.

[605] 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.

[606] As part of its Access obligations Eircom is to offer two Duct Access products, namely Sub-Duct Self-Install (Unblocking) Duct Access and Sub-Duct Self-Install (Repair); please see Section 6 (Access Obligations).

7.425 The Duct Access / Direct Duct Access rental prices are set out in Table 16 above.

Option 2: Eircom charges a reduced Duct Access / Direct Duct Access rental price

7.426 Under Option 2, Eircom charges the Access Seeker a **reduced Duct Access/Direct Duct Access rental price** in the following two cases:

(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**, in which case the Access Seeker incurs the remediation cost.

7.427 The reduced Duct Access / Direct Duct Access rental prices 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 are reduced by the average duct remediation costs per kilometre, as discussed above at paragraph 7.200. The reduced annual Duct Access/Direct Duct Access rental prices are set out at Table 16.

7.428 NBI suggested that Option 2(a) should be applied retrospectively so that an operator who would have paid Eircom for duct remediation work should be entitled to the 30% discount off the duct rental charge.[607] However, ComReg notes that the matter of the prices paid under ComReg Decision D10/18 is not relevant or affected by the present Decision and the payment options set out here only apply from this Decision's Effective Date. They have no retrospective application.

7.429 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.

7.430 Eircom stated that the simpler option is always to require the Access Seeker pay upfront for remediation and make appropriate corrections to the rental, as this also alleviates problems with the workings of the threshold. Eircom also submitted in respect of the NBP IA that given that its investment in underground assets in the NBP IA is entirely driven by NBI's requirements, it would be appropriate to recover all duct remediation costs in the NBP IA

[607] NBI Submission, p 54.

upfront and the rentals should be adjusted to reflect this, as NBI will likely be the only beneficiary of that new investment.[608]

7.431 ComReg considers that the suite of options available under Option 1 and Option 2 allows the Access Seeker to decide on balance which option is more suited to their needs, taking into account the known risks involved. In both cases at Option 2 above ((a) and (b)) Eircom should recover its efficient historically incurred costs, while the capex risks associated with the duct remediation are entirely with the Access Seeker. Where the Access Seeker decides to pay the duct remediation costs upfront, as is the case with NBI in the NBP IA as confirmed by Eircom[609], the reduced duct rental prices at Table 16 reflect that. Hence, the decision to opt to pay the duct remediation costs upfront or not remains with the Access Seeker, and the prices derived by ComReg at Table 16 reflects both options.

7.432 In its Submission, SFG stated that where orders go "non-standard" as a consequence of blockages on the route, that evidence of such blockages should be provided to the Access Seeker by Eircom (including via its subcontractors) for invoicing purposes.[610] ComReg notes that depending on the option chosen by the Access Seeker, the party invoicing the other for remediation (whether Eircom or the Access Seeker) must provide reasonable evidence of the extent of duct remediation undertaken and of the reasonable associated cost of resolving the blockages.

7.433 For poles, Eircom stated that its current agreement with NBI is that Eircom will fund the investment in pole replacement in the NBP IA and for any transit poles that need to be replaced as a result of NBI's testing, and the recovery of that charge is by means of the annual pole rental charge. Eircom explained that this is because replacing poles is an ongoing activity to support the operation of copper cables and associated telephony and ADSL broadband services delivered in the NBP IA. Eircom further submitted that it would still need to invest in poles to deliver rural copper services, even without state aid for rural high-speed broadband and while it is reasonable to recover this business-as-usual investment through rentals, additional or accelerated pole replacement should be covered upfront.[611]

7.434 As noted earlier, pole replacement is mainly a planned and recurrent activity. Where pole replacement needs to be accelerated outside the BAU pole

[608] Eircom's Pricing Submission, paragraphs 171-172, p 54.

[609] Eircom's Pricing Submission, paragraph 172, p 54.

[610] SFG Submission, pp. 9-10.

[611] Eircom's Pricing Submission, paragraph 173, p 54.

testing cycle for the purpose of fibre rollout, there may be incremental costs of doing so but these costs are expected to be limited to the additional working capital required to change the timing of the pole replacement. However, for the duration of this price control period, ComReg does not consider that this alone warrants the option of an Access Seeker making upfront payments to Eircom for pole replacement.

7.435 Furthermore, based on the information to hand from Eircom (through the Section 13D information request and Eircom's 2021 HCAs) there is no evidence of upfront payments by NBI for pole replacement costs, which suggests that Eircom did not consider it necessary to have such arrangements in place with NBI in the context of poles.

7.436 ComReg is also of the view that given a pole is a discrete asset (unlike, for example, duct blockage clearances which are not separatable from the duct asset), allowing for the option of upfront payments to Eircom could give rise to the question on the nature of ownership – who owns the pole and who can generate a rent from it. Hence, we do not consider for the reasons set out above that it is justified or reasonable to have the same pricing options for pole remediation, as for duct remediation.

7.437 NBI stated in its Submission that [✂ ✂][612] To clarify, [✂ ✂]

Pricing options for Sub-Duct Access

7.438 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.

7.439 In other words, for Sub-Duct Access Eircom can charge the Access Seeker the **standard Sub-Duct Access costs** (i.e., prices in Table 16 plus the incremental annual costs of Sub-Duct Access in Table 17) where **Eircom undertakes the duct remediation work,** and incurs the cost of same**,** up to

[612] NBI Submission, p. 54.

a financial limit of €11,000 per kilometre of duct. In addition, Eircom can charge the Access Seeker **a reduced price for Sub-Duct Access** (i.e., prices in Table 16 plus the incremental annual costs for Sub-Duct Access in Table 17) where **Eircom undertakes the duct remediation work**, and incurs the cost of same, and the Access Seeker pays Eircom the duct remediation costs upfront.

7.8 Cost accounting obligation for PIA

7.8.1 Imposing a cost accounting obligation for PIA services:

7.440 To ensure the effectiveness of the price control obligations, 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.

7.441 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.

7.442 Already a significant proportion of the RAB[613] 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 NBP IA. 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

7.443 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

[613] Regulatory Asset Base.

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.

7.444 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 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.

7.445 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).

7.446 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. While Eircom was the sole user of almost all of its poles, with the result that the majority of 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 types 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.

7.447 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 7.446, ComReg also recognises that there are sub-sets of PIA that may also need to be isolated.

7.448 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).

7.449 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.[614]

7.450 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.

7.451 In Eircom's Submission Eircom stated that the changes proposed by ComReg are extensive and it is clear that there is an expectation that Eircom is required to make significant investments and upgrades in its operational, financial and cost accounting systems to implement the required changes. Eircom considers that these changes will require significant resources and expenses to implement and will include changes which increase the scope

[614] Please see Section 3.

and complexity of the statutory and regulatory audits. According to Eircom [✂ [redacted] ✂][615]

7.452 Eircom also stated that it faces significant data challenges in respect of legacy assets so that it would not be possible to produce a lot of the data at the level of granularity requested by ComReg. Furthermore, where data does not currently exist, Eircom would need to either incur significant costs in surveying the network or need to develop potentially subjective assumptions and sampling methods to determine cost attribution methodologies. In this regard, Eircom considers that its auditors would need detailed involvement in reviewing draft methodologies prior to their implementation in order to achieve "the high bar" of a fairly presents regulatory audit opinion.[616] Effecting the changes would involve a redesign of its cost model to define new network elements for all PIA services. As it would not make sense to define transfer charges to reflect the use of PIA in downstream markets, new PIA network elements would need to be set up with onward allocations to downstream services consistent with their current attributions along with the new PIA services. The definition of new network elements is, according to Eircom, an extensive task which involves significant restructuring of the cost accounting system, amendment of cost accounting methodologies and overhead attributions and the development of new studies to ensure that it is possible to fully recreate and reconcile the HCAs with the new network element structure. Eircom claims that this will involve "significant time and effort" and will need new data sources and systems to effect the changes, all of which will require significant internal review and review from Eircom's auditors.[617]

7.453 Eircom noted further that it was not clear what time period Eircom would be allowed to implement and deploy these changes. Eircom submitted that it needs to scope out the cost accounting and reporting requirements in detail to fully flesh out the required changes to systems, data sources and cost accounting methodologies, transform these into a programme of work and secure funding and resources to implement them. This would also require consultation with ComReg to understand what is, and what is not possible, understand the full time and cost implications and agree a detailed

[615] Eircom's Submission, paragraph 347, p 140.

[616] Eircom's Submission, paragraphs 351-352, pp 141-142.

[617] Eircom's Submission, paragraphs 360-361, p 143.

implementation plan and pragmatic solutions to any challenges, in advance of ComReg making a final decision.[618]

7.454 Having considered Eircom's Submission, ComReg notes that in parallel with this Decision, ComReg is available to engage with Eircom to provide further guidance to Eircom on implementing the accounting requirements specified so that Eircom can ensure compliance with its cost accounting and accounting separation obligations. ComReg also intends to engage further with Eircom as part of the HCA annual review discussions provided for under ComReg Decision D08/10 (the '**2010 Accounting Separation Decision**') [619].

7.455 To support the PIA 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 and proportionate. Eircom has SMP across the national PIA Market and a number of competition problems have been identified in Section 5. For example, Eircom, a vertically-integrated operator could leverage 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, restricting and/or distorting competition. In addition, Eircom could engage in exploitative behaviours, such as excessive pricing or practices leading to inefficiency and/or inertia. ComReg considers that the cost accounting obligation is justified in order to ensure that there is sufficient visibility of how costs are allocated across PIA services and to ensure that Eircom 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. In addition, in the case of a vertically integrated Undertaking, like Eircom, the cost accounting obligation can also support the obligation of non-discrimination and prevent unfair cross-subsidies to other services, and so help ComReg to monitor Eircom's compliance with its pricing obligations.

7.456 Eircom's estimation of the cost of the PIA cost accounting and accounting separation requirements of [✂ [redacted] ✂] includes circa [✂ [redacted] ✂] towards the cost of surveying ducts. However, an efficient operator would have already carried out duct surveys as part of the rollout of its fibre network and these records should exist independent of the cost accounting obligation. This is accordingly not a cost that is relevant to the cost accounting and accounting separation obligations and its proportionality. It may be the case that splitting the PIA costs and revenues

[618] Eircom's Submission, paragraphs 371-376, pp 146-147.

[619] Response to Consultation, and Final Decision: Accounting Separation and Cost Accounting Review of Eircom Limited, ComReg Document 10/67, dated 31 August 2010.

between FNI and Eircom may require some further survey work to identify ducts associated with FNI in the Commercial Areas and Eircom in the NBP IA. However, ComReg considers that Eircom should be able to utilise the duct surveys that it is currently undertaking in order to identify this split. In its estimation of costs, Eircom also included the costs of remediating chambers. For clarity, ComReg is not requiring Eircom to remediate chambers in order to implement the cost accounting and accounting separation obligations.

7.457 Similarly, Eircom's estimate also includes costs associated with assessing the cross sectional sizes for duct cables, but ComReg does not consider that extensive surveys of underground plant to determine duct usage is required. Eircom already attributes duct costs between fibre and copper cables in its HCA Accounts. Furthermore, the distinction between FNI and Eircom ducts is more likely to be informed by whether Eircom expects that it would continue to use that duct track for its fibre network (FNI duct) or whether it expects to have no active cables in the duct track after copper switch-off (i.e., Non-FNI, Eircom, duct).

7.458 Hence, ComReg considers that Eircom's estimation of the costs of implementing the PIA cost accounting and accounting separation obligations is excessive. Having considered Eircom's Submission, ComReg remains of the view that the cost accounting and accounting separation requirements imposed on Eircom are justified and proportionate.

7.9 Accounting separation obligation for PIA

7.9.1 Imposing an accounting separation obligation for PIA services

7.459 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 SMP operator'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 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.

7.460 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.

7.461 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.

7.462 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.

7.463 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 Non-discrimination and Costing Methodologies 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 of costs. This adjusted RAB valuation could then be used to inform future PIA prices.

7.464 For external use of PIA, 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, Eircom should report on its costs and revenues for PIA services in the PIA Market in Eircom's HCA Accounts. In addition, it is necessary to gather additional information which is not directly available from Eircom's HCA Accounts. These requirements are discussed below.

7.9.2 Implementing the accounting separation obligation

7.465 In the context of this Decision, ComReg considers that there being a separate regulated market for PIA services and given the expected increase in the uptake of PIA services (by NBI and others) an obligation on the part of Eircom to report on duct and pole access costs and revenues separately as part of a PIA market statement in Eircom's HCA Accounts is required. 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.[620]

7.466 ComReg considers the accounting separation obligation reporting requirements under the following headings:

(a) HCA Accounts;

(b) Additional Financial Information ('**AFI**').

HCA Accounts

7.467 ComReg has set out below what should be included in Eircom's HCA Accounts for PIA. ComReg 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 data requirements set out below.

7.468 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, 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.

[620] 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

7.469 As part of the information requirements above, PIA services are to be disaggregated 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 (7.332 to 7.358);

(b) Upfront duct remediation payments (7. to 7.); and

(c) Ancillary or other charges such as one-off process charges (7.368 to 7.381), pole furniture (7.382 to 7.401) and tree trimming (7.402 to 7.).

7.470 In Eircom's Submission Eircom stated that it is not clear whether ComReg expects ancillary charges to be reported individually or in aggregate and a pro-forma statement would be helpful. Eircom disagreed with the requirement to publish volume information and average costs and revenues for ancillary services which would increase the regulatory audit burden as the processes to review work orders and map activity codes to services would come under the scope of the audit.[621]

7.471 To clarify, Eircom should provide the information on Ancillary services at a total level (i.e., total costs and total revenues), and not by average cost and average revenue. In addition, Eircom is not required to provide volume information on its ancillary services.

7.472 ComReg considers that reporting the information on the PIA market (specified at paragraph 7.) in the same structure and detail as other regulated markets means that Eircom has to report ducts and poles as separate network elements in the Statement of Network Costs in Eircom's HCA Accounts, and accordingly 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 reporting obligations without imposing an undue burden on Eircom.

7.473 An important factor in determining the appropriate accounting separation obligation for PIA products, services and facilities is the transfer to FNI of a significant proportion of Eircom's PIA assets, which in turn requires 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.

[621] Eircom's Submission, paragraphs 354-357, p 142.

7.474 NBI raised concerns in its Submission that given Eircom's SMP, much greater detail ought to be published on precisely how revenue flows and activities between Eircom and FNI are currently handled and will be in future. NBI stated that it is entirely unclear to it, where fibre is being deployed, whether the order has been placed by Eircom or FNI and who, ultimately, is the customer of whom. In addition, NBI sought clarity on cases where remediation work is being carried out on FNI duct assets, it is unclear to NBI how and in what manner such transactions will be recorded.[622]

7.475 In contrast, Eircom claimed that the requirement to split costs between FNI and Non-FNI is a significant undertaking which will lead to a significant duplication of effort. Eircom considers that this will increase the complexity of fully recreating the HCAs under the new network element structure, it will result in the addition of new studies and a much greater level of cost separation to differentiate between FNI and non-FNI, which it claims will have a material impact on the regulatory audit and be very costly. FNI will be accounted for as a subsidiary of Eircom Ltd. and from a statutory accounts perspective FNI's revenues, costs, assets and liabilities will be fully consolidated (100%) into the Group accounts, with non-controlling interest shown separately on the Income Statement and the equity section of the Balance Sheet. Eircom considers that it is not proportionate or justified and inconsistent with accounting best practice to impose further administrative and cost burden on Eircom to report FNI separately.[623]

7.476 According to Eircom. the requirement to report and publish at a sub-geographic level would not be proportionate or justified or consistent with the competition concerns ComReg is seeking to address, given that ComReg has defined a single national PIA market.[624] Eircom also claimed that regulatory oversight over NBI's activities is not required having regard to NBI's obligations to the State and they are matters for NBI to discharge which cannot be delegated through SMP remedies to Eircom. Further engagement was required to ascertain what is reasonably required and obtainable and that this must be done in advance of ComReg making (if appropriate) a final decision and cannot be sought to be retrospectively imposed by ComReg on Eircom once a decision has been published. [625]

7.477 ComReg notes that there are a number of reasons why Eircom is required to provide a split of the PIA cost and revenue by FNI and Non-FNI (Eircom) in

[622] NBI Submission, p 55.

