



Response to Consultations & Final Decision

**Response to Consultation Document No. 10/70
and 11/32**

**A final decision further specifying the price control
obligation in the market for wholesale terminating
segments of leased lines**

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Response to Consultation and Final Decision on the price control obligation in the market for wholesale terminating segments of leased lines

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1 Introduction

- 1.1 In ComReg Decision No D06/08¹, Eircom Limited (“Eircom”) was designated with significant market power (“SMP”) in the market for wholesale terminating segments of leased lines. A number of obligations were imposed on Eircom, including a price control obligation. In ComReg Decision No D06/08, ComReg imposed a cost orientation and margin/price squeeze obligation on Eircom as part of the price control obligation; however ComReg noted that the detailed specification of how those obligations should be complied with would be set out in a subsequent consultation.
- 1.2 ComReg therefore commenced a detailed review in 2010 of the appropriate specification of these specific price control obligations. The prices now set and the Margin Squeeze test is the culmination of an extensive and lengthy consultation between ComReg, Eircom and the rest of industry, during 2010 and 2011.
- 1.3 This decision document now describes the overall process adopted by the Commission for Communication Regulation (“ComReg”) over the last year or so in order to further specify the appropriate details of the price control remedy to apply in the market for wholesale terminating segments of leased lines. This decision also sets out the Margin Squeeze² test to assess the appropriate economic space between the wholesale products in the market for wholesale terminating segments of leased lines. This decision was preceded by two consultation documents:
- ComReg Document No. 10/70
 - ComReg Document No. 11/32.
- 1.4 In **ComReg Document No. 10/70**³ ComReg consulted on the various costing methodology options, the cost modelling approach and the pricing methodologies for determining the charges for Wholesale Leased Lines (“WLLs”), Partial Private Circuits (“PPCs”) and Next Generation Networks (“NGN”) Ethernet in the market for wholesale terminating segments of leased lines. Also included in that consultation were the principles for assessing the appropriate economic space between the relevant wholesale products and services in the market for wholesale terminating segments of leased lines, including WLLs and PPCs.
- 1.5 In **ComReg Document No. 11/32**⁴ ComReg responded to the points consulted on in ComReg Document No 10/70 and also set out its conclusions on these areas. ComReg also further consulted on two specific areas, firstly, the annual rental charges for WLLs, PPCs and NGN Ethernet and secondly, on the details of the Margin Squeeze test/model to assess the appropriate economic space between the

¹ ComReg Document No. 08/103 (Decision No. D06/08) Decision Notice and Decision Instrument: Market Analysis – Leased Line Market Review; 22 December 2008.

² Margin Squeeze shall mean the setting of a wholesale price between related wholesale products, current or future, in the market for terminating segments of wholesale leased lines below the minimum price floor set out by the SEO test. The Margin Squeeze test shall be based on SEO costs as provided for in Section 7 of this decision.

³ ComReg Document No. 10/70: Further specification of the price control obligation, the transparency obligation and the access obligation in relation to the market for wholesale terminating segments of leased lines; dated 10 September 2010.

⁴ ComReg Document No. 11/32: Response to Consultation Document No 10/70 and a further consultation and draft decision on the price control obligation in the market for wholesale terminating segment of leased lines: dated 29 April 2011.

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relevant wholesale products.

- 1.6 Six⁵ responses were received to ComReg Document No 10/70 and four⁶ responses were received to ComReg Document No 11/32.
- 1.7 This document now contains a summary of the main conclusions from ComReg Document No 10/70 and ComReg Document No 11/32 as well as the decisions taken by ComReg on the price control obligation and the margin squeeze obligation in the market for wholesale terminating segments of leased lines.
- 1.8 **Section 2** of this document contains the executive summary.
- 1.9 **Section 3** of this document sets out the appropriate costing methodologies.
- 1.10 **Section 4** of this document contains the cost modelling approach.
- 1.11 **Section 5** of this document contains the appropriate pricing methodologies.
- 1.12 **Section 6** of this document contains the basis of the maximum charges.
- 1.13 **Section 7** of this document contains the details of the Margin Squeeze test.
- 1.14 **Section 8** of this document contains the Decision Instrument.
- 1.15 **Section 9** of this document contains the regulatory impact assessment (“RIA”).

⁵ Eircom, BT Communications Ireland Limited (“BT”), Magnet Networks Limited (“Magnet”), ALTO (Alternative Operators in the Communications Market), E-net, Industrial Development Authority (“IDA”) Ireland

⁶ Eircom, BT, Magnet, ALTO

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2 Executive Summary

- 2.1 ComReg is the regulator for the electronic communications sector in Ireland. One of ComReg's statutory functions is the regulation of leased lines in the market for wholesale terminating segment of leased lines.
- 2.2 The term "leased lines" refers to fixed, permanent telecommunications connections providing symmetric capacity between two points. A leased line is permanent, in that capacity is available between the two fixed points. A wholesale leased line may be used as an input to the provision of a retail leased line or may be used as an input to provide other retail services, such as fixed and mobile voice services, or Virtual Private Networks ("VPNs").
- 2.3 A retail leased line is typically used by business customers to connect office sites or to access the internet. It is a matter for the end user to determine the nature and mix of the services carried over the leased line. The profile of retail leased line customers is predominately business customers, and business customers will normally purchase leased lines, particularly those purchasing fibre based (above 10 Mbps⁷ speeds), under defined business criteria.
- 2.4 Performance characteristics of leased lines include aspects such as security, resilience, symmetric capacity and reliability. Normally leased line products are more expensive than consumer broadband products and are primarily for business use.
- 2.5 WLLs are an end-to-end wholesale product provided over the incumbent's network allowing an alternative operator to provide retail leased lines or WLLs may be used as an input to provide other retail services. PPCs are a variant of a WLL and are effectively a partial WLL allowing alternative operators to combine elements of their own network infrastructure with parts of the incumbent's network to deliver retail services.
- 2.6 Traditionally WLLs and PPCs were provided using legacy leased lines technologies⁸. Recent developments such as the adoption of the more efficient Ethernet technology, allows the delivery of larger capacity leased lines at lower costs than legacy leased line technologies. These technologies are addressed in this paper. Currently PPCs are provided using both legacy and Ethernet technologies. Eircom thus far has not provided an Ethernet version of WLLs. The transition from legacy leased lines to next generation leased lines (using Ethernet technology) is currently in progress and Eircom and other players in the market are in the process of deploying the networks and selling higher quality, more efficient data services to the market at lower prices.
- 2.7 ComReg, in Decision D6/08, found Eircom to be dominant in the wholesale market for the terminating segment of leased lines. In the Decision Instrument of D06/08, ComReg defined the trunk segment market as constituted by high capacity connections between major centres of population, specifically of capacity 155Mbps or greater. In effect the terminating segment is determined as that which is not specifically described as trunk above. PPCs and WLLs fall within the wholesale

⁷ Megabits per second

⁸ Primarily delivered over a Synchronous Digital Hierarchy ("SDH") transmission layer using Martis switching equipment.

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market for the terminating segment of leased lines. As a consequence of Decision D6/08 the provision of WLLs and PPCs by Eircom at cost oriented prices is mandated by regulation. Furthermore, Eircom is also required to avoid causing a margin squeeze (i.e. setting the price for a downstream service so low relative to an upstream input that the user of the regulated upstream input could not compete profitably.) This decision now is concerned with determining precisely how these requirements should be complied with.