[623] Eircom's Submission, paragraph 366, p 145.

[624] Eircom's Submission, paragraphs 363-364, p 144.

[625] Eircom's Submission, paragraphs 366-370, pp 145-146.

Eircom's HCA Accounts. This information will 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 and its cost orientation price control obligation. In addition, the PIA assets related to the FNI entity are being 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, but instead will be used by NBI, and this can ultimately impact on the cost oriented PIA prices.

7.478 Furthermore, accountancy best practice includes the principle of cost causality, which requires that the allocation of asset costs in a network study should be consistent with how those assets are ultimately used to provide the services supported by those assets. ComReg would expect that Eircom is already in the process of developing network studies to distinguish between assets that are used to support downstream fibre-based services (i.e., FNI assets) and assets which are not used to support downstream fibre-based service (i.e., non-FNI assets).

7.479 Eircom has also identified different duct occupancy factors between the NBP IA footprint, which corresponds to the Non-FNI network and the Commercial Area footprints corresponding to the FNI network. Again, these factors should be relevant to the network studies that Eircom will use to attribute costs in the HCA accounts. Similarly, Eircom's position that the only reason it is investing in the non-FNI assets in the NBP IA is to support the access requests for NBP together with the fact that NBI has paid up-front for all duct remediation, indicates that the FNI and Non-FNI assets will experience different cost trends in future HCA accounts, in particular if Eircom is not investing in non-FNI ducts.

7.480 As a result, ComReg is of the view that distinguishing duct and pole costs between FNI and Non-FNI assets is consistent with accountancy best practice and is necessary if Eircom is to comply with key regulatory accounting principles including the following:

(a) Cost causality i.e., costs, assets and liabilities should be allocated to cost pools on the basis of how those cost pools cause the costs to be consumed, the assets to be acquired or liabilities to be incurred;

(b) Objectivity i.e., the attribution must be objective and not intended to benefit either the operator or any other operator, business, market or service;

(c) Transparency i.e., the attribution methods used must be transparent. Resources, costs, assets and liabilities attributed to cost pools must be traceable back to their source in the operators' accounting records.

7.481 Furthermore, given ComReg's decision to revise the pricing approach for duct so that the prices are set to reflect the costs in the NBP IA and Commercial Area footprints, the cost information split by FNI and Non-FNI is justified in order to monitor Eircom's cost orientation obligation. ComReg recognises that updates to accounting systems in order to identify duct/poles associated with the FNI entity and Non-FNI may require some further surveys and revisions to network studies but does not anticipate that these will be as extensive as Eircom claims. ComReg is available to explore this further with Eircom to ensure that surveys and data are extracted in the most practical and proportionate way.

7.482 ComReg remains of the view 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, which should ensure consistency with the revised pricing structure for duct based on the NBP IA and Commercial Area footprints.

7.483 With regards to Eircom's assertion that ComReg is actually looking for Eircom to report on NBI activities, this is not ComReg's intention. The only level of disaggregation in respect of the PIA market that Eircom is required to report on as part of its Accounting Separation obligations, is between internal and external use of PIA. Internal use of PIA relates to Eircom's use of duct and poles to provide wholesale services in downstream markets, while the external use of PIA comprises the costs and revenues relating to the PIA services provided to all other operators, and not just NBI.

7.484 With regards to Eircom's internal use of ducts and poles in the Commercial Areas (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 (or an appropriate) transfer[626] to the other downstream markets in Eircom's HCAs. Nonetheless, this may require an amendment to the cost allocation method that Eircom currently has in place for preparing its HCAs, or at least how the associated costs are reported in the Separated Accounts. 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

[626] This is similar to the 'cost plus the regulated rate of return' transfers Eircom currently use for certain Wholesale Residual (Unregulated) services in the HCA Separated Accounts. See https://www.eir.ie/opencms/export/sites/default/.content/pdf/regulatoryinformation/PAD.pdf, page 43.

to the downstream services that are supported by those network elements. ComReg will engage with Eircom to assess how the cost allocations and cost-based transfers in the HCAs can be tracked 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.

7.485 With regards to the costs for Sub-Duct Access, ComReg's pricing approach (discussed at 7.215) is to consider subduct costs as an incremental cost to duct access, with the subduct incremental price based on a newly installed subduct. Therefore, those subduct costs should not be included in the RAB associated with ducts. Instead, the associated capital costs for subduct should be separately identified in Eircom's fixed asset register. As a result, the change to the asset lives for subduct, at paragraphs 7.146-7.148, should be reflected, so to ensure consistency and reconciliation with the asset life used to set the prices in the DAM. Also, the incremental subduct revenues from providing subduct access should also be identified and reported separately, to be consistent with the approach for subduct costs.

7.486 The 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 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 NBP IA 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)

7.487 The 2018 WLA Market Decision[627] 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**').[628]

[627] Section 12.8 of the Decision Instrument at Appendix 20 of the 2018 WLA Market Decision.

[628] Please see Annex 13 of the 2016 Access Pricing Decision for the details.

7.488 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.

7.489 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:

(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 1 and 2) of this Decision 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 1 and 2) of this Decision document. Where this is not the case, Eircom should provide an update on the revised forecasts in the annual PIA statement.

7.490 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., 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.

7.491 The data requirements at (a) to (c) above are reflected in the 'PIA network volumes' statement (or template) scheduled (at Schedule 3) to the Decision Instrument.

7.492 For monitoring the basis of the financial threshold for duct remediation of €11,000 per kilometre of duct, Eircom should separately identify and report the cost and volumes of duct remediation works that are below the financial threshold of €11,000 per kilometre 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 data requirements are reflected in the 'PIA Duct Remediation' statement scheduled to the Decision Instrument at Schedule 4.

7.493 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.

7.494 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 agree 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.

7.495 In addition to the preparation of the annual statements above by Eircom, 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 NBP IA, 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.

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 overseen by ComReg in two principal ways.

8.3 Firstly, since 2013[629] Eircom has been required in the markets where it is designated as an operator with SMP to produce a Statement of Compliance ('**SoC**') demonstrating 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 identify, manage and control the risks of non-compliance with its regulatory obligations.

[629] First imposed, in respect of non-discrimination obligations, in ComReg Decision D03/13, ComReg Document 13/11; Next Generation Access ('NGA'): Remedies for Next Generation Access Markets

8.4 Secondly, on 10 December 2018, ComReg and Eircom entered into a settlement of a number of High Court proceedings ('**Settlement Agreement**').[630] 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 Following its review of the IOB's first report published on 5 October 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.[631] The causes for ComReg's views had not been addressed, or addressed in full, when the second IOB report was published on 16 December 2022.[632]

8.6 In its Electronic Communications Strategy Statement 2023-2025,[633] 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, in whatever specific form, may be 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 currently consumed by Access Seekers using Bitstream and VUA type products which require infrastructure

[630] Settlement Agreement between Eircom and ComReg dated 10 December 2018.

[631] ComReg 21/95, ComReg statement on IOB Opinion, 5 October 2021.

[632] ComReg 22/108, Independent Oversight Body (IOB) Report, 16 December 2022.

[633] Electronic Communications Strategy Statement 2023-2025, ComReg Document 23/24, April 2023.

investment at a National/Regional handoff for Bitstream or local exchange/aggregation 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 remains concerned in this regard that the lack of take up of passive based PIA products suggests that Eircom may not be playing its 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 which competes with Access Seekers in downstream related markets, faces incentives to restrict and/or distort competition. Relative to, for example, WLA and WCA services, an effective and efficient PIA product would more likely create more long-term sustainable competition from Access Seekers, given that they would 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 products, over which Eircom has greater control and arguably greater profit maximising opportunities.

8.9 The establishment of 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 3.28 to 3.42 of this Decision 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, it is necessary to require Eircom 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. In particular, Eircom is required to prepare and provide to ComReg, a 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.

8.11 However, Eircom's obligations may be respecified or complemented by further requirements (following consultation where required), 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 (now Regulation 60 of the ECC 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.

8.12 Eircom in its submission objected to an obligation to produce a SoC on a number of grounds. Eircom noted that such an obligation is not provided under the ECC Regulations and according to Eircom, ComReg's reasoning and justification was flawed and inadequate as there is no evidence presented by ComReg as regards the low take-up of existing PIA products; that insofar as Eircom is concerned, the low take-up is explained by the fact that outside the NBP IA, the only potential demand is from SIRO and Virgin Media and they would have strategic reasons not to use Eircom's PIA; that there would be no credible concerns about Eircom employing discriminatory or exclusionary behaviour in the PIA market; and that even if there were incentives for Eircom to behave in a discriminatory or exclusionary manner arising from its vertical integration, the other remedies would "*neutralise this incentive*".[634] Eircom was also of the view that a SoC requirement was disproportionate having regard to existing disputes and investigative powers; and that ComReg had failed to take into account the IOB reporting process.[635] Eircom also disagreed that the FNI Transaction had triggered Regulation 15 or had any relevance to the imposition of a SoC obligation. Eircom objected to ComReg's indication that it may respecify or complement

[634] Eircom Submission, paragraph 295, pp. 119-120.

[635] Eircom Submission, paragraph 282.

by way of further requirements including non-standard remedies and it was of the view that ComReg had prejudged the outcome.

8.13 However, ComReg notes first that Eircom has been subject to a requirement to produce SoCs since 2013 and its suggestion that "While ComReg today receives a statement of compliance under the 2018 Decision and 2020 WHQA decision it is important to highlight that eir conceded to those obligations in light of the Settlement Agreement" is not accepted. The requirement to produce a SoC in the 2018 WLA Market Review Decision or the 2020 WHQA Decision are not linked in any way to the existence of the Settlement Agreement. Given that the Settlement Agreement remains in place, it is not clear what relevance Eircom's point has in any event.

8.14 ComReg in this regard is satisfied that there is legal basis for the requirement that Eircom has in place effective regulatory governance arrangements ensuring compliance with its SMP obligations and for that purpose, that Eircom produce a SoC, and that there is adequate and sufficient justification for same. At a fundamental level the requirement for a SoC is anchored in Eircom's obligation to provide access transparently in a non-discriminatory manner and in accordance with a price control, and the monitoring of same. It is designed, not for ComReg to "*substitute its own view of what constitutes 'adequate' risk consideration for that of eir*" as Eircom contends,[636] but rather to understand the processes that Eircom has put in place, and see their workings in practice, and to deliver transparently non-discriminatory access in accordance with the price control, including how decisions are made in that respect. It is no more than a corollary of the substantive SMP obligations imposed on Eircom.

8.15 ComReg notes further in this regard that under Regulation 105(1) of the ECC Regulations, it is obliged to "*monitor and supervise compliance"* and that under Regulation 105(2), it may require an SMP operator to provide "*all the information that* [ComReg] *considers necessary to verify compliance"*. ComReg has explained why having regard to the PIA Market and the corporate structure of Eircom, in particular its vertical integration, transparency as regards Eircom's regulatory governance arrangements and the manner in which they are applied in practice is critical to monitoring the effectiveness of the remedies imposed on Eircom and shed any light as regards whether a level playing field is being delivered or not. ComReg, as already explained in Section 6, does not accept Eircom's analysis of the market, and ComReg's position is informed by the submissions of other

[636] Eircom Submission, paragraph 313.

operators making it clear that they would make use of PIA if the product suite was fit-for-purpose.

8.16 Contrary to Eircom's contentions, the SoC and ComReg's investigative and dispute resolution powers serve distinct, complementary roles in regulatory oversight. The SoC is addressed at proactive self-monitoring of compliance by Eircom, whereas ComReg's functions are reactive, coming into play after compliance issues arise. In this framework, one is not a substitute for the other; both are essential for comprehensive oversight. This means that requiring an SoC is not disproportionate but an integral part of a balanced approach to ensuring compliance.

8.17 ComReg notes that Respondents to Consultation other than Eircom were concerned that the imposition of a SoC requirement did not go far enough having regard to ComReg's concerns with the effectiveness of the IOB, the issues identified on the market to date and Respondents' experience of CEI or the potential impact on incentives arising from the FNI transaction.[637] Of great concern to ComReg also is the fact that many Respondents to Consultation made sweeping claims for confidentiality as regards their submissions noting their concern that publicising their views as regards Eircom's behaviour in respect of PIA would lead to retaliation. SFG noted also that it was [✂ ✂];[638] whilst NBI stated that [✂ ✂].[639]

8.18 ComReg agrees that the FNI transaction is relevant to the manner in which Eircom approaches the discharge of its regulatory obligations and notes that notwithstanding Eircom's position that Regulation 15 of the Access Regulations (now Regulation 60 of the ECC Regulations) was not triggered by the FNI transaction,[640] it is ComReg's position that it is obliged to consider the implications of the transaction including in terms of Eircom's incentives in providing non-discriminatory transparent PIA to Access Seekers.

8.19 In light of its market analysis and having regard to Respondents' Submissions, it is ComReg's concern that obligations to date have not

[637] ALTO Submission, p. 15; BT Submission, p. 15; NBI Submission, p. 56; SFG Submission, pp. 24-25; and Virgin Media Submission, pp. 21-22.

[638] [✂ ✂].

[639] [✂ ✂].

[640] Eircom Submission, paragraph 324-325.

ensured that there is effective access to Eircom's PI. The requirement upon Eircom to provide a SoC detailing and explaining Eircom's risk assessment and control and governance measures is necessary and proportionate in this context as it will assist in monitoring discharge by Eircom of its SMP obligations and identify any potential issues as regards Eircom's incentives in terms of provision of PIA within the Eircom group (including FNI) and to Access Seekers.

8.20 ComReg does not believe that the existence of the IOB is sufficient in this regard. Contrary to Eircom's Submission that ComReg would have "*failed to take into account the very detailed reporting on regulatory compliance that eir is already providing to the IOB*",[641] ComReg has had regard to the role played by the IOB. However, as explained by ComReg in respect of the First IOB Report and recalled above, the approach followed by Eircom and the IOB in terms of the review of Eircom's governance arrangements did not provide ComReg with reason to place meaningful reliance on the effectiveness of Eircom's RGM when ComReg is exercising its regulatory functions, and this remains the case. The majority of Respondents were of the view that the IOB was not going far enough in the role of overseeing Eircom's Regulatory Compliance;[642] ComReg also notes that the legal footing for the IOB is of a contractual nature and in that regard it has a fixed term under the Settlement Agreement.[643]

8.21 Finally, as stated in ComReg Electronic Communications Strategy Statement 2023-2025, ComReg will continue to review and monitor the effectiveness of the RGM and Settlement Agreement and consider if more regulatory action is required, subject to consultation.

8.22 ComReg notes that the Settlement Agreement and Statement of Compliance requirement have been in place for some time, and during that period, there has been a lack of appreciable take up of use by third parties of PIA – apart from for the purposes of the National Broadband Plan. ComReg will consider whether remedies in this decision are likely to lead to an appreciable change in this position – in particular, to an extent that would permit ComReg to consider further de-regulation of downstream markets in future. ComReg has stated in its Electronic Communications Strategy Statement 2023-2025 that it will evaluate whether further regulatory interventions would be justified in this market in order to help achieve this goal. There is in this regard no pre-

[641] Eircom Submission, paragraph 308.

[642] BT Submission, p. 15; Virgin Media Submission, p. 22; NBI Submission, p. 56.