- 2.8 Appropriate regulation in this dynamic environment is key to ensuring that market distortions and anti-competitive effects do not occur in the medium to long term through vertical and horizontal leverage of the SMP operator. It is also important that given the evolving level of competition in the market that the SMP operator is not unduly constrained through a rigid regulatory framework which may impede its ability to compete at the retail or wholesale level that could potentially lead to market distortions. Balancing these objectives is a difficult but critical task for ComReg, as the regulator. ComReg's statutory objectives under section 12 of the Communications Regulation Act ("the Act"), includes ensuring that there is no distortion or restriction of competition, encouraging efficient investment in infrastructure and promoting competition and promoting the interests of users within the community while ensuring that the measures are proportionate.
- 2.9 In order to promote competition, in the leased line market, ComReg set out, in ComReg Consultation Documents No. 07/77⁹ and No. 08/63¹⁰ that a price control remedy was required with respect to products in the market for the terminating segment of wholesale leased lines in accordance with Section 14 of the Access Regulations. ComReg set out, in Consultation Documents No. 07/77 and No. 08/63, that the design of the proposed price control remedies in the market for wholesale terminating segments of leased lines was to develop a framework that promotes efficient infrastructure investment and encourages other authorised operators ("OAOs") to climb the ladder of investment where appropriate, for example through the mandated PPC product. ComReg also noted in Consultation Documents No. 07/77 and No. 08/63 that this approach should facilitate effective and sustainable competition where infrastructure based competition was more likely to lead to the eventual withdrawal of many proposed regulatory obligations.
- 2.10 Following ComReg consultation documents No. 07/77 and No. 08/63, in 2008, Eircom was designated as having SMP in the market for wholesale terminating segments of leased lines, in ComReg Decision No D06/08. The market for wholesale terminating segments of leased lines consists of WLLs, PPCs and Ethernet technology. As a result of the designation of SMP on Eircom, a number of obligations were imposed on Eircom including access, non-discrimination, transparency, price control and cost accounting as well as the obligation of accounting separation.
- 2.11 The aim of this decision is to further specify the price control obligations that apply to Eircom in the context of the market for wholesale terminating segments of leased lines and to provide the market with price certainty and confidence, especially in

⁹ ComReg document 07/77: Market Analysis: Leased Lines Markets, published 2 October 2007

¹⁰ ComReg Document 08/63: Market Analysis: Leased Lines Markets Response to Consultation and Consultation on Draft Decision, published 6 August 2008

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light of the transition to next generation technology. This decision is the result of two public consultations contained in ComReg Document No 10/70 and ComReg Document No 11/32.

- 2.12 Of the various costing methodology options available ComReg has decided that a bottom-up (“BU”) long-run average incremental costs (“LRAIC”) plus (referred to throughout this document as ‘BU-LRAIC plus’) model is the appropriate model to determine the costs and the maximum charges relating to PPCs, NGN Ethernet and current generation Ethernet leased lines. This approach should reflect the prices that would prevail in a competitive market and it should send the right “build/buy” signals to new entrants. This methodology includes all of the average efficiently incurred directly attributable variable and fixed costs, plus an appropriate apportionment of joint and common costs, which is the calculus faced by any operator when deciding to enter or invest.
- 2.13 For WLLs, ComReg is of the view that if it were to impose a cost based approach this could lead to a significant anomaly in the market. The cost of a WLL could be cheaper than a PPC (where two PPCs are required to construct the two end points of a WLL) which would undermine the principle of network investment and be contrary to ComReg’s statutory objective of encouraging efficient investment in infrastructure and promoting competition. The main reason being that WLLs are a legacy product, provided over a legacy network where the costs have largely been recovered. This could mean that the incumbent could be incentivised to lower WLL prices to prevent OAOs from climbing the ladder of investment. The importance of WLLs in the Irish market has decreased over the last number of years as a result of take up of PPCs. For example, the number of WLL circuits has fallen by circa 80% over the period 2004 to 2011. Therefore, in the interests of proportionality ComReg has decided to set a price cap for WLLs based on the current published prices already in the marketplace, which will not distort the current in-situ base and should set the right signals for infrastructure investment.
- 2.14 Given ComReg’s regulatory objective to encourage efficient investment in PPC infrastructure and ensure sustainable competition, ComReg believes that a price floor is also required for WLLs to safeguard the appropriate investments of industry players and is the most appropriate means of encouraging OAOs to climb the ladder of investment. In this context, ComReg uses the term “Margin Squeeze test”, but for the avoidance of doubt the test is not a margin squeeze test as measured under Competition Law. In Competition Law a margin or price squeeze is generally measured as the difference between the price of products in different markets, usually the extra cost of providing a service in a retail market.
- 2.15 However, while PPCs and WLLs form part of the same relevant market due to their similar supply characteristics, Eircom’s relative pricing of its end-to-end WLL product can have a significant impact on those operators which combine elements of their own network infrastructure with PPCs. As Eircom can change relative prices from time to time, they could effectively undermine the regulatory process through applying an insufficient economic space vis-à-vis the price of its WLLs, relative to PPCs. In turn, this could potentially disincentivise investment by an OAO in its own infrastructure.
- 2.16 In view of Eircom’s dominance, such strategic pricing behaviour can have a significant impact on the structure of competition, promoting service-based

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competition at the expense of infrastructure-based competitors and future innovation. In view of its objectives to promote efficient investment and sustainable competition as well as the interests of end users, ComReg considers it appropriate to draw on margin squeeze principles to identify an appropriate economic space between the related wholesale inputs of WLLs and PPCs in this Decision. ComReg believes that this should encourage operators onto the ladder of investment and encourage efficient infrastructure investment while promoting sustainable competition in the retail market, based on the pricing mechanism established in this decision.

- 2.17 The importance of ensuring consistent pricing between relevant wholesale inputs such that the prices set for a particular wholesale service do not squeeze another alternative wholesale service is clear and widely acknowledged. In this regard, ComReg is mindful of the European Commission Decision in 2007 from Case COMP/38.78410¹¹ relating to a proceeding under Article 82 of the EC Treaty where it notes that:

“It is therefore necessary that there should not be any margin squeeze in relation to any “step” of the ladder, i.e. in relation to any wholesale product. If there was such a margin squeeze, new entrants that are climbing the ladder of investment, would be foreclosed.....All national regulatory authorities agree that the process of climbing the ladder of investment can only be effective if there is a margin between all the steps of the ladder”.

- 2.18 The Margin Squeeze test should, facilitate effective and sustainable competition which is in line with ComReg’s statutory objectives under Section 12 of the Act. The margin between WLLs and PPCs must be sufficient so that OAOs have the incentives to invest in their own infrastructure where such investment is appropriate. It should also ensure that any investments made are not unduly stranded, nor retail competition distorted to the detriment of competing infrastructure-based operators, as a result of a Margin Squeeze by Eircom. The price floor for WLLs will also allow Eircom flexibility to offer promotions to the benefit of end-users. In essence, Eircom can take a commercial decision to price between the maximum price ceiling and the minimum price floor so long as it does not lead to an under-recovery of costs.

- 2.19 The Margin Squeeze test is based on the similarly efficient operator¹² (‘SEO’) approach, which for the most part is based on Eircom’s cost information but adjusted to reflect the fact that OAOs do not currently enjoy the same economies of scale as Eircom. Eircom, mainly, as a result of its incumbency carries much greater volumes of traffic than its main competitors and therefore has a much lower unit cost nationally. This approach takes account of the insufficient competitive development of the market for wholesale terminating segments of leased lines and in particular the ability of infrastructure-based OAOs to compete with Eircom in the

¹¹ Case COMP/38.784 – Wanadoo España vs. Telefónica; 4.07.2007

¹² A ‘Similarly Efficient Operator’ means an operator which shares the same basic cost function as Eircom Limited but does not yet enjoy the same economies of scale and scope as Eircom Limited. In essence, this is similar to a Reasonably Efficient Operator test as the cost function is adjusted to reflect that the operator does not yet enjoy the same economies of scale and scope as Eircom Limited but the SEO is more in line with the objective of efficiency. SEO is based on Eircom’s costs which are more reliable and robust. REO is based on other operator cost data where there is a general issue with the robustness of the data.

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provision of end-to-end services. This should encourage efficient infrastructure investment and encourage OAOs to climb the ladder of investment, in line with ComReg's objectives under Section 12 of the Act.

2.20 It is important to note that the Margin Squeeze test, set out in this decision, relates to an assessment of the appropriate economic space between all of the steps of the ladder of investment, in relation to any of the wholesale products (current or future) in the market for wholesale terminating segments of leased lines only. While the Margin Squeeze test set out in this document is quite prescriptive, it is important that an element of flexibility is allowed over the coming years to take into account the dynamics of the market. It is not ComReg's intention for the Margin Squeeze test to give rise to anomalies in the market place, for either the incumbent or its competitors. In the assessment of any Margin Squeeze test going forward, ComReg must take into account the competitive market dynamics as presented (from time to time) and make an informed assessment, both qualitative and quantitative, of whether a Margin Squeeze has actually occurred.

2.21 Taking account of the concerns raised by one of the respondents to the consultation, and recognising that entry possibilities can differ according to the possibility to realise economies of scale and density in particular areas, the prices for the access element of the service may be amended in certain cases. ComReg believes that, in view of the insufficient competitive developments in the market for wholesale terminating segments of leased lines to date, this concept will be the exception rather than the norm. However, acknowledging that future entry possibilities can differ depending on the structural conditions present in particular areas, ComReg will use the degree of actual infrastructure replication as an initial indicator of changing competitive dynamics in discrete areas. This ensures that regulation may be sufficiently responsive to any such developments should they occur. The access price component may be amended where Eircom can demonstrate that in certain areas there are at least two competing alternative infrastructure operators providing access with lower access prices than Eircom. The criteria of at least two operators being present was applied in ComReg Decision D02/10¹³ and this decision was not appealed. In such cases Eircom may reduce its regulated price list or in certain circumstances may be allowed to use the modern equivalent asset ("MEA") of that alternative access operator and use the lower access prices compared to its own published price list as part of a given tender in that area which Eircom wholesale may wish to quote in any such tenders/bids. However, where this approach is adopted the burden of proof will be on Eircom to demonstrate to ComReg either where a sample of tenders is reviewed by ComReg each year or in the event of a complaint or a compliance case that the following are adhered to:

- At least two alternative infrastructures are present or were present, depending on the timing of a particular bid.
- The access prices used, which might be different to those published on the regulated price list, are supported by the relevant alternative access provider price lists or quotations.