[643] Clause 16.3 of the Settlement Agreement between ComReg and Eircom, Dated December 2019.

judgment of outcomes on the part of ComReg, as Eircom contends in its Submission, and any decision on the part of ComReg to impose any further requirements or amend existing requirements, whether standard or non-standard, will be guided by the outcome of that assessment and subject to consultation and completion of any applicable procedural steps.

8.2 Statement of Compliance

8.23 Eircom is required to provide, and keep up to date, a SoC that details and explains Eircom's risk assessment and control and governance measures.

8.24 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 Relevant PIA Market.

8.2.2 Information to be provided in the SoC

8.25 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.

8.26 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.

8.27 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.

8.28 Eircom's risk analysis process which it currently applies to markets in which Eircom has been designated with SMP is structured such that it produces the information outlined above and 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 Relevant PIA Market.

8.29 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 Relevant PIA Market.

8.2.3 Activities particularly relevant to the PIA Market

8.30 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.

8.31 For the avoidance of doubt, ComReg is not proposing that these are the only categories or areas where the 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[644] as required by Eircom's regulatory obligations in the Relevant PIA Market will apply throughout the Eircom organisation.

8.32 The 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.

8.33 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 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.

8.34 The SoC should 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.

8.35 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.

8.36 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

644 "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.

Relevant PIA Market. This serves to emphasise 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.

8.37 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."*

8.38 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.

8.39 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.

8.40 The SoC therefore must describe both the processes followed and the information relied upon by the signatory to the SoC who is required to certify the correct operation of the governance process. Similarly, the SoC must include 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. This must also include a description and explanation of the processes followed by Eircom's management, in particular Senior Managers in relevant Business Areas,[645] in order to assess the operation and effectiveness of the processes used to identify and mitigate risks of non-compliance.

8.41 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.

8.42 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.

8.43 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 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 will not result in an additional burden as this information is currently being generated by Eircom as it operates its RGM.

[645] 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.

8.44 In its Submission, Eircom stated that "…the requirement to produce and publish a 'Statement of Compliance' is highly intrusive and wholly disproportionate" further stating that with the obligations existing that "access seekers can have a very high level of confidence in eir's compliance arrangements and its underlying incentives to comply[646]". Eircom further stated that it is "a matter for each regulated company how is manages its risk of non-compliance"[647]

8.45 ComReg does agree with Eircom that the regulatory governance processes by which Eircom maintains compliance are a matter for Eircom. To that end, in the process leading to this Decision, ComReg has not required Eircom to implement a specific form of regulatory governance.

8.46 However, contrary to Eircom's position, a number of the operators supported ComReg's position or suggested that the measures were not enough. In its Submission, BT stated "*In our view this governance remedy need to be seriously strengthened",*[648] while NBI stated *"the proposed Statement of Compliance (SOC) process does not go far enough*".[649] ComReg further notes that both [✂ [redacted] ✂] and [✂ [redacted] ✂] make reference to a need to consider functional separation within Open eir[650].

8.47 ComReg's position is that confirmation via the SoC that the development of regulated products takes place in a non-discriminatory and transparent way supports innovation and fosters competition is required. The publication of the SoC can demonstrate to Access Seekers that Eircom is appropriately managing regulatory risk with respect to, inter alia, the development of regulated products. As stated previously in this document, the SoC is the least intrusive and burdensome obligation to provide a sufficient level of assurance.

8.2.4 Timeframe for Provision of the SoC to ComReg

8.48 ComReg should provide a SoC for the Relevant PIA Market within three (3) months from the effective date of this Decision. Thereafter, Eircom is required to provide an updated SoC as part of any new notification to ComReg and subsequent publication, of a new PIA product, service or facility, or a change to an existing PIA product, service or facility. These timelines may be varied,

646 Eircom Submission, paragraph 285

647 Eircom Submission, paragraph 312

648 BT Submission page 15, BT Response to question 22

649 NBI Submission page 56, NBI Response to question 22

650 [✂ [redacted] ✂] and [✂ [redacted] ✂].

either on Eircom's application or on ComReg's own initiative, where justified and appropriate. ComReg considers a product notification (including amendment) will only be considered to be complete if it includes the updated SoC.

8.49 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.

8.50 In its Submission, Eircom stated that the three (3) month window to provide a SoC was "unreasonable", further stating that "*in eir's view 10 months would be a more reasonable and proportionate timeframe for the first RGSoC*".[651] However, the SoC produced by Eircom under the 2018 WLA Market Analysis Decision does cover PIA and Eircom should already have in place, for the most part, the processes allowing for the production of the SoC. A 10 month timeframe in this regard would be excessive while a period of 3 months ought to be more than sufficient in this context.

8.2.5 Publication of the Statement of Compliance

8.51 ComReg has considered whether the SoC should be published and available to Access Seekers and has determined 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.

8.52 The provision of the SoC to Access Seekers gives greater visibility 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.

8.53 However, ComReg recognises that some information to be published as part of the 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.

8.54 Eircom should make the SoC available on its publicly available wholesale website one month after provision of the SoC to ComReg. Timelines may be

[651] Eircom Submission, Paragraph 297

varied, either on Eircom's application or on ComReg's own initiative, where justified and appropriate.

8.55 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.

8.56 Having regard to the analysis set out above, ComReg has decided accordingly that Eircom should be obliged to provide a SoC to ComReg with respect to all its regulatory obligations as imposed in the Relevant PIA Market.

9 Regulatory Impact Assessment ('RIA')

9.1 Overview

9.1 The Regulatory Impact Assessment ('**RIA**') is an analysis of the likely effect of 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 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[652] and takes into account the "Better Regulation" programme[653] 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[654] 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

[652] ComReg Document 07/56a, ComReg, "Guidelines on ComReg's Approach to Regulatory Impact Assessment", 10 August 2007 (the 'RIA Guidelines').

[653] 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.

[654] Ministerial Policy Direction made by the Minister of Communications, Marine and Natural Resources on 21 February 2003.

primary or secondary legislation. ComReg's ultimate aim in conducting a RIA 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.

9.5 ComReg's approach to RIA follows five steps:

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

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

(c) Step 3: Determine the impacts on stakeholders.

(d) Step 4: Determine the impacts on competition.

(e) 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"*[655]*.*

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"*[656]*.*

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 ComReg is following in this market review. The RIA has been finalised,

[655] See paragraph 2.1.

[656] 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.

having taken Respondents' Submissions into account and having regard to the CCPC Consultation and the European Notification Requirements.

9.10 ComReg conducts its RIA having regard to its approach to impose (or not) regulatory remedies identified in this Decision, 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 Decision, represent a RIA. It sets out an assessment of the potential impact of regulatory obligations for the PIA Market on Eircom.

9.2 Principles in selecting remedies

9.11 In Section 2.4 ComReg set out the legislative basis upon which it must consider the imposition of remedies. In choosing remedies ComReg is obliged, pursuant to Regulation 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 4 of the ECC Regulations; and

(c) Only imposed following consultation in accordance with 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 Decision.

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 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 an access[657]. Should this be insufficient to address competition problems on its own, ComReg may apply a transparency[658] or a non-discrimination obligation.[659] If this is still not sufficient, ComReg may next consider the imposition of an accounting

[657] Regulation 55 of the ECC Regulations.

[658] Regulation 51 of the ECC Regulations.

[659] Regulation 52 of the ECC Regulations.

separation obligation.[660] The final measure to be considered is the imposition of a price control and cost accounting remedy.[661]

9.18 In Eircom's Submission,[662] it stated that ComReg had focused on the incremental change in remedies from previous decisions and that the totality of remedies should have been considered, as the conditions under which the previous remedies were established may have changed. As a result of this, Eircom was of the view that the proportionality of the full set of remedies were not properly considered. Eircom also claimed in its Submission[663] that ComReg did not provide any analysis of the cost on Eircom of the proposed changes to existing remedies, which Eircom state will impose "considerable costs and disruption". Eircom also questioned[664] the need to alter the existing set of CEI remedies from the 2018 WLA Decision and stated that ComReg provided no analysis or evidence for the changes proposed in the Consultation. ComReg does not agree with Eircom's position. The proportionality and justification for the remedies set out in this Decision as well as any changes to the remedies since the 2018 WLA Decision have been documented throughout this Decision and in particular in Sections 5, 6[665] and 7[666].

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) Accounting Separation; and

[660] Regulation 53 of the ECC Regulations.

[661] Regulation 56 of the ECC Regulations.

[662] Eircom non-confidential submission, paragraph 342.

[663] Eircom non-confidential submission, paragraph 343.

[664] Eircom non-confidential submission, paragraph 344.

[665] Paragraphs 6.11 to 6.344.

[666] Paragraphs 7.19 to 7..

(e) Price Control and Cost Accounting.

9.20 First, ComReg must consider the question of regulatory forbearance, and the incremental imposition of one or more of the obligations outlined in paragraph 9.19 above.

9.4.2 Forbearance

9.21 In the case of the Relevant PIA Market, ComReg is required[667] to impose at least some level of regulation on Eircom, given its designation as having SMP. In Section 4, ComReg set out its view that the 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 related retail markets. As highlighted in Section 5, it is ComReg's 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 Regulations 50(1) and 49(8) of the ECC Regulations, once SMP has been identified ComReg is obliged to impose at least one regulatory remedy.

9.23 Eircom noted in its Submission[668], that PIA is not identified as a market in the 2020 Recommendation and there is no obligation on ComReg to carry out this market review. It suggested that it should be considered as part of the suite of remedies in the WLA market review, as is the status quo.

9.24 As noted[669] earlier, given PIA is the most upstream input to the provision of ECS services. ComReg, in keeping with best regulatory practice, has moved its analysis of these PIA services upstream of the active wholesale markets

[667] Regulation 49(8) and 50(1) of the ECC Regulations.

[668] Eircom non-confidential submission, paragraph 340, page 137.

[669] Paragraph 2.3

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. Carrying out an analysis of a PIA market in its own right allows ComReg to 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. In Section 4 of this Decision Comreg has carried out a 3CT for the Relevant PIA Market and has decided it is susceptible for *ex ante* regulation.

9.25 In its Submission, Eircom also stated[670] that ComReg had neglected to take into consideration existing symmetric regulation applying to physical infrastructure via the BCRR. ComReg has included an assessment of the impact of the BCRR on the Relevant PIA Market in section 4.1. of this Decision. As set out there, experience in the Irish market suggests that the BCRR has not been used for access to physical infrastructure and ComReg notes the EC's opinion that it is a compliment rather than a substitute to SMP regulation.

9.4.3 Access Obligations

9.26 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 by virtue of its existing designation with SMP in the 2018 WLA Market Decision. These include obligations to provide and grant access to particular products, services and Associated Facilities; 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.

9.27 Eircom faces a relatively moderate level of incremental burden from the 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 (see to paragraphs 6.76 to 6.95 above);

[670] Eircom non-confidential submission, paragraph 341, page 137.

(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 (see paragraphs 6.126 to 6.150 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 (see paragraphs 6.151 to 6.158 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 or avail of new or amended products, service or Associated Facilities. 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 (see paragraphs 6.184 to 6.207 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 (see paragraphs 6.219 to 6.224 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 (see paragraphs 6.225 to 6.235 above).

9.28 ComReg's 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.

9.4.4 Transparency Obligations

9.29 ComReg's 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.

9.30 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 has decided that, as part of a general transparency obligation pursuant to 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 decided 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 required. Eircom is also required to publish information on product development. ComReg also has decided that Eircom publish a PI rollout plan as well as requirements to publish KPIs on service levels (further specified in ComReg Decision Dxx/YY) and to make available 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. Aligned with Eircom's obligation of non-discrimination, Eircom is also required 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.

9.31 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 make available its engineering planning and design rules and it thus faces a relatively moderate level of incremental burden from the transparency obligations. Eircom faces a relatively moderate level of incremental burden for it 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. Pursuant to ComReg Decision D04/22, Eircom is also required to publish KPIs on its publicly available website and therefore, in respect of ComReg Decision DXX/YY, Eircom faces a relatively moderate level of incremental burden to develop relevant KPIs for the PIA Market.

9.32 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 Non-Discrimination Obligations

9.33 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.

9.34 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 decided that Eircom offer and provide PIA products, services, and associated facilities to the standard of EoI. 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.

9.35 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 or a lack of transparency of terms and conditions of access could inter alia still remain in the presence of a non-discrimination obligation. Therefore, the imposition of non-discrimination obligations is both proportionate and justified having regard to the competition problems identified.

9.4.6 Accounting Separation Obligations

9.36 As noted in Section 7.9, in general, the purpose[671] of an accounting separation obligation is to provide a higher level of detail of information than that 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.

9.37 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.

9.38 As noted in section 7.9.1, having regard to Eircom's integrated position from PIA to several 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 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.

9.39 In its Submission, NBI[672] requested clarity on the implementation of cost accounting and separating accounting obligations by Eircom, in particular the

[671] See Article 1 of the 2005 Accounting Separation and Cost Accounting Recommendation.

[672] NBI Submission, page 58.

relationship between Eircom and FNI, which ComReg has addressed at paragraphs 7.-7..

9.4.7 Price Control and Cost Accounting Obligations

9.40 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 finding of SMP in the 2018 WLA Market Decision.

9.41 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.

9.42 In summary, Eircom is 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, shows that Eircom has the ability and incentive to engage in excessive pricing in the PIA Market, absent regulation. ComReg's decision 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.

9.43 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 has decided 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.

9.44 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.

9.45 In their respective Submissions, [✂ [redacted][673] ✂] and NBI[674] expressed concerns on the process costs that Eircom will charge users of PIA, which ComReg has addressed at paragraphs 7.371-7.375.

9.46 SFG[675] requested a review of the charging regime for the threshold on duct remediation, taking account of footprint and surface type, which ComReg has addressed at paragraphs 7.349-7.353.

9.47 In its Submission, NBI[676] stated that ComReg's adoption of a straight line depreciation methodology needs to come with an adjustment in the asset life of poles in setting pole prices. ComReg has addressed this point at paragraphs 7.136-7.144.

9.5 Step 3: Determine the impacts on stakeholders

9.48 Given that ComReg has designated Eircom with SMP in the Relevant PIA Market, ComReg's 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.

9.49 Having regard to the SMP designation in Section 4 (which requires ComReg to impose at least some level of regulation) 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.

9.50 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:

673 [✂ [redacted] ✂]

674 NBI non-confidential submission, page 58.

675 SFG Non-confidential submission, page 23.

676 NBI non-confidential submission page 58.

(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.

Table 19: Option 1 - Impose Access Obligations only

Impact on Eircom	Impact on Competition	Impact on Consumers
Eircom would benefit from reduced regulatory burden relative to 2018 WLA Market Decision and related decisions. 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. 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. 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.	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. 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. 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. 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.	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. If downstream competition is distorted or investments discouraged due to ineffective PIA access, consumers would potentially have reduced service choice, quality and innovation. 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.

Table 20: Option 2 - Impose Access, Transparency and Non-Discrimination obligations

Impact on Eircom	Impact on Competition	Impact on Consumers
Eircom would benefit from reduced regulatory burden relative to 2018 WLA Market Decision and related decisions. 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. 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. Increased risk of disputes and legal challenges involving Eircom's PIA services arising from a lack of price control. Disputes could increase legal and regulatory costs faced by Eircom and Access Seekers. While risk of disputes and legal challenges involving Eircom's PIA services might be	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. Where access is provided to downstream competitors on exploitative terms, this could significantly disadvantage existing rivals and distort existing competition in downstream markets. Ineffective access to PIA (through exploitative or exclusionary pricing) could also raise barriers to entry and expansion for new entrants in downstream markets. 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	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. If downstream competition is distorted or investments discouraged due to ineffective PIA access, consumers would potentially have reduced service choice, quality and innovation. 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.

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.	could limit scope for network deployment and 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 21: Option 3 - Impose Access, Transparency, Non-Discrimination and Price Control and Cost Accounting obligations.