¹³ The criteria of at least two operators being present was applied in 10/12. Ref: Leased Lines Markets: Review of Urban Centres, ComReg Document No 10/12, Decision No D02/10, published on 15 February 2010.

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- The alternative access product available at the prices used by Eircom must be fit for purpose to ensure OAOs can also meet the specific terms and conditions of any particular bid.

2.22 Where there are at least two alternative access providers providing viable wholesale access in a particular area, it could be expected that other operators would also have the choice to use that access service, to the extent that it meets their needs, at the lower price. This degree of flexibility should ensure that the replicability principle is adhered to while also ensuring that end-users have ample choice and reasonably competitive prices. It is important to note that in the context of the Margin Squeeze test “Access” refers to that part of the network from the customer premises to the nearest serving Eircom exchange (or equivalent). This refers to the local access input (labelled as step 2.1.1) in *Figure 3* in Section 7 of this document. Notwithstanding the further specification of the Margin Squeeze test, Eircom remain subject to the requirements of competition law.

2.23 In addition to the above and in order to ensure that regulation is proportionate, the OAO network costs in the Margin Squeeze model/test, primarily in relation to the higher speed fibre based products, are amended to reflect differences in the OAO network costs per region which are more pronounced for new network build than for legacy services as discussed further below. De-averaged OAO network costs can be calculated on the basis of the NGN Ethernet leased line cost model developed by ComReg which can determine the distribution of the costs of Eircom’s core network across the different regions of Ireland (consistent to the approach used for setting the geographic de-averaged prices for NGN Ethernet). In essence, there would be circa 5 different OAO network cost categories, consistent with the regions or areas used to set the de-averaged charges for NGN Ethernet. The OAO network cost categories used in the test will depend on the bid/contract under consideration. For example, a bid/contract in Dublin, which is classified as a high density area, would be based on the average “LRAIC plus costs” of providing the product/service in Dublin. This approach takes account of the fact that, in line with the replicability principle, OAO network costs vary by area and this approach reflects the cost differences for operators to provide a leased line service in major urban areas compared with the more provincial or rural areas.

2.24 In general, this decision determines that WLLs and PPCs are priced on a national average pricing approach. A nationally averaged pricing approach remains largely relevant for current generation leased line products and services given that these are legacy products, provided over a legacy network and where the costs have already been largely recovered. This has been the approach for a number of years and the pricing approach is well established and understood by the telecommunications industry in Ireland. However, it should also be noted that PPC prices are maximum prices, and Eircom could make an application to ComReg to lower its PPC prices, nationally or in defined geographic areas, should it identify a need to do so. Any notification and implementation of PPC price changes would be subject to the conditions set out under the transparency obligation in ComReg Decision D6/08.

2.25 Wholesale NGN Ethernet leased lines are a range of new products and services, similar to PPCs, which are provided over a newly built network. The prices for the next generation products and services are currently based on nationally de-averaged prices, whereby the prices reflect the costs of new network build in the different

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geographic regions, that is high density (or major urban) regions and medium density (or outside urban) regions. There is a difference in terms of costs and economies of scale/scope between the more urban areas in Ireland and the more rural areas for the provision of NGN Ethernet services. Prices set in this manner more closely reflect underlying costs and should send more accurate price signals to potential entrants on whether to build or buy capacity. At this stage the cost differences are the main driving factor for differentiated prices for NGN Ethernet leased lines, rather than clear and sustained differences in competitive conditions. In any case, ComReg will keep the market situation under review in case the observed differing cost structures in urban and rural areas support the development of clear and sustained geographic differences in competition over time.

- 2.26 A geographic de-averaged pricing approach should also result in Eircom being more likely to continue to supply remote areas. The reason being, Eircom would now be in a position to recover the higher per unit costs and conversely in cities Eircom's prices would be lower than if they were set with reference to a national average. This should therefore improve the competitiveness of Eircom's services in these areas where economies of scale and density could potentially provide greater entry opportunities. This should also help improve the competitiveness of Irish cities internationally, for example Dublin will be cheaper now compared to previous years as it benefits from the lower High density prices, which is also likely to be more sustainable in the long-term. All of these measures are in line with ComReg's statutory objectives under section 12 of the Communications Regulation Act to ensure that there is no distortion or restriction of competition, to encourage efficient investment in infrastructure and promote competition and to promote the interests of users within the community.
- 2.27 While the benefits of de-averaged pricing have been set out above, ComReg is also mindful of possible unintended consequences of this approach. It is not the intention that the lower wholesale Ethernet prices in urban areas contribute to foreclosure of future investment in those geographic areas availing of Medium density prices. ComReg has therefore set out measures to assist in preventing any foreclosure of future investment in the medium density areas of Ireland. A high density pricing approach may be adopted, on a case by case basis, in some medium density regions where there is sufficient demand and where future economies of scale and density would thus be more aligned with the cost characteristics of the high density areas. This approach will be based on the presentation of evidence of future demand, an assessment of the impact of this demand on high/medium density categorisation and communicating any changes to stakeholders. ComReg believes that this approach should ensure that any significant existing or future direct investment, which requires significant bandwidth, is not materially disadvantaged through a de-averaged pricing approach to the detriment of end users. ComReg also notes that even in the more rural regions of Ireland, the updated Eircom NGN Ethernet prices are considerably lower than the legacy PPC prices, therefore, all consumers are benefiting from price reductions.
- 2.28 ComReg has also decided that an annual review of the model (relating to relevant costs, volumes and Margin Squeeze parameters) is necessary. This review will entail an assessment of the main aggregated inputs into the model. Depending on the outcome of this annual review, and if material changes are identified, Eircom may be required to revise its maximum charges as a result. ComReg does not

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foresee changes being necessary. However; where material changes are required ComReg will ensure adequate notice and reasoning is provided to all stakeholders, including the European Commission, depending on the change(s) to be made.

2.29 The maximum prices determined as a result of the cost modelling review show no material changes to the prices in the existing network price list as published by Eircom. There have been recent reductions to PPC core conveyance prices of approximately 16% over the past eighteen months and PPC fibre access price reductions¹⁴ which have brought these prices in line with Eircom's price control decision. In addition, NGN Ethernet prices were launched in 2010 on foot of a cost modelling exercise carried out by ComReg at that time. ComReg now believes that the current maximum prices in the market are in line with the principles, methodologies and modelling approach which have been further specified in this decision. Nevertheless, the onus is on Eircom to ensure compliance with its price control obligation, which has been further specified in this decision document. The price floors for WLLs will not be published but will be monitored separately by ComReg for potential or actual Margin Squeeze. Eircom will be subject to the ex-ante Margin Squeeze test, as provided in a detailed spreadsheet to Eircom as part of this Decision. Where possible ComReg will monitor compliance with the test prior to tenders being bid for, however given the nature of the bidding process and the number of bids generally it may not be practical to monitor compliance before tenders are issued. Therefore, ComReg has obligated Eircom to provide to it a list of all tenders bid for, from this list ComReg will randomly select 3 bids to review and to ensure the test is complied with in all material respects.

2.30 On 13 September 2011 ComReg notified the European Commission of its draft measures with regard to the price control remedy in the market for wholesale terminating segments of leased lines. On 13 October 2011, a "No Comments" letter was received from the European Commission.

2.31 In summary, the main decisions of this document are as follows:

- A "BU-LRAIC plus" methodology is the appropriate basis to determine the maximum charges for PPCs and NGN Ethernet.
- For WLLs, the maximum charges are based on the current published prices and a minimum price floor is set on the basis of the appropriate economic space (referred to as the "Margin Squeeze test") between WLLs and PPCs, on a SEO cost basis.
- The Margin Squeeze test used in this decision further specifies Eircom's obligation and assesses the appropriate economic space (based on a SEO cost base) between all of the steps of the ladder of investment, in relation to any of the wholesale products (current and future) in the market for wholesale terminating segments of leased lines only.

¹⁴ PPC fibre access price reductions, effective 1 July 2011
http://www.comreg.ie/_fileupload/publications/ComReg1126.pdf

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- The pricing approach for NGN Ethernet services is based on a national de-averaged pricing approach. In general, PPCs and WLLs are based on a nationally averaged pricing approach.
- The maximum charges for WLLs, PPCs and NGN Ethernet are referred to in Appendix A of this decision document. Eircom are obliged to charge no more than the maximum charges but this is subject to the reviews, as specified below.
- ComReg will carry out an annual review of the main aggregated inputs of the model. Where material issues arise, ComReg will discuss these with Industry either as part of the Leased Lines forum or by another means, as deemed appropriate. Depending on the outcome of this annual review, and if material or exceptional changes are identified, Eircom may be required to revise its charges as a result.
- The price control period is for at least three years. ComReg will commence a review no later than six months in advance of expiration of the price control period. This review will include a review of the underlying methodologies and principles. As part of the review, ComReg will also assess if any amendments to the modelling approach, pricing and costing approach and charges are required. The scheduled review will be subject to consultation as appropriate and necessary with Eircom, OAOs and the public. In terms of the review, ComReg, Eircom and OAOs will use reasonable endeavours to ensure that the review is completed in a timely and proper manner and if any amendments are necessary, that these are made immediately upon expiry of the price control period. In the event that it is not completed at the end of the price control period, for whatever reason, then the charges in the market will remain in place until the review is completed.

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3 Leased Lines Costing Methodology

Overview

- 3.1 In ComReg Document No 10/70 ComReg consulted on the various costing methodologies available to it in order to determine the costs and charges for leased line products and services in the market for wholesale terminating segments of leased lines.
- 3.2 Subsequently in ComReg Document No 11/32 ComReg set out the respondents' views, its consideration of the points raised and its conclusions. The full details of ComReg's conclusions and reasoning in this regard are contained in ComReg Document No 11/32 and readers are referred to this document for a comprehensive explanation of ComReg's views. However, a summary of the main conclusions on the costing methodology are set out below as well as the key decisions.
- 3.3 It should be noted that while the price control obligation in the market for wholesale terminating segment of leased lines applies to both rental products and ancillary products/services this decision addresses the costing and pricing approach for the rental products only. For the ancillary products/services, Eircom are obliged to comply with the cost orientation obligation, from ComReg Decision No D06/08, to ensure that the charges are cost oriented and that it recovers the efficiently incurred costs and a regulated rate of return.
- 3.4 As part of this consultation process ComReg considered whether WLLs above 10Mbps generally should be subject to a differentiated price control and this has been reflected in this decision. It should also be clear that WLLs between the urban centres and less than STM1 generally are part of the market for the wholesale terminating segments of leased lines and therefore the price control and margin squeeze principles set out below for WLLs also relates to these.
- 3.5 A summary of the conclusions from ComReg Document No 11/32 and the main decision points relating to the appropriate costing methodology are discussed below under the following headings:
 1. General costing methodology principles
 2. Costing methodology approach specific to the products and services in market for wholesale terminating segments of leased lines
 3. Margin Squeeze principles for an assessment of the appropriate economic space between wholesale products and services.

1. General costing methodology principles:

- 3.6 In ComReg Document No 11/70, the methodology options considered were as follows:
 - Historic costs or current costs
 - LRAIC or fully distributed costs ("FDC")
 - Top down ("TD") model, bottom-up ("BU") model or hybrid model.
- 3.7 In Section 3 of ComReg Document No 11/32, ComReg concluded that a 'LRAIC plus', combined with a BU cost model, is the preferred general approach for the

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costing methodology for determining the costs and charges for the products and services in the market for wholesale terminating segments of leased lines.

- 3.8 The BU- LRAIC plus approach is the general basis for determining charges in the market for wholesale terminating segment of leased lines. This approach should be reflective of the prices that would prevail in a competitive market and it should send the right “build/buy” signals to new entrants. This costing methodology includes all of the average efficiently incurred variable and fixed costs that are directly attributable to the activity concerned, plus an appropriate apportionment of joint and common costs, which is the calculus faced by any operator when deciding to enter or expand.

2. Costing methodology approach specific to the products and services in the market for wholesale terminating segments of leased lines:

- 3.9 In Section 3 of ComReg Document No 11/32, ComReg concluded that a ‘BU-LRAIC plus’ cost model is the appropriate methodology for determining the cost oriented charges for PPCs (including Wholesale Ethernet Access (“WEA”)) and NGN Ethernet products in the market for wholesale terminating segments of leased lines.
- 3.10 In ComReg Document No 11/32, for WLLs, ComReg concluded that the current WLL charges in the market are the maximum WLL charges and an assessment of the appropriate economic space between PPCs and WLLs determines the price floor for WLLs. This is discussed in detail in Section 6 and 7.
- 3.11 In summary, ComReg has decided that BU-LRAIC plus is the basis for determining the maximum charges for PPCs and NGN Ethernet products and services in the market for wholesale terminating segments of leased lines.
- 3.12 ComReg has also decided that for WLLs, the maximum charges are based on the current WLL charges already in the marketplace. The price floor charges for WLLs are based on an assessment of the appropriate economic space between PPCs and WLLs, based on the SEO cost base

3. Margin Squeeze principles for an assessment of the appropriate economic space between wholesale products and services:

- 3.13 In Section 3 of ComReg Document No 11/32, ComReg concluded on the principles that apply for assessing the appropriate economic space between wholesale products and services in the market for wholesale terminating segments of leased lines.
- 3.14 The principles set out below apply for the Margin Squeeze test to assess the appropriate economic space between WLL and PPCs products. In addition, ComReg concluded in ComReg Document No 11/32 that the same principles apply in relation to the Margin Squeeze test to assess the appropriate economic space between any of the current wholesale products and services or between any variant of the products and services in the market for wholesale terminating segments of leased lines as defined.
- 3.15 In summary, ComReg has decided that a Margin Squeeze test was required so as to assess the appropriate economic space between all of the steps of the ladder of investment, in relation to any of the wholesale products in the market for wholesale

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terminating segments of leased lines as currently defined

3.16 The details and the inputs of the Margin Squeeze test between the wholesale products in the market for wholesale terminating segments of leased lines, including WLLs and PPCs (or equivalents), is further discussed in Section 7 of this document.

3.17 In summary, the main principles concluded on in ComReg Document No 11/32 can be summarised as follows:

(a) Appropriate operator cost base:

3.18 In Section 3 of ComReg Document No 11/32, ComReg concluded that the SEO approach is the appropriate cost base to use in the context of assessing the appropriate economic space between WLLs, PPCs and NGN Ethernet. The SEO costs are Eircom's costs adjusted for economies of scale and scope differences. A SEO means an operator who shares the same basic cost function as Eircom but does not yet enjoy the same economies of scale and scope as Eircom. In essence, this is similar to the Reasonably Efficient Operator ("REO") test as the cost function is adjusted to reflect the fact that an OAO does not yet enjoy the same economies of scale and scope as Eircom (the Incumbent). The SEO approach should send the appropriate investment signals to new entrants which should encourage infrastructure investment and encourage OAOs to climb the ladder of investment.

3.19 In summary, ComReg has decided that the SEO cost base is the basis for assessing the appropriate economic space between any two wholesale products in this market that is between WLL services and, including but not limited to, PPCs and NGN Ethernet.

(b) Appropriate operator volume base:

3.20 In Section 3 of ComReg Document No 11/32, ComReg concluded that an adjustment for economies of scale is necessary to determine the WLL charges. Given the different volume base between Eircom and a typical new entrant and cognisant of the need to promote efficient investment and competition and to avoid incentivising inefficient investment, a hypothetical operator with a market share of 25% is the relevant volume base to apply in this context.

3.21 In summary, ComReg has decided that a hypothetical operator with a market share of 25% is the relevant volume base to use in the text of the Margin Squeeze test.

(c) Appropriate cost standard:

3.22 In Section 3 of ComReg Document No 11/32, ComReg concluded that the 'LRAIC plus' cost standard is the relevant approach to determine the appropriate wholesale costs, in the Margin Squeeze test. This approach allows any operator to recover all of the average efficiently incurred directly attributable variable and fixed costs, plus an appropriate apportionment of joint and common costs. This is the calculus faced by any operator when deciding to enter or expand.

3.23 In summary, ComReg has decided that the 'LRAIC plus' cost standard is the relevant approach to determine the appropriate wholesale costs, in the Margin Squeeze test.

(d) Appropriate model type:

3.24 In Section 3 of ComReg Document No 11/32, ComReg concluded that the static model is the preferred model approach for the Margin Squeeze test. This approach ensures that the actual operating costs of an alternative operator are taken into

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account for the particular year under review. The static approach also ensures consistency with the “replicability” principle so that the offer under consideration can be replicated by an efficient alternative operator.