Impact on Eircom	Impact on Competition	Impact on Consumers
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. 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. 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	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. Regulating PIA prices at efficient cost would potentially provide greater scope for wholesale and/or retail pricing innovations by Eircom's downstream rivals. 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. 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	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). 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. 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.

with non-discrimination and price control obligations.	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.	

Table 22: 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
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 obligation supports non-discrimination obligations, prevents unfair cross-subsidies to other services, and helps in monitoring Eircom's compliance with its price control obligation. Eircom's estimation of the cost of the PIA cost accounting and accounting separation requirements of [✂ [redacted] ✂] includes circa [✂ [redacted] ✂] towards the cost of surveying ducts. However, an efficient operator would have already carried out duct surveys as part of the rollout of its fibre network and these records should	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	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). 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. 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.

exist independent of the cost accounting obligation. This is accordingly not a cost that is relevant to the cost accounting and accounting separation obligations and its proportionality. It may be the case that splitting the PIA costs and revenues between FNI and Eircom may require some further survey work to identify ducts associated with FNI in the Commercial Areas and Eircom in the NBP IA. However, ComReg considers that Eircom should be able to utilise the duct surveys that it is currently undertaking in order to identify this split.	Access Seekers competing with Eircom in downstream markets.	

9.6 Step 4: Determine the impacts on competition

9.51 In the discussion on the 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 50(5) of the ECC Regulations (including that any remedies are to be based on the nature of the problem identified), as well as its relevant objectives as set out under Section 12 of the Communications Regulation Act 2002 (as amended).

9.52 ComReg's view is that absent regulation, there is the potential and incentive for Eircom, as the undertaking 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.

9.53 The imposition of appropriate ex ante remedies to address such competition problems is outlined 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 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

9.54 The 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.

9.55 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 products, services and facilities in the PIA Market). The regulatory obligations are designed to specifically address the competition problems identified and are proportionate in that they are the least burdensome means of achieving this objective.

Annex: 1 Decision Instrument

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) and Regulation 4 and Regulation 42 of the ECC Regulations;

(ii) Having taken the utmost account of the 2020 Recommendation, the Explanatory Note, the SMP Guidelines and the 2013 Recommendation;

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

(iv) Having taken account of the submissions received from interested parties in response to ComReg Document No. 23/04 following a public consultation held 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 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 and 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 45, 46, 49, 50, 51, 52, 53, [54], 55, 56 and 104 of the ECC Regulations;

(ix) Pursuant to Regulation 99 and Regulation 105 of the ECC Regulations; and

(x) Having regard to the analysis and reasoning set out in ComReg XX/YY [*the document number of the draft Decision*].

1.2 This Decision Instrument shall, where appropriate, be construed consistently with and as part of ComReg XX/XX [*the draft Decision Document number*].

1.3 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 ECC Regulations;

"Access Seeker" means an Undertaking other than Eircom;

"Additional Financial Information" or **"AFI"** 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 ECC Regulations;

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

"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;

"Co-location" means a service allowing an Access Seeker access to an Eircom premises including in particular an Eircom Exchange building for the purpose of hosting and allowing connection to an Access Seeker's ECN/ECS equipment, either directly or indirectly via a third party;

"Commercial Area" means the geographic areas which are not subject to State intervention for the National Broadband Plan, depicted in black in the Intervention Area Map (Amended and Restated Version 1) at Schedule 11 of the NBI State Contract and for the purpose of this Decision, correspond to the areas containing the Eircom Physical Infrastructure that is in the ownership of FNI;

"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 D03/09" means ComReg Document No. 09/65, entitled "Response to Consultation Document 09/11 and Final Decision – Review of the Regulatory Asset Lives of Eircom Limited" dated 11 August 2009;

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

"ComReg Decision D11/21" means ComReg Document No. 21/130, entitled "Regulated Wholesale Fixed Access Charges: Review of the Access Network Model", dated 17 December 2021;

"ComReg Decision DNN/YY" means ComReg Document No. YY/NN [the PIA KPI Decision];

"ComReg 23/04" means the Consultation and Draft Decision entitled "Physical Infrastructure Access (PIA) Market Review", dated 9 January 2023;

"ComReg xx/xx" means the Decision entitled 'Physical Infrastructure Access (PIA) Market Review, dated [x]; [this decision]

"Decision Instrument" means this decision instrument;

"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 [xx/xx]; [this decision]

"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 21 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 in terms of 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 ECC Regulations;

"EEC Regulations" means the European Union (Electronic Communications Code) Regulations 2022, S.I. No. 444 of 2022;

"Electronic Communications Service" or **"ECS"** has the same meaning as under Regulation 2 of the ECC Regulations;

"End-User" has the same meaning as under 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 ECC Regulations;

"Intervention Area" or **"IA"** means the geographic areas for State intervention for the National Broadband Plan depicted in white in the Intervention Area Map (Amended and Restated Version 1) at Schedule 11 of the NBI State Contract and for the purpose of this Decision, correspond to the areas containing the Eircom Physical Infrastructure that is not in the ownership of FNI and remains in the ownership of Eircom;

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

"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;

"NBI" means the Authorised Undertaking NBI Infrastructure Designated Activity Company, a company registered in Ireland (Number 631656) whose registered office at the date of this Decision Instrument is at 3009, Lake Drive, Citywest Business Campus, Citywest, Dublin 24, D24 H6RR, Ireland;

"NBI State Contract" means the contract concluded between the Minister and NBI signed on 19 November 2019;

"Non-Disclosure Agreement" means an agreement protecting the disclosure of commercially sensitive, competition sensitive or confidential information and governing its use or reliance;

"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;

"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;

"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 14.7;

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

"WLA Decision" means ComReg Decision DXX/YY, ComReg Document No. xx/xx, entitled, "Market Reviews: Wholesale Local Access (WLA) provided at a fixed location, Wholesale Central Access (WCA) provided at a fixed location for mass-market products;

"2013 Recommendation" means the Commission Recommendation of 11 September 2013 on consistent non-discrimination obligations and costing methodologies to promote competition and enhance the broadband investment environment (2013/466/EU);

"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 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, communicated to the Access Seeker, 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 one calendar month following the Effective Date, and monthly thereafter, 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, 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 save 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 cables/enclosures/equipment on Poles or in Ducts or Sub-Ducts have become redundant and 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 sub-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 ('**PAR**') 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, 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) A product to be known as "**Sub-Duct Self-Install (Desilting)**" 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.

(ii) Within seven (7) months of the Effective Date (unless already available on the Effective Date, including for the avoidance of doubt further to any obligations under ComReg Decision D10/18), a product to be known as "**Sub-Duct Self-Install (Repair)**" whereby Access Seekers install by themselves Sub-Ducts into Eircom's Ducts and for that purpose 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, subject to any reasonable terms and conditions as may be determined by Eircom and/or further specified by ComReg.

(iii) For the purpose of this Section 7.7, Repair 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.

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) On a quarterly basis, make PAR available to Access Seekers through GIS data files or where PAR information is available from sources other than GIS, in a format which does not restrict effective use of that information;

(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 8.1(ii) and as further specified in Section 8.3, Eircom shall 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.

8.3 In particular Eircom shall ensure that within seven (7) months of the Effective Date, it makes available to Access Seekers the same systems and processes it uses for Access to, and information regarding, its Physical Infrastructure. Where Eircom intends to replace the processes and systems used to provide Access and information to Access Seekers with different systems and processes, it may only do so with the prior approval of ComReg and such approval shall not be granted unless the interface specifications necessary for Access Seekers to avail of the new processes and systems has been published within five months of the Effective Date and Eircom undertakes to keep the existing systems and processes used until then, available for Access Seekers for a period of at least twelve (12) months after the Effective Date.

8.4 For the avoidance of doubt, nothing in this Section 8 shall preclude Eircom from acceding to a reasonable request for Access pursuant to Section 7 or justify the withdrawal of specific existing facilities or arrangements that have been agreed with an Access Seeker without the express approval of ComReg in accordance with Section 7.11(ii).

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.

For the avoidance of doubt, Eircom shall ensure any schedules referring to Eircom's physical infrastructure remain in the ARO (as described in the WLA Decision) until such time as the PIARO is published.

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, and that PIA is charged for only from the time that the pole, sub-duct, duct or Dark Fibre as the case may be is available for use by the Access Seeker.

9.6 Without prejudice to the generality of Section 9.1 and by way of further specification of Eircom's obligation of transparency, 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, along with associated Milestone timelines and the priority level granted 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;

(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;

(h) Any other requirements with respect to work instructions that Eircom may require from Access Seekers; and

(i) 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 including the Object IDs and in the case of Poles and Chambers, the latitude and longitude co-ordinates of the Poles and Chambers, and, in the case of Ducts and Sub-Ducts, the location of the start and end points of individual Duct and Sub-Duct segments; and

(ii) Attribute information including the number and size of Ducts and Sub-Ducts to be deployed on each route.

9.12 In respect of proposed PI routes, Eircom is required to:

(iii) Provide the allocation of a 'proposed' attribute to all proposed routes in the quarterly PAR GIS files made available to Access Seekers;

(iv) Identify proposed routes via online resources from which PAR may be viewed by Access Seekers;

(v) On a weekly basis, update the PI rollout plan setting out a status update on proposed routes, including whether such routes are ready and usable; and

(vi) Enable the placing by Access Seekers of advanced orders and activate such orders:

(a) In respect of Sub-Duct Access orders, by preparing the PI for cabling commencing from the time that the routes associated with the order is identified as ready and usable in the PI rollout plan;

(b) In respect of Duct Access orders, upon updating the status of a route associated with an order, to ready and usable in the PI rollout plan, by notifying the Access Seeker of same.

9.13 Eircom shall keep the PI roll out plan 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, services 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 timelines therefor in respect, in particular, of the matters described in Section 10.3iii)a) to c), 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 10.3iii)a) and b) 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 10.3iii)c) 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 each 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 all matters relating to 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 Section 10.3iii) (subject always to Section 10.3iii)e)iv))), and the BAFO or the agreed SLA 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 to include at a minimum:

(a) Details of the service metrics allowing Access Seekers identify the specific activities and processes, along with associated process time, for the products, services and Associated Facilities being reported on; and

(b) The performance targets and actual performance achieved for each activity.

(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 or directed by ComReg, within seven (7) months of the Effective Date Eircom shall ensure that any and all existing 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, and as may be further specified by ComReg from time to time, monitor and report its performance in respect of its provision of PIA in the Relevant Market, including PIA which Eircom consumes for its own purposes, by reference to the following matters:

(i) Ordering,

(ii) Provisioning Process Points, and

(iii) Faults and Repairs.

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 1 and 2 respectively, and an annual statement on PIA Network Volumes and PIA Duct Remediation in the format set out respectively in Schedule 3 and Schedule 4, 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 charges further specified below, save that Eircom may only 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:

(i) In respect of the Process costs, a Process Costs List setting out each and all applicable charges and the justification therefor;

(ii) 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;

(iii) 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 Access to 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:

TABLE 1 – Maximum annual national cost for Pole Access (€)	
1 [x] 2024 – 31 December 2024	21.31
1 January 2025 – 31 December 2025	22.51
1 January 2026 – 31 December 2026	24.53
1 January 2027 – 31 December 2027	24.59
1 January 2028 – 31 December 2028	24.63

Maximum Annual Rental Charge for Duct Access and Direct Duct Access

14.6 Further to Section 14.2, Eircom shall recover the costs of Duct Access, being 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 then divided by the Duct occupancy rate, by way of an annual rental charge determined in accordance with Section 14.7 and Section 14.8 and 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 that will not be used as a result of the Access Seeker availing of Access to another segment of the Duct.

14.7 For the purpose of Section 14.6, Eircom shall determine the annual rental charge providing in each case Access Seekers with the option to pay for Duct remediation separately, including where the Access Seeker elects to have the Duct remediation work undertaken by Eircom, as follows:

(a) In the case where the Access Seeker elects to have the Duct remediation work undertaken by Eircom:

(i) Where the Access Seeker does not elect to pay separately for all Duct remediation work, Eircom shall charge no more than the maximum standard annual rental set out Section 14.8 in respect of the relevant year save that Eircom may recover the reasonable remediation costs in excess of the Threshold of €11,000 per kilometre of Duct from the Access Seeker;

(ii) Where the Access Seeker elects to pay separately for Duct remediation work, Eircom shall charge by way of annual rental charge no more than the reduced rental charge according to the Duct location as set out in Section 14.8 in respect of the relevant year and invoice to the Access Seeker the reasonable remediation costs as incurred.

(b) In the case where the Access Seeker elects to undertake the Duct remediation work:

(i) Where the Access Seeker does not elect to pay separately for all Duct remediation work, Eircom shall charge no more than the standard annual rental charge set out in Section 14.8 in respect of the relevant year and reimburse the Access Seeker the reasonable remediation costs incurred up to a maximum of the Threshold of €11,000 per kilometre of Duct;

(ii) Where the Access Seeker elects to pay separately for Duct remediation work, Eircom shall charge by way of annual rental charge no more than the reduced rental charge according to the Duct location as set out in Section 14.8.

14.8 The annual rental charge, calculated in accordance with Section 14.8 by reference to the cost of Duct Access in, respectively, the Commercial Area for the standard annual rental charge, and each of the Commercial Area and the Intervention Area according to the location of the Duct for the reduced annual charge, shall not exceed for each relevant year the value set out in Table 2.

TABLE 2 – Duct Access/Direct Duct Access Annual Rental Charge €/Per metre			
	Standard	**Reduced**	
		Commercial Area	Intervention Area
1 [x] 2024 – 31 December 2024	0.50	0.37	0.29
1 January 2025 – 31 December 2025	0.49	0.36	0.29
1 January 2026 – 31 December 2026	0.49	0.35	0.28
1 January 2027 – 31 December 2027	0.47	0.34	0.27
1 January 2028 – 31 December 2028	0.46	0.33	0.26

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:

TABLE 3 – Sub-Duct Access – Incremental annual cost of a Sub-Duct €/ Per metre				
1 [x] 2024 – 31 December 2024	**1 January 2025 – 31 December 2025**	**1 January 2026 – 31 December 2026**	**1 January 2027 – 31 December 2027**	**1 January 2028 – 31 December 2028**
0.06	0.06	0.07	0.07	0.07

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 Sub-Duct Access 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 weeks of the Effective Date and the charges set out in the Process Costs List, the Pole Furniture Charge List and the Tree Trimming Charge List shall apply from the first day of the third month following 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 sub-paragraph (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, as the case may be, the timeline set out in, and as part of the documentation required for the purpose of Section 9.9 or Section 9.10, 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 and any other sections of the Decision Instrument at Appendix 20 of the ComReg Decision D10/18 as they apply to the provision of CEI.

18 AMENDMENT OF SMP OBLIGATIONS

18.1 In ComReg Decision D03/09, Appendix A of the Decision Instrument entitled Regulated EULs to be applied by Eircom, shall be amended to include a new row for the asset life of Sub duct at 2.3(a) and 4.3(a) with the EUL of 30 years to be applied to each class.

19 MAINTENANCE OF SMP OBLIGATIONS

19.1 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.

19.2 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.

19.3 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.

20 PUBLICATION AND NOTIFICATIONS

20.1 This Decision Instrument shall be published on ComReg's website, www.comreg.ie and notified to Eircom on the same day.

21 EFFECTIVE DATE

21.1 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

ANNUAL STATEMENT FOR POLES

TEMPLATE 1: POLE INVESTMENTS

	Pole investments			
Entity	Eircom (non-FNI)		FNI	
Demand	Internal demand	External demand	Internal demand	External demand
	Number of poles			
Replacement of poles for Pole access				
Poles replaced for other network operational reasons				
Pole additions				
	Actual pole investment - €			
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

	Year 1	Year 2	Year 3
Number of poles			
Pole investments			

Eircom shall provide ComReg with the latest available forecast of pole investments for the next three years.

Schedule 2

ANNUAL STATEMENT FOR DUCTS

TEMPLATE 1: DUCT INVESTMENTS

	Duct investments			
Entity	Eircom (non-FNI)		FNI	
Demand	Internal demand	External demand	Internal demand	External demand
	Duct (Trench) lengths			
Remediation of ducts for Duct Access/Direct Duct Access/Sub-Duct Access				
Ducts remediated for other network operational reasons				
Duct (Trench) additions				
	Actual duct investment - €			
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

	Year 1	Year 2	Year 3
Length of Ducts (Trench)			
Duct investments			

Eircom shall provide ComReg with the latest available forecast of duct investments for the next three years.

Schedule 3

PIA Network Volumes

Eircom shall provide ComReg with the following data:

	PIA Network Volumes								
Entity	Eircom (non-FNI)			FNI			Total Network		
Demand	Internal Demand	External Demand	Total	Internal Demand	External Demand	Total	Internal Demand	External Demand	Total
Number of poles in network ('000)									
By number of users on pole									
1									
2									
Metres of duct in network ('000)									

Schedule 4

PIA Duct Remediation

	PIA Duct Remediation						
Entity	**Eircom (non-FNI)**						
Demand		Internal Demand			External Demand		
	Unit	Volume	Average Cost	Total Cost	Volume	Average Cost	Total Cost
Duct Remediation							
Above threshold €11,000 per km							
Below threshold of €11,000 per kilometre							

Entity	FNI						
Demand		Internal Demand			External Demand		
	Unit	Volume	Average Cost	Total Cost	Volume	Average Cost	Total Cost
Duct Remediation							
Above threshold of €11,000 per kilometre							
Below threshold of €11,000 per kilometre							

Annex: 2 Assessment of various PI Networks

Introduction

A 2.1 This annex details the various relevant telecoms[677] 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 23. 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 ECN deployment.

A 2.3 ComReg issued this QQ to 15[678] 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[679] (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.

[677] 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.

[678] Aurora Networks, BT Ireland, Colt, Eircom, Enet, ESBT, EU Networks, GTT, Magnet Networks, NBI, SIRO, Viatel, Virgin Media, Vodafone and ZAYO.

[679] ARCEP, France and Ofcom, U.K.

A 2.4 The summary of this review is presented in Table 23 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 23: 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	×	×	-	-	-	×	×	×
BT	×	×	-	-	-	×	×	×
Colt	×	×	-	-	-	×	×	×
Eircom	✓	✓	-	-	✓	✓	✓	✓
ESB	×	×	-	×	×	×	✓	✓
ESBT*	×	×	-	-	×	×	×	×
eNet	×	×	-	-	-	×	×	×
EU Net	×	×	-	-	-	×	×	×
GTT	×	×	-	-	-	×	×	×
Irish Rail	×	×	×	×	×	×	×	×
Irish Water	×	×	×	×	×	×	×	×
LA duct	×	×	×	×	×	×	×	×
LA drains[680]	×	×	×	×	×	×	×	×
NBI*	×	×	-	-	-	×	×	×
Rivers, canals	×	×	×	×	×	×	×	×
SIRO*	×	×	-	-	×	×	×	×
TII	×	×	×	×	×	×	×	×
Virgin Media	×	×	-	-	-	-	×	×
Vodafone	×	×	-	-	-	×	×	×

[680] "LA" means Local Authority.

WI	×	×	×	×	×	×	×	×
Wireless[681]	✓	×	×	-	×	-	×	✓
ZAYO	×	×	✓	-	-	×	×	×

*These SPs largely use PI of other networks/utilities

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 Decision.

A 2.6 The networks listed in Table 24 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

[681] 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.

the network have sufficient capillarity[682] to allow for the deployment of a network); and

(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 24:Summary of network types considered in review

Type of PI/ telecoms network	Description	Main target customers	Telecoms SPs or utility
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	These networks display similar features: (a) are skeletal in nature, lacking capillarity (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); (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.	Medium to Large Business and/or wholesale customers	Aurora, BT, Colt, eNet, ESBT, EU Networks, GTT, Magnet Networks, Vodafone, Verizon and ZAYO

[682] This is the term used by the EC in its Explanatory Note accompanying the 2020 Recommendation, to describe local density or reach of networks.

Cable TV	HFC network, customers mostly connected with surface mounted coax cable (there is a small element of FTTH in some new build)	Largely residential	Virgin Media
SP networks which largely use non-telecom specific PI to rollout ECN/S to residential customers	Fibre network deployed on ESB electrical PI.+	Largely residential	SIRO
SPs which largely use telecoms specific PI to rollout ECN/S to residential customers	SP which uses telecoms specific PI for roll-out of networks to residential and/or small business	Residential	NBI
Other utilities	Gas, electricity, Rail, Tramways, water, local authority non-telecoms specific PI (not originally designed to host telecoms networks).	Various	ESB, IR, LUAS, GNI, etc.
Incumbent PI network	Ubiquitous national telecoms specific PI, duct and pole network	Various	Eircom
Wireless PI	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. [✂ [redacted] ✂].

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 Decision, 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,[683] 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.

[683] 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[684], 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[685] 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[686] 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).

[685] In the Dublin City Council area, usually distances greater than 100m require a 3 month notification period.

[686] 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 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 "Irelands leading backhaul dark fibre service provider[687]". It also offers high-capacity managed bandwidth and colocation services to medium to large businesses.

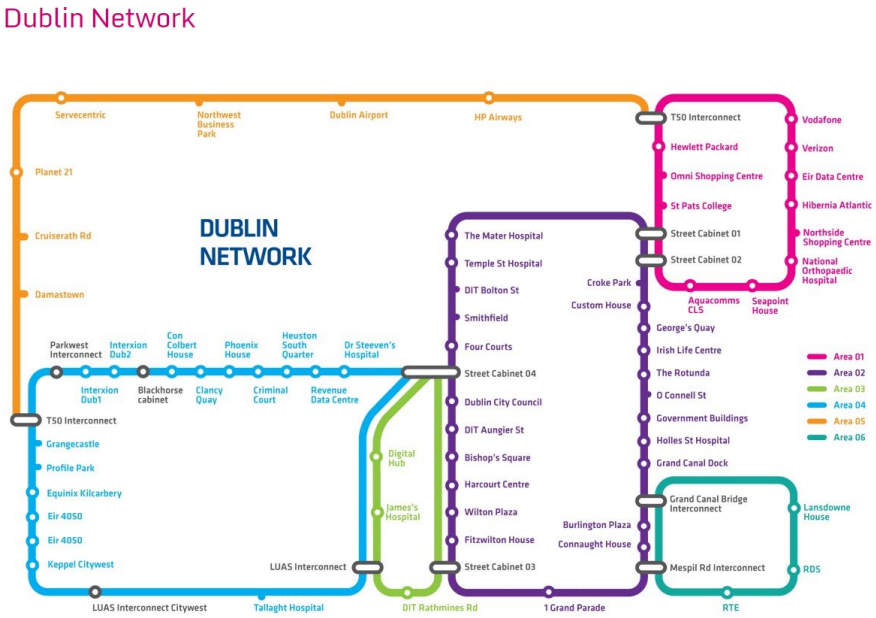
A 2.23 Its PI network is generally built adjacent to, but importantly, is separate from, the gas distribution network i.e., it has installed separate ducts solely to carry fibre cables. It, therefore, owns and controls a telecoms-specific PI network. Its inter-urban PI routes usually pass though farmland 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 18 below) which connects a number 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 19 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.

[687] 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 or 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 20 below. Additionally, GNI's gas network does not extend to all premises within the urban areas[688] in which it operates.

Figure 18: Aurora Telecom, Dublin Network (Stylised)[689]



[688] 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/

[689] https://www.auroratelecom.ie/network-maps/

Figure 19: Aurora Telecom, inter-urban network (Stylised)[690]

690 *Ibid*.

Figure 20: GNI's national mains gas pipeline distribution network[691]

BT Ireland

A 2.26 BT Ireland has 4,300km of fibre network in Ireland[692]. 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[693]. 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.

691 https://www.gasnetworks.ie/corporate/company/our-network/pipeline-map/

692 https://www.btireland.com/wholesale/bt-ireland-wholesale/our-network-wholesale, Our assumption is that this includes Northern Ireland.

693 *Ibid*.

A 2.27 It has an intercity fibre cable routed alongside the Irish Rail network[694], though this does not necessarily incorporate any associated PI in portions of its route as [✂ [redacted] ✂], 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 26 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.

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.

[694] ComReg Document No.16/69, p.44.

Eircom

A 2.30 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] ✂].[695] It's wired network encompasses copper cables, 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 2.31 In its Q2 2022 results[696] 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 2.32 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, FNI, with plans to pass over 1.9m homes with FTTH by 2026[697]. This agreement was enacted on 30 June 2022.

A 2.33 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 2.34 ComReg has laid out its view of this new ownership structure in detail in Section 3 of this Decision. 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 2.35 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.

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[695] Information provided to ComReg by Eircom in 2019 and 2022.

[696] https://www.eir.ie/investorrelations/newsannouncements/.

[697] https://www.eir.ie/opencms/export/sites/default/.content/pdf/IR/news/220701-eir-Fibre-Partnership-Completes-Press-Release.pdf

A 2.36 Eircom has at its disposal detailed 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 2.37 Eircom's published USO performance results for Q2 2023 and in its annual USO results of 2022/23[698] in addition to its wholesale and resale RAP product KPIs[699], 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 2.38 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.

[698] https://www.comreg.ie/publication/Universal Service Requirements – Provision of Access at a Fixed Location (AFL) by Eircom Limited – Quality of Service Performance Data Q2 2023 (1 April – 30 June) & Annual 2022/2023 (1 July 2022 – 30 June 2023) Information Notice | Commission for Communications Regulation (comreg.ie)

[699] https://www.openeir.ie/kpis/

eNet

A 2.39 eNet was appointed[700] by the government as the Management Services Entity ('**MSE**') responsible for managing, maintaining, and operating 88 publicly owned PI MANs[701] 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**')[702] in 2020 and comprises part of the IFF Speedfibre Group[703], 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[704] 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, [✂ [redacted] ✂].

[700] 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/

[701] https://www.enet.ie/mans-search.html

[702] https://www.enet.ie/news/195/138/Irish-Infrastructure-Fund-to-acquire-100-ownership-of-enet.html

[703] https://speedfibregroup.ie/

[704] https://www.enet.ie/news/152/138/Taoiseach-launches-enet-s-1-5M-fibre-network-in-Castlebar.html

A 2.42 eNet also owns privately owned MANs in Dublin and Castlebar[705] 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.

ESB

A 2.43 ESB, a statutory corporation, owns the national electrical distribution system. As set out in Table 25 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 DAO and Transmission Asset Owner ('**TAO'**). ESBN DAC is a wholly owned subsidiary of ESB and is licenced as the DSO. References to ESB in this document encompass ESB acting as ESBN 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 2.61 to A 2.67 below). This allows it to offer LL services in the wholesale market on an open access basis.

Table 25: Summary of ESB external plant inventory[706]

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

[705] *Ibid*.

[706] 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] ✂][707] 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] ✂].

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[708] 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.

[707] [✂ [redacted] ✂].

[708] This also applies to supporting PI, other than in instances of directly buried electrical cables (i.e. where there is no extant PI).

A 2.49 Apart from the above, there are minimum cable height-clearance restrictions[709] 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.

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.

[709] ESB engineering specification documents: [✂ [redacted] ✂].

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] ✂]. 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 DSO license issued by the CRU and is mandated under its sector specific regulation to maintain the primacy of the electrical network[710] [711], 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.

[710] 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

[711] 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 is 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[712], which means there is a chamber[713] 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.

[712] 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.

[713] Usually a footway chamber.

A 2.59 [✂ [redacted] ✂][714]. 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] ✂].

Extensive surveys are required

A 2.60 Apart from the issues with directly buried cable and the requirement to investigate if electrical pole "furniture" needs to be moved, in practice, the ESBN 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 2.61 ESBT[715] has largely used the ESB's electrical PI for its fibre network [✂ [redacted] ✂].

A 2.62 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 21 below).

[714] Detailed records on the nature of its electrical cable deployment are not available for all areas of its network by the ESBN.

[715] https://www.ESBN.ie/our-businesses/telecoms/telecoms-overview

A 2.63 ESBT provides managed bandwidth and dark fibre services to the wholesale market and also offers backhaul services using both dark fibre, managed bandwidth fibre services and P2P microwave radio service.

A 2.64 The majority of its network is aerial deployed fibre optic cable, wrapped on ESB's then HV electrical cables and also on the MV network with a small amount on the LV. However, the network [✂ ✂].

A 2.65 When it lights in-situ ESB fibre routed over agricultural land it [✂ ✂].

A 2.66 ESBT is classified as a LL Type SP, so the restrictions identified earlier with respect to its PI in terms of speed and ease of deployment, breakout and capacity apply to it. Furthermore, due the limitation of the LV network being able to support only one SP (ref. Paragraph A 2.52 above), [✂ ✂].

A 2.67 Additionally, a further limitation that applies to ESBT is that the volume of PI that it directly owns, and controls is low [✂ ✂] compared to the volume of PI it accesses via the ESB, hence it is not in a position to offer an end-to-end PI product to access seekers at a material level.

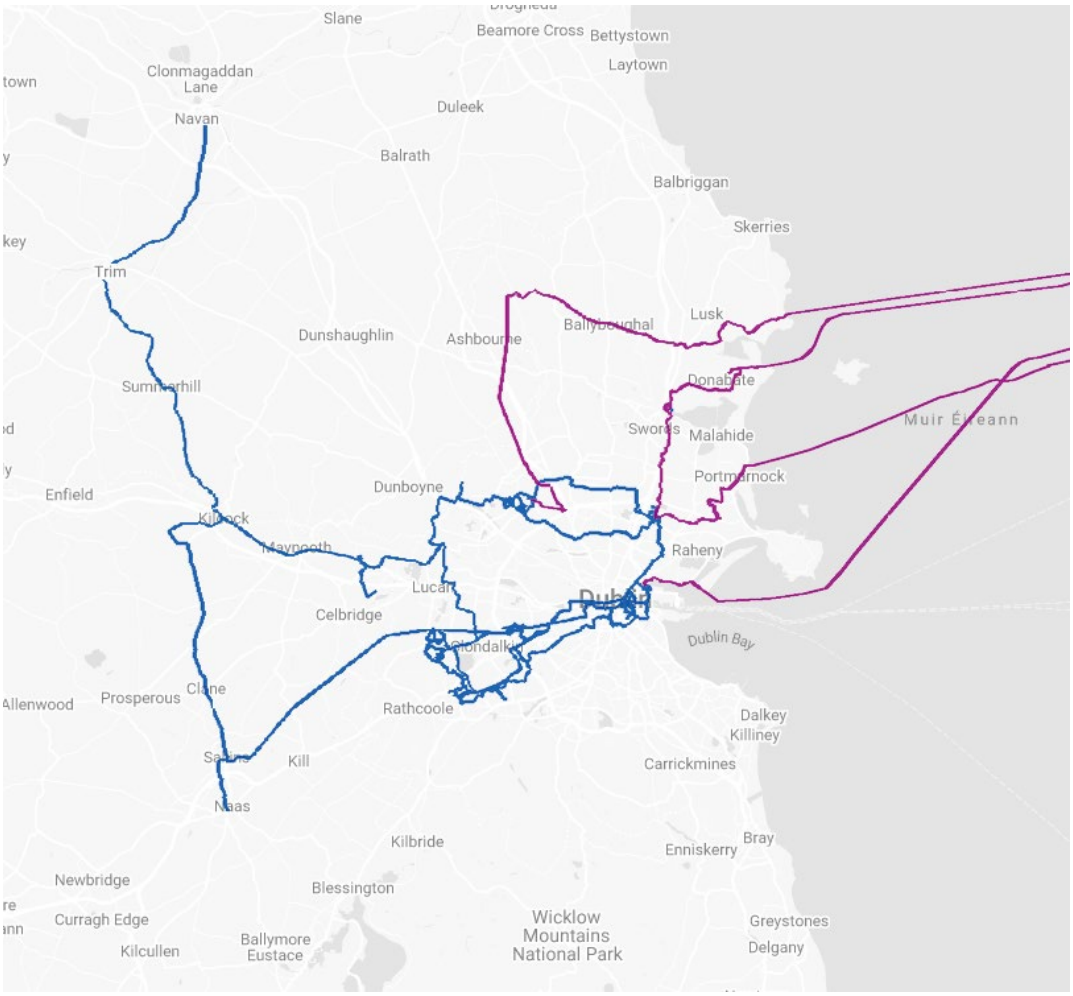
Figure 21: ESBT's Figure of 8 national fibre network[716]

[716] 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 22 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 22: EU Networks Irish network international connectivity[717]



[717] https://map.eunetworks.com/ - Accessed 6 September, 2023.