- 3.25 In terms of any future assessment of the appropriate economic space between any of the wholesale NGN Ethernet leased line products in the market for wholesale terminating segment of leased lines, ComReg may consider a dynamic approach, given the likely need to forecast the demand for mobile broadband and the impact that this may have on the recovery of costs over the next few years.
- 3.26 In summary, ComReg has decided that the static model is the preferred model approach for the Margin Squeeze test.

(e) Product-by-product or portfolio basis:

- 3.27 In Section 3 of ComReg Document No 11/32, ComReg concluded that a product-by-product basis is the most appropriate approach for now given that the market is not sufficiently competitive to advocate the portfolio approach. However, given the evolution to Ethernet technology over the coming years it may be necessary to further assess the options available on a case by case basis in the future. This is further discussed in Section 7.
- 3.28 In summary, ComReg has decided that the product-by-product basis is the most appropriate approach for the Margin Squeeze test.

4 Leased Lines Cost Modelling Approach

Overview

- 4.1 In ComReg Document No 10/70 ComReg consulted on the main cost model inputs, the engineering rules and the assumptions used in the BU-LRAIC plus cost model.
- 4.2 In ComReg Document No 11/32 ComReg set out the respondents' views, its consideration of the points raised and its conclusions. The full details of ComReg's conclusions and reasoning in this regard are contained in ComReg Document No 11/32 and readers are referred to this document for a comprehensive explanation of ComReg's views. However, a summary of the main conclusions on the cost modelling approach are set out below.
- 4.3 The main conclusions are summarised below under the following headings:
 1. Modelling approach for leased lines access network
 2. Modelling approach for leased lines core network
 3. Modelling approach for leased lines NGN core network
 4. Modelling approach for WEA product
 5. Modelling approach for common areas between leased lines core and access network
 6. Duration and review of price control.

1. Modelling approach for leased lines access network:

(a) Modelling approach for the leased lines access network:

- 4.4 In Section 4 of ComReg Document No 11/32, ComReg concluded the model previously built for the purposes of determining the monthly rental charge for Local Loop Unbundling ("LLU") (ComReg Document No. 10/10 (Decision No D01/10)) is appropriate in the context of the current model, as the LLU model provided for the cost of all copper pairs, including those used for leased lines.
- 4.5 Therefore, the main principles adopted within the LLU access model are also relevant in the context of the leased lines model. However, there are a number of principles specific to the provision of leased lines which are discussed below.

(b) Location of fibre access leased lines:

- 4.6 In Section 4 of ComReg Document No 11/32, ComReg concluded that the model deploys the fibre access leased lines to reflect the location of where they are currently located in Eircom's network. For the purposes of the model ComReg has assumed that all access fibre leased lines are located inside the housing areas (urban areas) in the model.

(c) Fibre access volumes:

- 4.7 In Section 4 of ComReg Document No 11/32, ComReg concluded that capacity for backhaul to Mobile Network Operators ("MNOs") is considered as part of the forward looking cost modelling approach for traffic on the NGN core network. The input for mobile broadband backhaul volumes and capacity requirements is based on an estimate of likely requirements over the Eircom network in the coming years.

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However, like all volume assumptions this is subject to elements' volatility and will be kept under review. In addition, the model assumes that access fibre lines will increase annually by approximately 3.3% during the price control period

(d) Civil works:

- 4.8 In Section 4 of ComReg Document No 11/32, ComReg concluded that consideration has been given to the spare capacity of the bores in the trench for fibre access and the model adopts the most appropriate way depending on the capacity of the bores for the particular part of the network being modelled.

(e) Allocation of civil works costs between fibre access and copper access network:

- 4.9 In Section 4 of ComReg Document No 11/32, ComReg concluded that for the allocation of civil works costs between fibre access and copper access network, the cross sectional approach (option 2) is the most pragmatic and balanced approach and is reflective of the current dimensioning rules in Eircom's network.
- 4.10 The cost driver for the ducts and the trenches is the section of cable that needs to be laid in the ground and not the number of cables: if the section of the cables that need to be laid is too large then other ducts may be required. However, if it is necessary to lay a significant number of cables down, it will not necessarily mean that a large number of ducts are required, as it will depend on the section of all these cables.

(f) Operating Costs:

- 4.11 In Section 4 of ComReg Document No 11/32, ComReg concluded that the appropriate level of operating costs for the access network is based on the LLU pricing decision. The line fault index ('LFI') is set at 5% to reflect the fact that fibre lines are less susceptible to faults compared with copper lines.

2. Modelling approach for leased lines core network:

(a) Modelling approach for the leased lines legacy core network:

- 4.12 In Section 4 of ComReg Document No 11/32, ComReg concluded that the provision of legacy PPCs and WLLs is based on a pure legacy core network model whereas the provision of Ethernet technology is based on a full NGN core network model.

(b) Traffic volumes on core legacy network:

- 4.13 In Section 4 of ComReg Document No 11/32, ComReg concluded the traffic volumes are based on the current level of traffic on Eircom's core legacy network.

(c) Allocation of legacy core network costs:

- 4.14 In Section 4 of ComReg Document No 11/32, ComReg concluded that the switching costs of the legacy core network are calculated based on the total costs of the node, the traffic solely for leased lines and the associated routing factors. The transmission costs are shared between the different services which use the transmission layer, i.e. voice, broadband and leased lines. For each service, the busy-hour demand, which is used to dimension the network, is calculated. The capacity in terms of STM-1 at the different levels of the network is determined in the model for voice, broadband and leased lines separately. In other words, dedicated circuits of fixed capacity are modelled up across the SDH network for individual services. The cost of the SDH transmission network is then to be allocated to the different services (voice, broadband, leased lines) based on the busy hour traffic of each service at the different

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levels of the network (capacity based allocation).

(d) Operating costs:

4.15 In Section 4 of ComReg Document No 11/32, the operating cost data is based on Eircom's operating costs, as a starting point. However, a number of adjustments have been made where necessary to take account of likely future changes to costs.

3. Modelling approach for leased lines NGN core network:

4.16 Over the past few years Eircom wholesale have invested heavily in an upgraded NGN Ethernet core network. The Ethernet technology deployed is generally cheaper to purchase and provides greater bandwidth for data services, thus giving rise to the cheaper prices on offer from Eircom today. However, this NGN Ethernet technology has not been deployed across the entire territory of Ireland for commercial reasons. Alternative operators are also deploying their own upgraded technology in Eircom exchanges to improve the quality of their service offerings and meet the demand of existing and potential customers. Due to the mix of old technology and new technology in the core networks of Eircom and OAOs, it is necessary to take this into account when arriving at appropriate prices and an appropriate Margin Squeeze test. Section 4 of ComReg Document No 11/32 set out in detail the approach proposed by ComReg and the following sections sets out ComReg's conclusions and the adopted approach to modelling the core network.

(a) Modelling approach for the leased lines NGN core network:

4.17 ComReg concluded that as Eircom is currently deploying NGN technology, the modelling approach for the core network should, as far as possible reflect this.

4.18 Therefore, ComReg has taken account of the following points with regard to NGN:

- The nodes (exchange sites, aggregation nodes, IP Edge nodes, core nodes) remain at the same locations as they are currently;
- Same regions as Eircom's NGN network;
- Same systems as Eircom's wavelength division multiplexing ("WDM") network.

(b) Traffic volumes on the NGN core network:

4.19 In Section 4 of ComReg Document No 11/32, ComReg concluded that the model reflects the current level of traffic on Eircom's core legacy network and this level of traffic is used as a basis for the traffic on the NGN core network. The capacity and volumes for backhaul to MNOs is also considered as part of the forward looking cost modelling approach for traffic on the NGN core network. The volume of traffic generated by leased lines is assumed to increase slightly over the next three years with an annual increase of approximately 3.3% during the price control period. However, volumes will be kept under review annually to ensure there are no major fluctuations which were not considered as part of this review.

(c) Capacity requirements for voice traffic on the NGN core network:

4.20 In Section 4 of ComReg Document No 11/32, ComReg concluded that voice services will currently remain on the legacy network and the costs of the shared assets are allocated between the various services on it, i.e. voice, broadband and legacy leased lines.

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(d) Allocation of NGN core network costs:

4.21 In Section 4 of ComReg Document No 11/32, ComReg concluded that the model calculates the cost of the different parts of the NGN core network for each of the services that use it, i.e. leased lines, broadband and voice. In the case of traffic related products, the resulting annual demand is converted to busy-hour demand, which is used to dimension the network. Eircom's forecasted level of busy-hour demand is considered in the model. The principle of using a peak traffic rate has also been considered as part of the Wholesale Broadband Access ("WBA") pricing review to ensure consistency of approach between this review and the WBA price control review.

(e) Operating costs:

4.22 In Section 4 of ComReg Document No 11/32, ComReg concluded that the operating costs are based on costing data provided by Eircom and adjusted by ComReg to reflect the fact that NGN network costs will be higher initially, but will reduce overtime as the operating costs of a NGN network will be lower than the operating costs levels of the core legacy network.

4. Modelling approach for Wholesale Ethernet Access ("WEA") product:

4.23 In Section 4 of ComReg Document No 11/32, ComReg concluded that in principle, the modelling approach for the WEA product should be based on that of a legacy core network model. However, given that there is currently no take-up of WEA services from Eircom, ComReg believes that in line with the principle of proportionality that no further cost modelling is deemed necessary at this point. This is further discussed in Section 6 of this document.

5. Modelling approach for common areas between leased lines core and access network:

(a) Tilted annuities and price trends:

4.24 In Section 4 of ComReg Document No 11/32, ComReg concluded that in line with the LLU pricing decision (ComReg Document No 10/10 (Decision No D01/10), the annuity formula used in the model assumes that revenues are realised approximately 6 months after the investments are made. The annuity formula is as follows:

$$A_1 = I \times \frac{1}{\sqrt{1+w}} \times \frac{w-P}{1 - \left(\frac{1+P}{1+w}\right)^N}$$

Note:

- A_1 , the annual charge in year one (used for price calculation)
- I , the investment value of the asset
- w , the cost of capital (parameter)¹⁵
- P , the annual change in the price of an asset

¹⁵ The payment term, in the LLU pricing decision, was set at .,5 (6 months) and in the legacy leased lines model, following model review with eircom, this has been set at $0.5 - 0.375 = 0.125$ to reflect the fact that the time between the investment is made and the equipments are installed is longer than for LLU of about 4,5 months.

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- *N, the useful life of the asset.*

4.25 For the access network, the price trends from the LLU access model for trench costs and duct costs are used in the model. These price trends are based on long-term trends over a 12 year period. In relation to those assets relevant to fibre access, the changes in asset prices over a shorter period i.e. over a period of approximately 3 years for the optical distribution frame (“ODF”) has been taken into account. In terms of the network terminating unit (“NTU”) the assumptions provided by Eircom have been used in the model. An assessment of prices over the short term is more appropriate for equipment type assets. With regard to the network assets relevant to the provision of leased lines services over the core network, the same approach as that set out above in relation to the NTU and the ODF has been adopted in the model

(b) Asset Lives:

4.26 In Section 4 of ComReg Document No 11/32, ComReg concluded that the asset lives for those assets relevant to the provision of products and services in the market for wholesale terminating segment of leased lines across the access and core network are consistent with ComReg Document No. 09/65 (Decision No D03/09).

(c) Allocation of common assets between the core and access networks:

4.27 In Section 4 of ComReg Document No 11/32, ComReg concluded that in the model, the ducts, chambers and trenches are shared between the access copper network, the access fibre network and core network. On the other hand, fibre cables are shared between core network and access fibre network.

(d) Allocation of civil works costs between the core and access networks:

4.28 In Section 4 of ComReg Document No 11/32, ComReg concluded that in line with the LLU cost model, civil works costs are allocated between the access and core model on the basis of 50% of trench and chamber between core and access, where there is a core network presence.

(e) Allocation of fibre cable costs between the core and access networks:

4.29 In Section 4 of ComReg Document No 11/32, ComReg concluded that the cost of fibre is allocated between the access and core networks. The fibre cable costs are allocated 50:50 between the core and access networks.

6. Duration and review of price control:

4.30 In Section 4 of ComReg Document No 11/32, ComReg concluded that the price control period is for three years. ComReg will carry out an internal yearly review of the main aggregated model inputs to assess any material or exceptional changes, especially the model inputs for NGN. Exceptional or material circumstances will be determined on a case by case basis by ComReg, where the main assumptions / parameters to be considered are:

- Further roll-out of the NGN core network and NGN node re-categorisation (discussed in section 6)
- Capacity restrictions on the NGN core network for real times classes of service (discussed in section 6)

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- Dimensioning assumptions of mobile broadband backhaul traffic
- Dimensioning assumptions of DSL and backhaul traffic
- Changes in the in-situ install base of leased lines (i.e. shifts from lower to higher circuit speeds)
- A review of operating costs (“OPEX”)
- Issues raised by industry.

4.31 As part of this annual review, ComReg will ensure it is kept up to date on industry developments through the ComReg industry forum and if issues are raised by OAOs. Where material issues arise, ComReg will discuss these with Industry either as part of the Leased Lines forum or by another means, as deemed appropriate. Depending on the outcome of this annual review, and if material changes are identified, Eircom may be required to revise its maximum charges as a result. ComReg does not foresee changes being necessary. However; where such changes are required ComReg will ensure adequate notice and reasoning is provided to all stakeholders, including the European Commission, depending on the change(s) to be made. The annual review of the main aggregated inputs to the model will also take due consideration of any outcomes of the parallel market analysis process that may have an impact on the parameters / assumptions of the model.

4.32 ComReg has decided that the price control period would be for at least three years. However, this will depend on the outcome of the upcoming analysis of this market, the general compliance of Eircom with its obligations and feedback from industry as to the proper functioning of this Decision or otherwise. ComReg intends to commence a review no later than six months in advance of expiration of the price control period. This review will include a review of the underlying methodologies and principles. This price control review will take account of the outcomes of the parallel market analysis process which will commence shortly. As part of the review, ComReg will also assess if any amendments to the modelling approach, pricing and costing approach and charges are required. The scheduled review will be subject to consultation as appropriate and necessary with Eircom, OAOs and the public. In terms of the review, ComReg, Eircom and OAOs will use reasonable endeavours to ensure that the review is completed in a timely and proper manner and if any amendments are necessary, that these are made immediately upon expiry of the price control period. In the event that it is not completed at the end of the price control period, for whatever reason, then the charges in line with this decision will remain in place until the review is completed subject to any material changes to key parameters used to set the existing prices and margin test models.

5 Leased Lines Pricing Methodology

Overview:

- 5.1 In ComReg Document No 10/70 ComReg consulted on the pricing methodology options for determining the appropriate charges for WLLs, PPCs and NGN Ethernet.
- 5.2 In ComReg Document No 11/32 ComReg set out the respondents' views, its consideration of the points raised and the conclusions. The full details of ComReg's conclusions and reasoning in this regard are contained in ComReg Document No 11/32 and readers are referred to this document for a comprehensive explanation of ComReg's views. However, a summary of the conclusions on the pricing methodology are set out below.
- 5.3 The main conclusions are summarised below under two main headings:
 1. Pricing approach for legacy leased line products and services
 2. Pricing approach for NGN Ethernet leased lines products and services.

1. Pricing approach for legacy leased line products and services:

- 5.4 In Section 5 of ComReg Document No 11/32, ComReg proposed that in general the pricing methodology for legacy WLL and PPC products continues on the basis of nationally averaged prices. These products were priced on a nationally averaged basis for a number of years and the pricing approach is well established and understood by industry. In addition, the current generation WLLs and PPCs are legacy products provided over a legacy network where the costs have already been largely recovered. The demand for WLLs has also significantly declined in recent years. Therefore, geographic differences in costs are less relevant than for new build products.
- 5.5 In summary, ComReg concludes that in general the pricing methodology for legacy WLL and PPC products continues on the basis of nationally averaged prices. However, it should also be noted that PPC prices are maximum prices, and Eircom could make an application to ComReg to lower its PPC access prices, nationally or in defined geographical areas, should it identify a need to do so. Any notification and implementation of PPC price changes would be subject to the conditions set out under the transparency obligation in ComReg Decision D6/08.

2. Pricing approach for NGN Ethernet leased line products and services:

- 5.6 Set out below is a summary of the main conclusions from ComReg Document No 11/32, regarding the pricing methodology for NGN Ethernet in the market for wholesale terminating segments of leased lines.

(a) Price differentiation between best efforts and real time services:

- 5.7 In Section 5 of ComReg Document No 11/32, ComReg concluded that there are three classes of service with respect to core conveyance on Eircom's NGN network. These include:
 - a) The assured forward (AF) traffic class
 - b) The expedited forward (EF) traffic class

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c) The best effort class.

- 5.8 Given the importance of delivery of real-time traffic (AF and EF), it is reasonable that the transmission of real time traffic warrants an additional associated cost compared with best effort traffic.