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 23 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 23: GTT Irish Network international connectivity[718]

[718] 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 ('**CIÉ**') 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[719] 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 24 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.

[719] 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[720]. 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[721], 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 [✂ ✂] in the case of CIE/Irish Rail fibre network.

[720] ComReg Document 20/06, Decision D03/20, WHQA Market Review, Response to Further Consultation and Final Decision (‘**2020 WHQA Decsion’**).

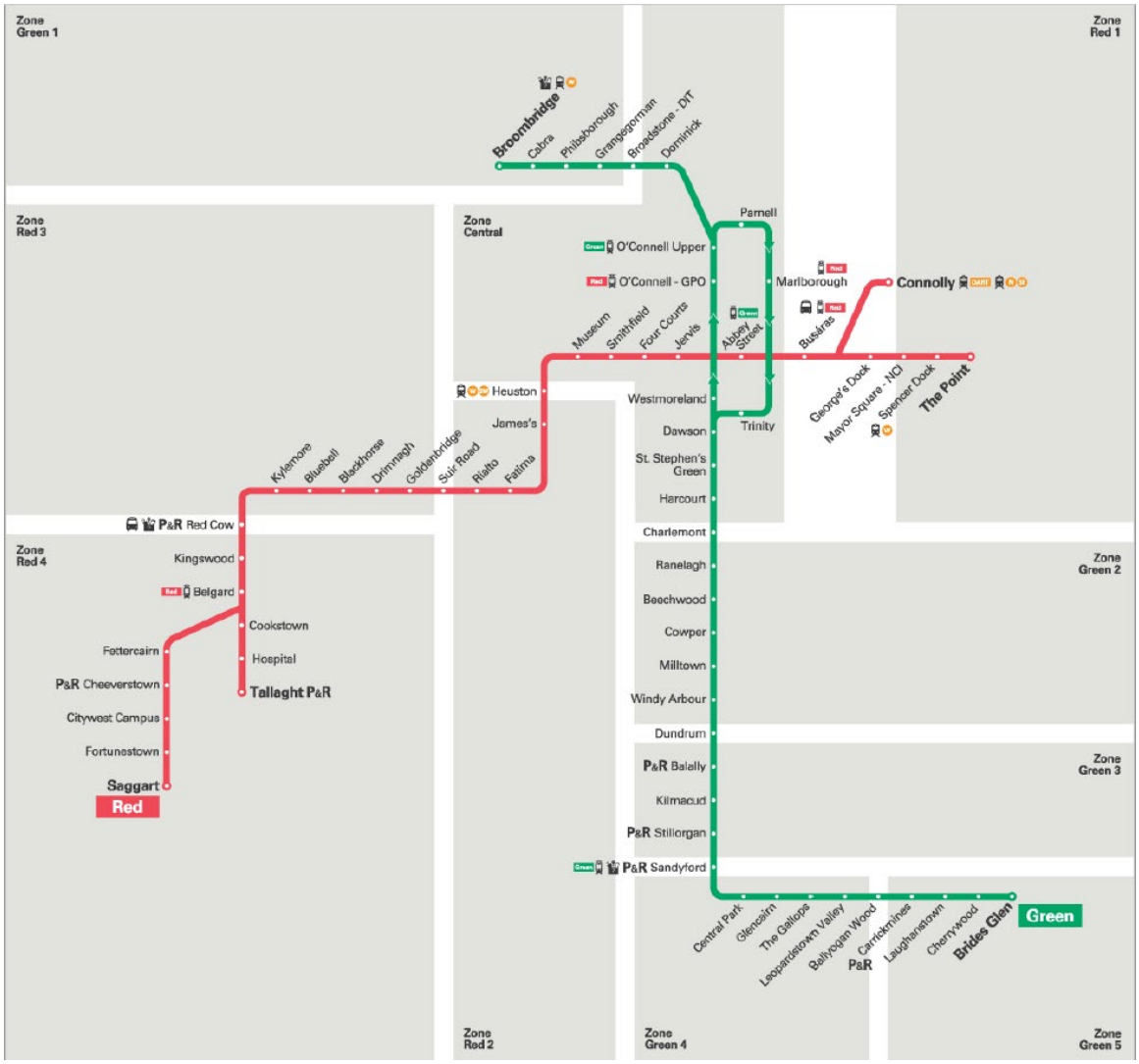
[721] https://www.cso.ie/en/releasesandpublications/ep/p-mdsi/measuringdistancetoeverydayservicesinireland/generalresults/

Figure 24: Irish Rail national network[722]

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 25 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.

[722] https://www.irishrail.ie/en-ie/travel-information/station-and-route-maps/ireland-rail-map

Figure 25: Map of LUAS light railway[723]



[723] 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 of 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[724] where up to 40% of its supply is lost though leakages and to also upgrade or install new waste treatment plants[725]. 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[726] and the U.K. government recently offered £4m to bidders for trials to use water pipes in rural areas[727] 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[728] 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.

[724] https://www.water.ie/projects/national-projects/leakage-reduction-programme/

[725] https://www.water.ie/projects/

[726] https://www.lightwaveonline.com/fttx/ftth-b/article/16668908/frances-free-telecom-sets-off-ftth-revolution

[727] https://www.gov.uk/government/news/broadband-rollout-trial-to-target-hard-to-reach-homes-through-uks-water-pipes

[728] https://www.gov.ie/en/publication/1d9d8-private-wells/

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.

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[729] 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.

[729] https://data.gov.ie/dataset/telecoms-underground-infrastructure-dcc

National Broadband Ireland

A 2.86 National Broadband Ireland ('**NBI**') was awarded the government contract in 2019[730] to make high speed broadband available to circa 560,000 premises[731] 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[732]. Its own PI will be limited to infill and some customer drops.

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.

[730] https://www.gov.ie/en/publication/c1b0c9-national-broadband-plan/

[731] Currently estimated to connect almost 560,000 premises, https://www.gov.ie/en/publication/c1b0c9-national-broadband-plan/ , last updated on 31 May 2022.

[732] https://nbi.ie/news/latest/2021/01/22/nbi-connects-the-first-premises-under-the-national-broadband-plan/

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[733]. 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[734] premises to date, though it has launched and is actively selling some LL products[735].

A 2.90 It has recently announced a new second phase to this rollout to bring this coverage up to 770K premises[736]. As part of this programme, it recently announced a plan to rollout fibre in Longford[737].

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.

TII National Road Network

A 2.92 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.

[733] 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.

[734] https://siro.ie/roll-out/, date accessed 21st September 2022.

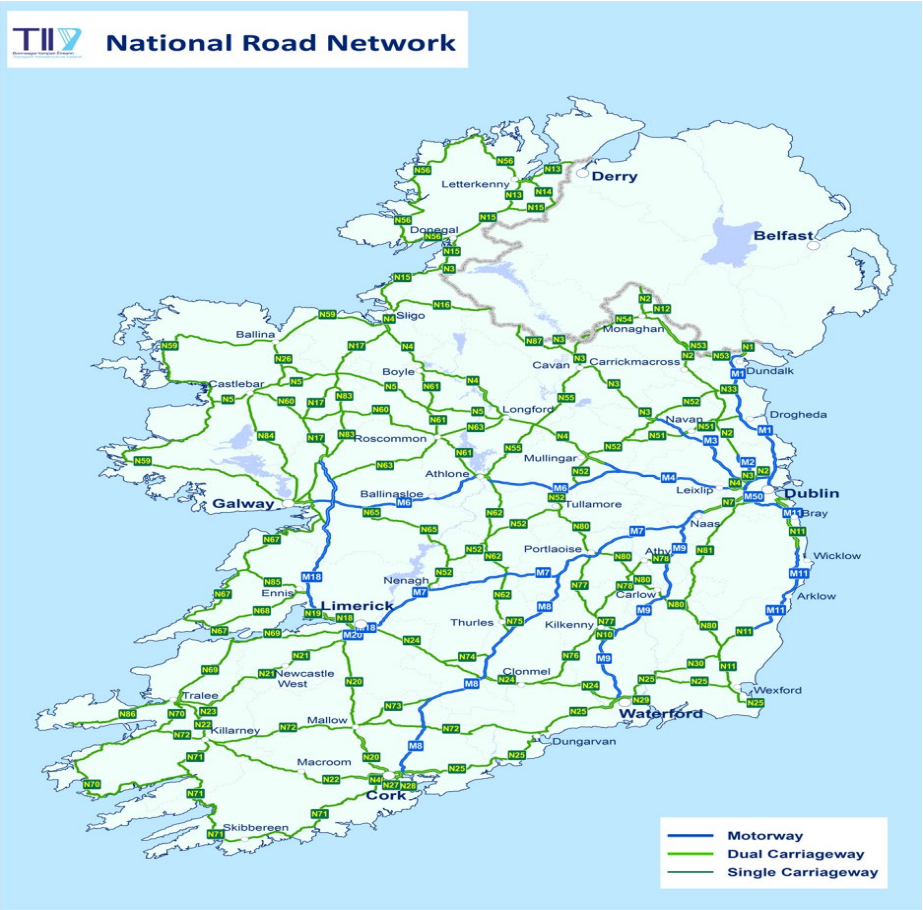
[735] Launching 10Gb Network Upgrade for Galway Enterprises - SIRO

[736] https://siro.ie/news-and-insights/expansion-of-our-gigabit-broadband-network/

[737] Launching SIRO 100% Fibre Broadband in Longford town - SIRO

A 2.94 As can be seen in Figure 26, 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 26: TII National Road Network[738]



738 https://www.tii.ie/roads-tolling/our-road-network/NationalMap_Motorway2017-Updated.png accessed 13th October 2022.

Virgin Media

A 2.95 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 27 Figure 30, Figure 31, Figure 32 and Figure 33 below.

A 2.96 Virgin Media's network is a Hybrid Fibre-Coax ('**HFC**') cable TV network using DOCSIS data transmission standards to provide digital TV[739], 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**')[740] 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 2.97 The main fibre routes from the head-end[741] are often installed in underground duct while the coax cable to the premises is usually surface, or facia mounted on the eaves of surfaces of premises. This facia 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 2.98 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 2.99 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.

[739] Standard and high definition TV (the analogue signal was discontinued in 2012).

[740] The terms Coax cable and RF cable can be used interchangeably.

[741] 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 The original deployment method and the “organic” nature and expansion of the of the HFC network over time, has resulted in the Virgin Media 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 2.104 below.

A 2.101 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 27, Figure 28 and Figure 29 below, and the Liberties area in Dublin shown in Figure 30 Figure 31 and Figure 32, below.

A 2.102 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 eves of rows of house as demonstrated in Figure 33 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 eves of houses on these adjoining roads.

Figure 27: Virgin Media duct network Limerick City, (black) [✂REDACTED✂]

Figure 28: Virgin Media network Limerick City, duct black & fibre cable blue [✂REDACTED✂]

Figure 29: Virgin Media network Limerick City, duct (black), fibre (blue) and coax cable (red) [✂REDACTED✂]

Figure 30: Virgin Media network Dublin, Liberties area, duct (black) [✂REDACTED✂]

Figure 31: Virgin Media network Dublin, Liberties area, duct (black) and fibre (blue) [✂REDACTED✂]

Figure 32: Virgin Media network Dublin, Liberties area, duct (black), fibre (blue) and coax cable (red) [✂REDACTED✂]

Figure 33: Virgin Media duct network in part of Tallaght, Dublin duct (black), fibre (blue) and coax cable (red) [✂REDACTED✂]

A 2.103 Its cable network is present in most urban centres in the country, and it passes 970,200 premises nationally.[742] 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 2.104 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 [✂ ✂]. It has installed a total of [✂ ✂]. An example of this is its network in [✂ ✂], as shown in Figure 34 below.

[742] Liberty Global Reports Q2 2023 Results - Press Release published 24 July 2023. https://www.libertyglobal.com/investors/financials/

Figure 34: Virgin Media FTTH network Wexford Town [✂REDACTED✂]

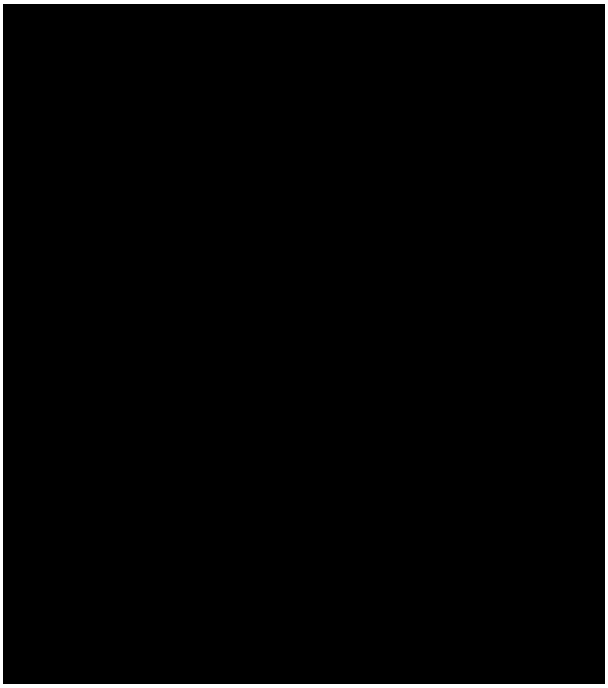
A 2.105 The volume of Virgin Media duct coverage per county is shown in Table 26 below, measured against the total roadway based on Ordinance Survey ('**OSI**') maps. Dublin has the highest volume being c. <55% but it is important to recall that even in areas where the overall duct lengths are reasonably 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 27 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 26: Virgin Media duct length and percentage of road coverage per county [✂PARTIALLY REDACTED✂][743]

[redacted]

[743] Based on 2019 Virgin Media mapping data submitted to ComReg.

Table 27: Virgin Media duct length percentage coverage of road per EA and EEA geographic units [✂PARTIALLY REDACTED✂][744]



A 2.106 It is worth noting that it is unlikely that either of Virgin Media's recently announced initiatives[745] 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 2.107 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.

[744] *Ibid*.

[745] https://www.virginmedia.ie/about-us/press/2021/virgin-media-ireland-announces-national-fibre-network-upgrade

Verizon

A 2.108 Verizon [✂ [redacted] ✂].

Waterways Ireland

A 2.109 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 2.110 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 2.111 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 2.112 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 35 below. It is classified as a LL Type SP in Table 24 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 35: ZAYO Dublin network and international connectivity[746]

746 https://www.zayo.com/global-network/buildings-kmz Accessed September 2021.