(b) Price differentiation by geographic area:

- 5.9 In Section 5 of ComReg Document No 11/32, ComReg concluded that product differentiation by capacity and differentiation by geography is reasonable for setting prices for NGN Ethernet products, including Wholesale Ethernet Interconnect Link (“WEIL”), Wholesale Symmetric Ethernet Access (“WSEA”) Physical and WSEA Logical.

- 5.10 Unlike the current generation legacy products, wholesale NGN Ethernet leased lines are a range of new products and services which are provided over a newly built network. NGN Ethernet prices in the marketplace are based on nationally de-averaged prices, whereby the prices reflect the costs of the geographic regions i.e. high density (or major urban) regions and medium density (or outside urban) regions for core network charges and urban, provincial and rural for access network charges. This approach is reasonable on the basis that Eircom have identified that there is a difference in terms of costs and economies of scale/scope between the more urban areas in Ireland and the more rural areas for the provision of NGN Ethernet services. ComReg believes that prices set in this manner more closely reflect underlying costs and should set more accurate price signals to potential entrants on whether to build or buy capacity. Therefore, currently cost differences are the main driving factor for differentiated prices for NGN Ethernet leased lines, rather than clear and sustained differences in competitive conditions. In any case, ComReg will keep the market situation under review in case the observed differing cost structures in urban and rural areas support the development of clear and sustained geographic differences in competition over time.

- 5.11 In the previous two consultation documents, ComReg considered whether some existing or potential future key businesses across the country may consider, as a contributing factor, moving or locating in urban regions to avail of lower Ethernet prices. ComReg has set out measures so as to assist in preventing any foreclosure of future investment in the medium density areas of Ireland where pricing is the main driver of any such decision. In order to prevent foreclosing future investment in the medium density areas of Ireland, ComReg decided that a high density pricing approach could be adopted, on a case by case basis, in some medium density regions where there is sufficient forecast demand and therefore the economics of the area for pricing purposes changes. ComReg set out that demand in an area, currently defined as medium density, will create economies of scale and a lower unit cost, therefore changing the cost characteristics of that area to that of a high density area. ComReg believes that this approach should ensure that any significant existing or future direct investment which requires significant bandwidth is not materially disadvantaged through a de-averaged pricing approach to the detriment of end users. ComReg also notes that even at the outer edges of the core network, which covers the smaller towns Ireland, the updated Eircom NGN Ethernet prices are considerably lower than the legacy PPC prices therefore all consumers should benefit from the recent price reductions.

- 5.12 Demand requirements will be determined on a case by case basis and any re-

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categorisation of aggregation nodes and extended reach nodes will be notified through the formal Leased Lines Reference Offer (“LLRO”) notification procedures.

5.13 Demand is likely to be mainly driven by two scenarios:

- 1) Step changes in demand and organic growth in demand over time. These changes in demand are likely to be driven by increases in capacity requirements by the in-situ install base of end users and this will lead to migrations from legacy leased line products to NGN Ethernet products.
- 2) New end users as a result of innovation and strategic investments. This is likely to be as a result of foreign direct investment which will increase capacity requirements and drive an increase in demand for NGN Ethernet products.

5.14 ComReg believes that the classification of NGN aggregation nodes and extended reach nodes will be on the basis of that modelled in the BU LRAIC plus NGN core model. The costs of the NGN core are based on the inclusion of a defined number of NGN aggregation nodes and extended reach nodes. In addition, the NGN Ethernet core conveyances prices are set on the basis of ensuring overall efficient cost recovery for Eircom.

5.15 As stated in Section 4 of this document on the price control period, ComReg will undertake an annual review of the BU NGN core model which will incorporate a review of NGN node roll-out and categorisation, and extend to a review of NGN core conveyance regions. Any changes identified, will be considered along with the review of other key assumptions and parameters. Any categorisation updates, as a result of the annual review, will be communicated to industry and any changes will be reflected in the WSEA /WEIL categorisation list in line with the LLRO notification procedures.

5.16 ComReg is also conscious that the NGN node roll-out is ongoing and demand is consequently evolving. ComReg acknowledges the Industrial Development Authority (“IDAs”) support for a mechanism which would recognise the merits of reclassifying strategic sites as high density areas, which the IDA believes would assist in attracting sustainable investment and supporting regional development.

5.17 Any application, by industry or other agencies (such as the IDA), to request the re-categorisation of an NGN aggregation node or extended reach node from medium to high density must be submitted to ComReg. Any submission should clearly identify the basis of the demand that would support such an application. ComReg reserves the right to assess on a case by case basis changes to NGN aggregation nodes, and extended reach nodes, categorisation. ComReg will update industry on any proposed changes to NGN node, or extended reach node, categorisation through the Leased Line forum, with any updates reflected in the WEIL / WSEA categorisation list in line with the LLRO notification procedures. ComReg will also respond to the applicant with an assessment of any application raised and preliminary views on whether the application was deemed reasonable or otherwise. ComReg believes that a time period of at least one month from receipt of the application is reasonable for it to carry out such an assessment and to respond conclusively to the applicant concerned.

5.18 In summary, ComReg has decided that product differentiation by capacity and differentiation by geography is reasonable for setting prices for NGN Ethernet products, including *WEIL*, *WSEA Physical* and *WSEA Logical*.

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(c) Gradients:

5.19 In Section 5 of ComReg Document No 11/32, ComReg concluded that it is reasonable to apply a gradient in order to determine the charges for leased line products within the market for wholesale terminating segment of leased lines, so long as Eircom comply with its other obligations, including its cost orientation obligation and its obligation not to create a margin (price) squeeze. The application of gradients is further discussed in Section 7 of this document.

(d) Cost orientation and recovery of costs:

5.20 In Section 5 of ComReg Document No 11/32, ComReg concluded that the principle of cost orientation will be monitored at a high level of aggregation by ComReg. That is, the price structure adopted should ensure that total wholesale revenues recover the total costs of access and core.

5.21 A significant modelling exercise has been carried out to ensure that costs are appropriately allocated/apportioned to the relevant products and services. There is also a requirement on Eircom to maintain appropriate Separated Accounts, including underlying documentation which supports the allocation methods applied to the costs, be it core or access to ensure appropriate allocation of costs. The BU-LRAIC plus model also provides an independent assessment of these allocation rules to ensure prices are reflective of cost causation principle.

5.22 In setting the maximum prices it is also important to ensure that there is appropriate economic space between its wholesale products, that the principle of ‘replicability’ is adhered to and that there is no margin (price) squeeze between its wholesale and retail products. In addition to setting any maximum prices, it is also important that the prices set do not give rise to the unintended eviction of OAOs who have already invested in network build.

(e) Avoidance of market distortions:

5.23 In Section 5 of ComReg Document No 11/32, ComReg stated that one of its main regulatory objectives is to ensure that Eircom does not engage in practices of price setting that could distort investment and competition. It is therefore important that detailed rules are applied to such tenders before they are made which allow all players compete where appropriate.

5.24 While Section 3 of this document discusses the principles for assessing the Margin Squeeze to ensure that there is an appropriate economic space between the products and services in the market for wholesale terminating segments of leased lines, Section 7 of this document sets out the application of this assessment. ComReg believes that the application of the Margin Squeeze test between the products and services in the market should ensure that the prices are set not to distort investment and competition.

6 Leased Line Annual Rental Charges

Introduction

- 6.1 In ComReg Document No 11/32, ComReg consulted on the approach to be used to determine the annual rental charges for WLLs, PPCs and NGN Ethernet in the market for wholesale terminating segments of leased lines.
- 6.2 The charges consulted on were based on the application of the various principles and methodologies concluded on in earlier sections of this document. In addition, ComReg carried out an extensive cost modelling exercise in order to determine the relevant and appropriate maximum charges for PPCs and NGN Ethernet. A core network model was developed by ComReg. ComReg concluded that the extensive cost modelling review enables Eircom to ensure compliance with its price control obligations¹⁶. The obligation is on Eircom to ensure that it complies with its price control obligation and where there are substantial changes to the underlying costs in the model that the maximum charges need to be amended to reflect these.
- 6.3 It should be noted that there are no material changes to the prices in the existing network price list as published by Eircom. As there have been recent reductions to PPC prices of approximately 16% over the past eighteen months which has meant these prices are in line with this price control decision. In addition, NGN Ethernet prices were launched in 2010 on foot of a cost modelling exercise carried out by ComReg at that time. ComReg believes that the current maximum prices in the market are in line with the principles set out in this document.
- 6.4 The prices for WEA products are not required to be published, as ComReg does not believe it is proportionate to do so at this time. This is because ComReg understands that no WEA uncontended services have been sold by Eircom Wholesale so far, indicating that there is no demand for this product. ComReg, however, would reiterate that if products are sold in the future, they must be sold at cost oriented prices in line with the price control obligations set out in the Decision Instrument.
- 6.5 Set out below is an overview of the consultation proposal, from ComReg Document No 11/32, regarding the approach used to arrive at the annual rental maximum charges, the views of respondents, ComReg's consideration of the points raised and ComReg's conclusions.
- 6.6 This section discusses each of the relevant products in the market for wholesale terminating segments of leased lines:
 1. WLLs
 2. NGN Ethernet
 3. PPCs.