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 PIA market that ComReg was commencing a review of the PIA[747] market. These included a range of service providers ('**SP(s)**') engaged in the supply of ECNs and/or ECSs providers[748], as well as entities not active in the supply of ECN/ECS but which had PI which could potentially be used for this[749]. ComReg also met with the CRU, that regulates certain utility companies such as ESB, SSE Airtricity, and Bord Gáis Energy, as well as with certain NRAs in other jurisdictions[750] 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.

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[747] 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 3CT identified in Article 67 of the EECC.

[748] [✂ [redacted] ✂].

[749] Irish Water and ESBN (Q3 2021).

[750] Ofcom, U.K. and ARCEP, France.

A 3.4 The May 2021 Questionnaire asked 32 specific questions under the headings set out below:

(a) Demand for PIA (Q1-Q16);

(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 Decision, informed both the PIA product and the geographic market definitions, as well as the assessment of competition within the defined Relevant PIA Market.

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[751] 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 [✂ [redacted] ✂] respondents stated that they don't purchase, lease or rent PIA and another respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] use it to install dark fibre, four [✂ [redacted] ✂] operate in the WHQA market, three [✂ [redacted] ✂] operate in the WLA market and two [✂ [redacted] ✂] operate in the WCA market.

[751] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] respondents indicated that they might acquire PIA for this purpose while three [✂ [redacted] ✂] 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 [✂ [redacted] ✂], 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] other respondents indicated that they might acquire PIA to provide wholesale ECS while six [✂ [redacted] ✂] respondents indicated that they had no plans to do so.

(a) **Comments on option (a):** one respondent [✂ [redacted] ✂], 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 28 below.

Table 28: Key advantages and disadvantages for each approach to sourcing PIA

Contract Type	Advantages	Disadvantages
a) Self-built	Ownership and control of duct space. Control of access and timeliness for repair. Can manage for efficiency such as using a lot of fibres for backbone or core services.	High cost to initially deploy. Takes time to plan and install. Pressure to make a return on investment. Often must pay for ongoing wayleaves on private land.

Contract Type	Advantages	Disadvantages
	Once install costs are covered ongoing costs will be lower. Addresses areas where infrastructure is not available	Responsible for upkeep on private and public land. Required to maintain to local authority standards. Little to no interest from others for most of the estate.
b) Co-Investment	Shared installation and operations & maintenance costs. Good access to ducts for installation and self-repair.	Rollout maybe less optimal for all parties. More competition may lower the probability of deployment. Upfront commitment so could be difficult for smaller operators. Possible restrictions on access/ use/ breakouts by co-investors.
c) Purchased (not rented or leased)	Time / Immediate access – No build project management costs. Full ownership, control and unrestricted use of asset.	O&M costs, network may not be designed for specific use or in the exact location required Low availability of PI for sale.
d) Swapped	Keeps capital requirement down. No build project management costs. Immediate access. Access to portions of networks in specific locations. Make use of excess capacity in other locations.	Lack of ownership, control and possible restrictions on use of asset. Giving access to valuable networks in specific locations. Low probability of deployment. Finding like for like swaps may be difficult. Timing of the swaps may not be optimal for both operator's network rollout programmes. The US Sarbanes Oxley Act (2002) does not allow this type of trading arrangement for US Corporations.

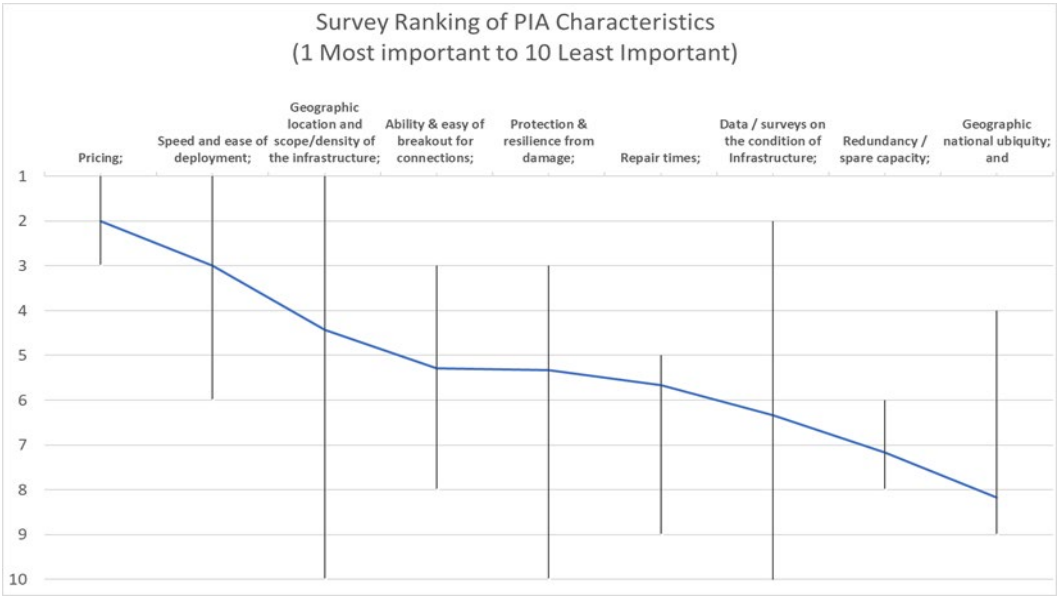
Contract Type	Advantages	Disadvantages
e) Rented/ Leased	Fast or immediate access to infrastructure once the access process is optimised. Lower capital cost. No upfront one off capital payment. No build project management costs. Suitable for shorter or lower value or routes where the return does not justify larger initial capital outlay. Currently the standard solution for PIA, as you know where you stand.	Lack of ownership, control and possible restrictions on use of asset. Higher operational costs. Depending on the product description, it may not be flexible enough to rollout out an access network. Ongoing maintenance of the infrastructure and fibre also needs to be considered. Longer-term contract desired – 10yrs plus for network certainty.
f) Indefeasible Right of Use	Immediate access. Security for 15 to 25 years. Access to portions of networks in specific locations. No build project management costs. Upfront one off capital payment which can be capitalised. May be more cost effective for long term contracts than traditional leasing.	Lack of ownership, control and possible restrictions on use of asset. Paid up-front which can be costly in rolling out a network.

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 36 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 36: Survey Ranking of PIA Characteristics



A 3.17 A number of respondents provided additional comments on the characteristics, including:

(a) **Pricing:** [✂ ■ ✂] 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:** [✂ ■ ✂] 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.

(c) [✂ ✂] (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. [✂ ✂] noted that this characteristic is an important aspect of a well-functioning PIA product and [✂ ✂].

(d) **Protection & resilience from damage:** [✂ ✂] 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 was is incorporated into the core network and key routes but this it is often not viable for local access. [✂ ✂] (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.

(e) **Ability & easy of breakout for connections:** [✂ ✂] noted that this is an important part of connecting to a customer and that facilities such as lead-in ducts are critical.

(f) **Repair times:** [✂ ✂] stated that 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. [✂ ✂] (solely a WHQA supplier), noted that repair times are considered quite standard and not a characteristic that varies much across different providers of PIA.

(g) **Redundancy / spare capacity:** [✂ ✂] 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.

(h) **Data / surveys on the condition of Infrastructure:** [✂ ✂] 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. [✂ ✂] (solely a WHQA supplier), noted that this characteristic is a

component of one of the other characteristics, Speed and ease of deployment.

(i) **Geographic location and scope/density of the infrastructure:** [✂ [redacted] ✂] noted that density is important for the access network, getting close to customer premises, and less so for the core part of a network. [✂ [redacted] ✂] (solely a WHQA supplier) stated that the geographic location of PIA was critically important to it but density had no importance. [✂ [redacted] ✂] 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 [✂ [redacted] ✂].

(j) **Geographic national ubiquity:** [✂ [redacted] ✂] 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 [✂ [redacted] ✂] suggested additional characteristics.

A 3.19 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] and stated that penalties on PIA operators needed to be commensurate to the impact that PIA failures have on purchasers.

A 3.22 [✂ [redacted] ✂] 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 and 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 & 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 3.23 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:** [✂ [redacted] ✂ noted that pricing from these type of PI 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:** [✂ [redacted] ✂] 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.

(c) **Ability & easy of breakout for connections:** [✂ [redacted] ✂] 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.

(d) **Repair times:** [✂ [redacted] ✂] 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.

(e) **Redundancy / spare capacity:** [✂ [redacted] ✂] 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.

(f) **Data / surveys on the condition of Infrastructure:** [✂ [redacted] ✂] noted that better knowledge of telecom infrastructure is typically more available relative to that of telecom infrastructure owned by non-telecom providers.

(g) **Geographic national ubiquity:** [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] stated that it was not relevant to them so did not offer any insights. 2 other respondents [✂ [redacted] ✂] said that electricity infrastructure was a viable substitute but neither supported their answer by reference to the suggested characteristics or provided a rationale. [✂ [redacted] ✂] stated that it engaged with ESB to trail 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 [✂ [redacted] ✂] stated that it sees electricity PI as a substitute to wired ECN PIA, [✂ [redacted] ✂]. 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 [✂ [redacted] ✂] did not think it was an effective substitute. [✂ [redacted] ✂] 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 [✂ ✂] 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. [✂ ✂] noted that it does not believe that electricity poles and ducts are an effective substitute to wired ECN specific PIA. [✂ ✂].

A 3.33 [✂ ✂] 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, [✂ ✂] 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 [✂ ✂] ranked these characteristics, while four [✂ ✂] respondents made comments on some or all of them, as follows:

(a) **Pricing:** [✂ ✂] 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. [✂ ✂] 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. [✂ ✂] 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. [✂ ✂] stated that during the [✂ ✂] 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 [✂ [redacted] ✂]. 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:** [✂ [redacted] ✂] questioned the capacity within electricity street furniture to support multiple operators, while also keeping a safe distance from power lines. [✂ [redacted] ✂] 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 [✂ ✂] case, such protracted delays in completing network repairs would not be consistent [✂ ✂].

(f) Data / surveys on the condition of Infrastructure: [✂ ✂] 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. [✂ ✂] 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.

(g) Geographic location and scope/ density of the infrastructure: [✂ ✂] stated in very rural areas where [✂ ✂] 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 [✂ ✂] opinion that this infrastructure, despite its nationwide reach, is not an effective substitute to wired ECN-specific PIA.

(h) Geographic national ubiquity: [✂ ✂] noted that the ESB network can be considered ubiquitous, although more difficult and costly than a ubiquitous telecoms network to use. [✂ ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] stated that they did not consider water infrastructure as an effective substitute to wired ECN specific PIA. Finally, five respondents [✂ [redacted] ✂] stated they were not in a position to make a comment or have not considered water infrastructure.

A 3.37 Only one respondent [✂ [redacted] ✂] ranked these characteristics, while three [✂ [redacted] ✂] respondents made comments on some or all of them, as follows:

(a) **Pricing:** Both [✂ [redacted] ✂] noted that there was no published pricing list for access to this type of infrastructure. [✂ [redacted] ✂] 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:** [✂ [redacted] ✂] considered that the lack of Local Authority records and network drawings would be the biggest drawback for programme planning and deployment in such PI. [✂ [redacted] ✂] 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.

(c) [✂ ✂] 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.

(d) **Protection & resilience from damage:** [✂ ✂] mentioned potential risks of damage from chemicals and machinery when using the waste and drinking network. [✂ ✂] 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.

(e) **Ability & easy of breakout for connections:** [✂ ✂] considered this to be difficult and liability for leaks at required break out points would rest with the carrier. [✂ ✂] 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.

(f) [✂ ✂] 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.

(g) **Repair times:** [✂ ✂] 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.

(h) **Redundancy / spare capacity:** [✂ ✂] 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.

(i) **Data / surveys on the condition of Infrastructure:** [✂ ✂]. [✂ ✂] 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.

(j) **Geographic location and scope/ density of the infrastructure:** [✂ ✂]. [✂ ✂] 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.

(k) **Geographic national ubiquity:** [✂ ✂] 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] ✂] 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] ✂] 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[752], 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] ✂] area of operations in [✂ [redacted] ✂].

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)

752 https://www.computerweekly.com/news/252479479/Industry-group-launched-to-develop-standards-for-fibre-deployment-in-sewer-network

A 3.40 Nine of the ten respondents replied to this question. One respondent [✂ ✂] 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 [✂ ✂]. Four respondents [✂ ✂] stated that they did not consider railways and tramways as an effective substitute to wired ECN specific PIA. Finally, four respondents [✂ ✂] 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 [✂ ✂] ranked these characteristics, while three [✂ Media ✂] respondents made comments on some or all of them, as follows:

(a) Pricing: [✂ ✂].

(b) Speed and ease of deployment: [✂ ✂] stated that as most of the CIE ECN service is [" "], the speed and ease of deployment for future services would appear poor. [✂ ✂] 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: [✂ ✂] 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. [✂ ✂].

(d) Ability & easy of breakout for connections: [✂ ✂].

(e) Repair times: [✂ ✂] noted that repairs cannot be carried out whilst the trains are running so are largely done through the night. [✂ ✂].

(f) Redundancy / spare capacity: [✂ [redacted] ✂] 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.

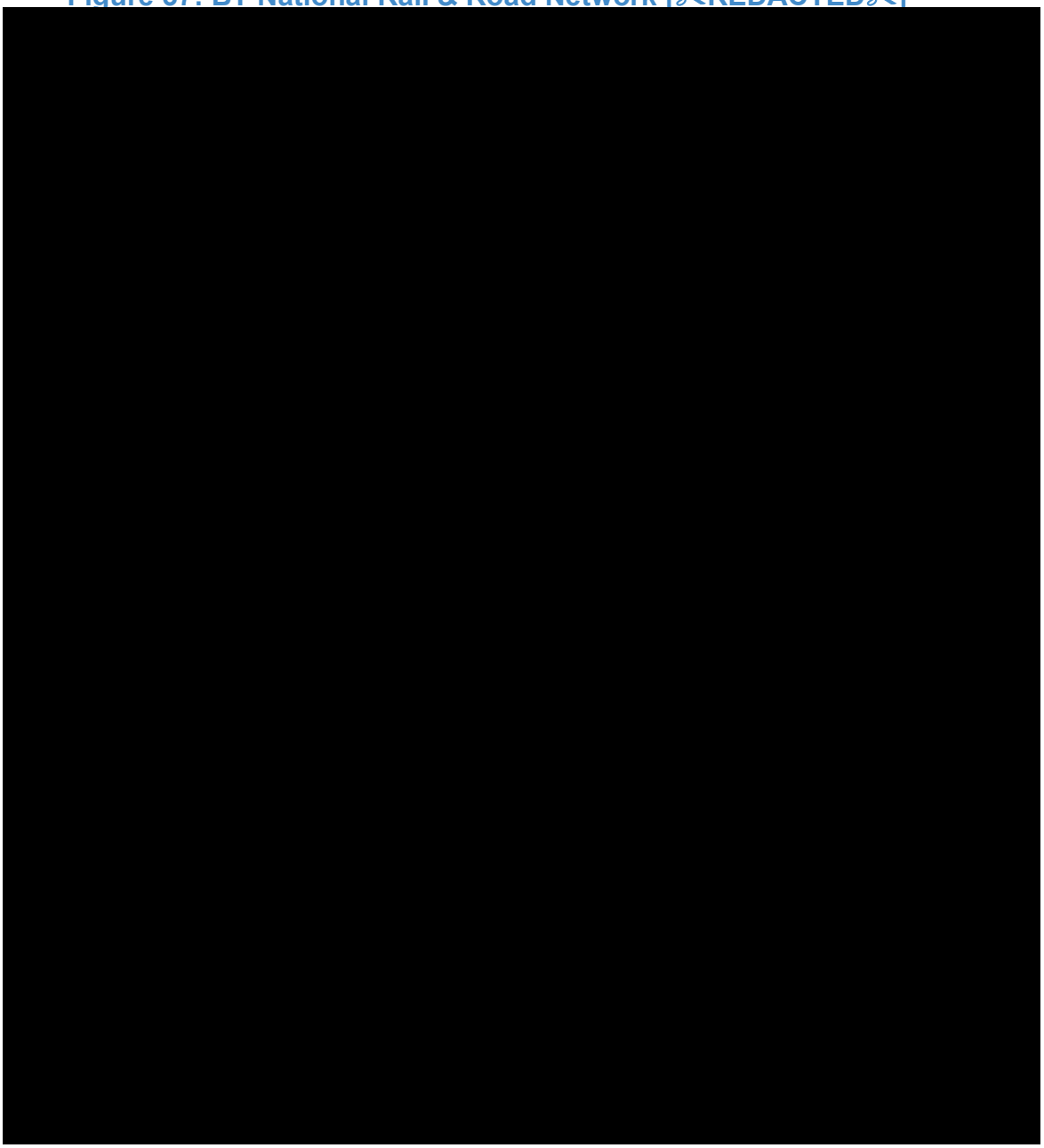
(g) Data / surveys on the condition of Infrastructure: [✂ [redacted] ✂].

(h) Geographic location and scope/ density of the infrastructure: [✂ [redacted] ✂] provided a map of the fibre routes [✂ [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**: [✂ [redacted] ✂] 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.

Figure 37: BT National Rail & Road Network [✂REDACTED✂]



A 3.42 More generally, [✂ ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂]. 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 3.44 Nine of the ten respondents answered to this question. One respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] stated that they did not consider access to rivers and canals as an effective substitute to wired ECN specific PIA. Finally, four respondents [✂ [redacted] ✂] stated they were not in a position to make a comment or have not considered access to rivers and canals for network rollout.

A 3.45 Only one respondent [✂ [redacted] ✂] ranked these characteristics, while two (Aurora and BT) respondents made comments on some or all of them, as follows:

(a) **Pricing:** [✂ ✂]. [✂ ✂] 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:** [✂ ✂]. [✂ ✂] anticipate lots of issues with using rivers and canals such as getting through the series of canal locks. [✂ ✂] 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:** [✂ ✂] was of the opinion that waterways would have very good protection & resilience from damage. [✂ ✂] 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:** [✂ ✂]. [✂ ✂] 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:** [✂ ✂] stated it is up to the carrier to undertake the repairs, but supervision is required from the governing body. [✂ ✂] 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:** [✂ ✂] was of the view that waterways redundancy was poor. [✂ ✂] 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:** [✂ ✂].

(h) **Geographic location and scope/ density of the infrastructure:** [✂ ✂] stated it is limited and most areas covered by waterways are now served by open access carriers. [✂ ✂] 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:** [✂ ✂] 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. [✂ ✂] 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, [✂ ✂] was of the view that access to rivers and canals is not an effective substitute to wired ECN-specific PIA.

Q 13.	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? Please explain your answer and provide examples of where this has been explored or achieved.

A 3.46 All ten respondents answered this question. Two respondents [✂ ✂] suggested that in theory there could be other forms of PIA but did not suggest what they were. [✂ ✂] 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 [✂ ✂] 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 3.47 One respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 3.48 All ten respondents provided an answer to this question. Five respondents [✂ [redacted] ✂] agreed that point–to–point radio links were a substitute to wired ECS. Although four of these respondents [✂ [redacted] ✂] 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 3.49 Two respondents [✂ [redacted] ✂] stated that this was not a substitute to wired ECS. Finally, two respondents [✂ [redacted] ✂] stated they had no experience of using point–to–point radio links or that this technology was not applicable to its business.

A 3.50 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:** [✂ ✂] 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:** [✂ ✂] 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:** [✂ ✂] 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:** [✂ ✂] 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. [✂ ✂] 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:** [✂ ✂] 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:** [✂ ✂] 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. [✂ ✂] stated that repair times would mitigate against the use of microwave radio links for its deployment of the NBP network.

(g) **Redundancy / spare capacity:** [✂ ✂] 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. [✂ ✂] 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:** [✂ ✂] 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:** [✂ ✂] 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 3.51 All ten respondents answered this question. Four respondents [✂ ✂] agreed that point–to–point radio links were a substitute to wired ECS. Two of these respondents [✂ ✂] 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 [✂ ✂] 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 [✂ ✂] noted limitations in bandwidth from FWA and this may limited it to broadband services only.

A 3.52 Four respondents [✂ ✂] stated that FWA is not a substitute to wired ECS. One of these respondents [✂ ✂] noted the benefits of FWA in rural areas where deployment of fibre or copper is uneconomic. Another respondent [✂ ✂] 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 [✂ ✂] highlighted the limitations of this technology including achievable capacity and contention due to shared spectrum.

A 3.53 Finally, two respondents [✂ ✂] stated they had no experience of using FWA or that this technology was not applicable to its business.

A 3.54 No respondent ranked these characteristics, while three [✂ ✂] respondents made comments on some or all of them, as follows:

(a) **Pricing:** [✂ ✂] 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:** [✂ ✂] 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. [✂ ✂] 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:** [✂ ✂] 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:** [✂ ✂] 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:** [✂ ✂] 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:** [✂ ✂] 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:** [✂ [redacted] ✂] 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:** [✂ [redacted] ✂] stated that this technology is best suited in more rural less dense areas.

(i) **Geographic national ubiquity:** [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] did not see satellite networks as a substitute for wired ECS and did not see any market demand for it.

A 3.58 [✂ ✂] 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 [✂ ✂] 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 [✂ ✂] did not consider satellite networks as a viable option as they are severely curtailed by bandwidth availability.

A 3.61 Finally, two respondents [✂ ✂] 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 [✂ ✂] respondents made comments on some or all of them, as follows:

(a) **Pricing:** [✂ ✂] noted that traditionally Satellite technology has been expensive given the high cost of launching satellites. [✂ ✂] 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:** [✂ ✂] noted that the performance of satellite ECS is constrained. [✂ ✂] 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. [✂ ✂] 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. [✂ ✂] 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:** [✂ ✂] 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. [✂ [redacted] ✂] 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:** [✂ [redacted] ✂] 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. [✂ [redacted] ✂] 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:** [✂ [redacted] ✂] noted that international break-out will be needed but the number of breakout points will be low. [✂ [redacted] ✂] 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:** [✂ [redacted] ✂] 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. [✂ [redacted] ✂] was of the opinion that satellite networks offer repair time that are as equivalent of that of wired ECS.

(g) **Redundancy / spare capacity:** [✂ [redacted] ✂] noted that this will be needed in case the Satellite fails. [✂ [redacted] ✂] 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:** [✂ [redacted] ✂] 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. [✂ [redacted] ✂] 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:** [✂ [redacted] ✂] 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.

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 [✂ ✂] full or partial responses to the sub-questions a-c. 6 respondents [✂ ✂] stated that they self-supply PIA for their own requirements and 4 [✂ ✂] stated that they didn't.

(a) **Share of PIA self-supplied:** Nine respondents [✂ ✂] replied to this question, as follows:

(i) 95% plus – 4 respondents [✂ ✂].

(ii) 80% - 1 response [✂ ✂].

(iii) Limited - 1 response [✂ ✂].

(iv) 5-10% - 1 response [✂ ✂].

(v) <1% - 2 responses [✂ ✂].

(b) **Geographic differentiation between self-supplied and purchased PIA:** Eight [✂ ✂] 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 [✂ ✂] respondents replied to this question. Responses included:

(i) Absence of any existing telecoms infrastructure [✂ ✂];

(ii) Historical absence of a suitable purchase/rental PIA service [✂ ✂];

(iii) A last resort as it's expensive and slow and unlikely to meet retail bid timescale [✂ ✂];

(iv) It is part of the core business to provide wholesale ECN products [✂ [redacted] ✂];

(v) It is part of the organisation's model to build/self-supply [✂ [redacted] ✂];

(vi) When long term benefits of capital investment exceed the costs of rental [✂ [redacted] ✂]; and

(vii) When technology requirements require self-build [✂ [redacted] ✂].

Q 18.	Do you supply PIA to other SPs or infrastructure providers? If you answer yes to this question, please answer questions Q19 to Q22 below, if no, skip to Section 4.

A 3.65 There were ten responses to this question. Five respondents [✂ [redacted] ✂] indicated they supply PIA to other SPs or infrastructure providers, while the remainder do not.

A 3.66 One respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] indicated they did so on a case-by-case basis, two [✂ [redacted] ✂] 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 & easy 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 [✂ [redacted] ✂] stated that there was no geographic differentiation in the characteristics of the PIA they offer. The other three [✂ [redacted] ✂] 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 [✂ [redacted] ✂] did do so on a case by case basis, one [✂ [redacted] ✂] 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.

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.	Do you consider that the conditions of competition for PIA differs in different parts of the country i.e. geographic differences? The conditions of competition would refer to market conditions such as the number of suppliers, the level of demand, prices, demand for ECS, etc. 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.
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 [✂ [redacted] ✂], thought that conditions of competition did not vary across the country (i.e. the market was national in scope). One [✂ [redacted] ✂] thought that there was competitive PIA available throughout the country, while the other respondent [✂ [redacted] ✂], 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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.

(iv) Another respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] was of the opinion that these areas are typically uncompetitive dominated by Eircom's PIA.

(f) **Highly rural/remote areas** - one respondent [✂ [redacted] ✂] noted that this area is dependent on Eircom PIA to support NBI's rollout of residential BB to customers. Another respondent [✂ [redacted] ✂] stated that it saw little demand for PIA in this area.

A 3.78 On respondent [✂ [redacted] ✂] proposed an alternative geographic breakdown, as follows:

(a) Dublin;

(b) Urban Cities/Towns where MAN PIA is available to compete with an Eircom's PIA offering;

(c) Other urban areas or rural areas where MAN PIA is not available to compete with the Eircom's product; and

(d) 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 [✂ [redacted] ✂] of these responses was that it was "not applicable" to it. Four respondents [✂ [redacted] ✂] thought that there were some differences in competition between different areas within cities. One of these respondents [✂ [redacted] ✂] 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. [✂ [redacted] ✂] 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 [✂ [redacted] ✂] did not see the conditions of PIA competition varying within cities.

A 3.81 Three respondents [✂ [redacted] ✂] replied to some or all of the list of broad urban area types:

(a) **Central business districts** – one respondent [✂ [redacted] ✂] 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. Its 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] was not aware of any significant level of competition in suburban residential areas.

(c) **Business parks** - one respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] expressed a contrary opinion, stating that the greatest competition exists in Business Parks.**3rd level campuses** - one respondent [✂ [redacted] ✂] expressed a preference for PIA routes to be made available to the campuses and the various student accommodation.

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 [✂ [redacted] ✂] were unable to provide any input as they said it was not relevant to them. Three respondents [✂ [redacted] ✂] were unaware of any obstacles to entering the PIA market.

A 3.84 Five respondents [✂ [redacted] ✂] stated that there were obstacles to entering into the PIA market.

A 3.85 One respondent [✂ [redacted] ✂] 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. [✂ [redacted] ✂].

A 3.86 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] highlighted high capital expenditure and time or local authority wayleaves as obstacles.

A 3.88 Another respondent [✂ [redacted] ✂] stated that the processes surrounding access to non-telecoms infrastructure were unclear compared to those for telecoms PIA.

A 3.89 Two respondents [✂ [redacted] ✂] 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 [✂ [redacted] ✂] stated it was not relevant to them.

A 3.91 Three respondents [✂ [redacted] ✂] were of the opinion that there would be significant deployment in the next five years. One of these respondents [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] mentioned PIA deployment to support NBI's fibre roll-out. One respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] saw new PI deployment to support new business and residential developments. It noted that there are three commercial operators [✂ [redacted] ✂] 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 [✂ [redacted] ✂] commented on the topics listed in the above question, as follows:

(a) **Fixed residential services** – one respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] expected to the National Broadband Plan to dominate PI investment over the coming years.

(b) **Mobile (5G) services** – one respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] considered that there may be new PIA for mobile (5G) services but that is still a bit unclear. Two respondents [✂ [redacted] ✂] 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 [✂ [redacted] ✂].Another respondent [✂ [redacted] ✂] 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. [✂ [redacted] ✂] also predicts the extension of fibre into business parks outside Dublin as alternative network providers see an opportunity to compete with the existing duopoly.

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 [✂ [redacted] ✂] stated it was not applicable.

A 3.96 Three respondents [✂ [redacted] ✂] were of the general opinion that buyers had the power to negotiate access for PIA services. One respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] were of the opinion that customers or potential customers, do not have sufficient buyer power to negotiate prices for PIA services. Two respondents [✂ [redacted] ✂] noted that given some prices are regulated there is no scope for negotiation on them. One of these respondents [✂ [redacted] ✂] 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 [✂ [redacted] ✂] respondent commented on the different categories listed in this question, as follows:

(a) **Availability of sources for supply of PIA** - one respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] stated that investment is never easy and has to be fully costed and returns calculated.

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:
	flexibility of ingress and egress points;

	SLAs;
	access to established building entry points; access to business parks/campuses;
	speed to deployment;
	access to route/capacity information;
	access to duct in the local access/backhaul portion of networks; etc
	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 [✂ [redacted] ✂] stated it was not relevant to them. Three [✂ [redacted] ✂] respondents agreed with a number of the suggested attributes listed in the question. Another respondent [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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.
- 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.

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 ('**BCRD**').

A 3.105 Only one respondent [✂ [redacted] ✂] 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.

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 [✂ [redacted] ✂] did not reply.

A 3.108 One respondent [✂ [redacted] ✂] noted that it has referenced the BCRR in discussions with owners of PI [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] 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 [✂ [redacted] ✂] noted that the low utilisation suggests that agreements can be reached on a commercial basis or that the BCRR is not fit-for-purpose.

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 [✂ [redacted] ✂] expressed concern over the lack of ComReg's enforcement and fining powers. This undermines its ability to regulate Eircom and could result in sub-optional 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 Decision, Document No. YY/NN entitled: Real World Systems Technical Feasibility Study.

Annex: 5 Consultation Responses

A 5.1 A copy of consultation responses are published as a separate document as part of this Decision, Document No. YY|/xxa entitled: Respondents' Submissions to the 2023 PIA Market Review Consultation.

Annex: 6 CCPC Response

A 6.1 A copy of the CCPC's Response is below.

Coimisiún um Iomaíocht agus Cosaint Tomhaltóirí | Competition and Consumer Protection Commission

Robert Mourik
Chairperson
Commission for Communications Regulation
1 Dockland Central
Guild Street
Dublin 1, D01 E4X0

26 October 2023

Re: Market Review of Physical Infrastructure Access

Dear Mr Mourik,

Pursuant to Regulation 27(1) of the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011), the Commission for Communications Regulation (''ComReg'') has consulted the Competition and Consumer Protection Commission (the ''Commission'') with respect to ComReg's proposed draft measures arising from its Response to Consultation and Decision which analyses the market for Physical Infrastructure Access (PIA) in the State.

On the basis of the facts and analysis presented by ComReg, the Commission does not object to ComReg's: (i) conclusion that the market for PIA in the State is susceptible to ex-ante regulation; and (ii) decision to apply significant market power ("SMP") designations and obligations in respect of Eircom Limited in the Relevant Market. The Commission also does not object to ComReg's proposal to impose on Eircom Limited in respect of the market for PIA obligations of access, non-discrimination, transparency, price control and accounting separation.

Yours sincerely

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Annex: 7 European Commission's Response to ComReg's Notified Draft Measures

A 7.1 A copy of the European Commission's Response is below [**To be Completed**].

Annex: 8 ComReg's Consideration of the EC's Response

A 8.1 [**To be Completed**].

Annex: 9 Realworld Systems PAR Analysis

A 9.1 This report is published as a separate document as part of this Decision, Document No. YY/NN entitled: Realworld's Response to Eir's Response to the PAR Requirements.