1. WLLs

Consultation proposal:

- 6.7 In ComReg Document No 11/32, ComReg was of the preliminary view that the current WLL charges as published in Eircom's network price list should be set as the maximum price ceiling for WLLs. The main objective of the price control remedy in

¹⁶ Please refer to the details of the price control obligations set out in the Decision Instrument in Section 9 of this document.

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the market for wholesale terminating segments of leased lines is to allow for the development of a framework that promotes efficient infrastructure investment and encourages OAOs to climb the ladder of investment, for example through the mandated PPC product. ComReg believed that this should therefore facilitate effective and sustainable competition. ComReg set out that it was conscious that the current WLL prices are based on a historic retail minus basis, where there is no longer an obligation to provide a minimum set of retail leased lines. However, on the basis of proportionality ComReg was of the preliminary view that the maximum WLL prices should be set on the basis of the current published prices, which would not distort the current in-situ customer base and would set the right signals for infrastructure investment.

- 6.8 In addition, ComReg was also of the preliminary view that the minimum price floors for WLLs (further specified in Section 7) would allow Eircom the opportunity to offer lower WLL prices, so long as it did not lead to an under-recovery of costs by a similarly efficient operator. In addition, ComReg was of the preliminary view that the minimum price floors for WLLs should not be published, but would be monitored by ComReg.

Main issues raised by respondents:

- 6.9 No issues were raised by respondents regarding ComReg's proposal to set the current WLL charges as maximum price ceiling charges. However, a number of points were raised by Eircom regarding the minimum price floor for WLLs. These points are discussed in Section 7 of this document.

ComReg's conclusion:

- 6.10 The current WLL charges (based on a historic retail minus basis), as published in Eircom's network price list, are the maximum price ceiling charges for WLLs. This will ensure that there is no distortion to the current in-situ customer base.
- 6.11 ComReg is of the view that if it were to impose a cost based approach (or cost orientation obligation) on WLLs, this could lead to a significant anomaly where the price of a WLL is cheaper than two PPCs which would undermine the principle of network investment and be contrary to ComReg's objectives.
- 6.12 ComReg is of the view that the minimum price floor for WLLs is in line with ComReg's objectives to encourage efficient investment in infrastructure and ensure sustainable competition. It also allows Eircom the opportunity to offer lower WLLs. Therefore, Eircom can take a commercial decision to price between the maximum price ceiling and the minimum price floor so long as it does not lead to under-recovery of costs. The minimum price floor charges for WLLs are discussed in Section 7.

ComReg Conclusion: Eircom shall charge no more than current published prices for WLL as referred to in Appendix A.

2. PPCs

Consultation proposal:

- 6.13 In ComReg Document No 11/32, ComReg was of the preliminary view that the pricing structure for PPCs should continue, where the current pricing structure had

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the following elements:

- (a) PPC transport (interconnect) links (“TLs”)¹⁷
- (b) PPC end user links (“EULs”), where an EUL is made up of:
 - Local access - an EUL local ends¹⁸
 - Core conveyance which is made up of EUL main link access (“MLA”) and EUL main link distance (“MLD”) elements¹⁹.

6.14 ComReg proposed that the maximum PPC interconnection rental charges would continue to be based on the current PPC TL pricing structure. These would continue to be delivered using customer sited handover (“CSH”) or in span handover (“ISH”) based on interconnection speeds of STM1, STM4 or STM16.

6.15 In addition, ComReg proposed that PPC EUL local access prices should continue to be based on copper and fibre access charges depending on the speed of the service.

6.16 ComReg was also of the preliminary view that PPC core conveyance should continue to be made up of a non-distance dependent PPC EUL MLA charge and the distance dependent PPC EUL MLD charge.

(a) PPC interconnect links:

6.17 ComReg was of the preliminary view that the maximum charges for the PPC interconnection links, as published in Eircom’s network price list, should remain in place. ComReg stated that it would keep these maximum charges under review and that Eircom should ensure that these maximum charges are in compliance with its cost orientation obligations. Eircom also recently reduced these charges, which are now in line with this pricing decision.

• PPC Local access

6.18 As set out in ComReg Document No 11/32, PPC local access connects the end users premises to the nearest serving Eircom exchange. These prices are distant dependant and this has been further discussed below under each of the PPC access charges²⁰. ComReg believed that PPC local end prices would continue to be based on copper and fibre access charges depending on the speed of the service. This is summarised below.

(i) PPC local end prices – 64Kbps to 1Mbps

6.19 In ComReg Document No 11/32, ComReg proposed that PPC local access copper access prices should be based on the cost of the local loop plus the annualised costs of the network terminating unit (“NTU”) on the customer premises. The full details of the calculation are set out in ComReg Document No 11/32.

6.20 In summary, ComReg was of the preliminary view that the maximum price for PPC local; access circuit speeds of 64Kb/s to 1Mbps should be calculated as follows:

¹⁷ PPC TLs is the **point of handover** to the OAO, between the OAO designated aggregation node and the OAO network.

¹⁸ PPC EUL local access is the **access** element from the MDF/ODF in the nearest serving Eircom Martis node to a NTU in the end-users premises.

¹⁹ PPC EUL MLA and MLD is the **conveyance** element between the OAO designated Eircom Martis node and the Eircom Martis node connection to the end user.

²⁰ Except for circuit speeds up to 1Mb/s, which is based on the standard annual charge only.

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The annualised cost of copper pairs + annualised NTU costs.

6.21 ComReg believed that the maximum PPC local access circuits between 64kb/s and 1 Mbps were in line with ComReg's conclusions on the costing methodology, the cost modelling approach and the pricing approach, set out in the earlier sections of this document.

(ii) PPC local access – 1Mbps to 2Mbps

6.22 As already set out in ComReg Document No 11/32, PPC local access between 1Mbps and 2Mbps are delivered using a combination of delivery over copper pairs and over fibre pairs. An analysis of the in-situ base of PPC local ends between 1Mbps and 2Mbps was carried out and the percentage of copper pairs versus fibre pair delivery was determined.

6.23 The copper access price inputs are as set out above, i.e. the annual cost of copper pairs plus the annualised NTU costs. The fibre access input price is based on the bottom up modelled annual costs of fibre access plus the annualised Synchronous Digital Hierarchy ("SDH") transmission costs.

6.24 The price calculated relates to the first 0.5 kilometres of the access connection and there is an incremental cost per 100 metres thereafter based on the same mix of copper and fibre.

6.25 ComReg was of the preliminary view that the maximum prices for PPC local access circuit speeds between 1Mbps and 2Mbps should be calculated as follows:

*(Annualised cost of Copper access * % copper pairs delivery) + (Annualised cost of Fibre access * % fibre pairs delivery)*

6.26 ComReg believed that once Eircom updated its prices in line with the formula above, the maximum PPC local access circuits between 1 Mbps and 2Mbps would be in line with ComReg's conclusions on the costing methodology, the cost modelling approach and the pricing approach, set out in the earlier sections of this document. Prompted by ComReg, Eircom reviewed and subsequently agreed to update these prices in its Eircom Network price list to ensure consistency with the formula above. This was reflected in ComReg Information Notice No 11/26²¹ in April 2011.

(iii) PPC local access – 34Mbps to 155Mbps

6.27 As already set out in ComReg Document No 11/32, PPC local access prices for circuit speeds, ranging from 34Mbps, are based on the cost of fibre access pairs plus SDH transmission costs as the implied fibre optic access costs to connect from the customers' premises to the nearest serving Eircom exchange.

6.28 For the purposes of the NGN Ethernet model, ComReg modelled the costs of fibre access and the charges proposed for NGN Ethernet fibre access were developed on the basis of a nationally de-averaged pricing approach based on urban, regional and rural geographical areas. These prices are set out in *Figure 2* in ComReg Document No 11/32.

6.29 Given that a nationally averaged pricing approach would continue for PPC products, ComReg believed that there were two options to consider:

²¹ Leased Lines: Further reductions to Eircom's PPC fibre access prices, 1 April 2011.

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- Take the rural input price, less the cost of NGN Ethernet NTU, as the national averaged price. This option was discussed in detail in ComReg Document No 11/32; or
- Calculate a weighted average price of urban, provincial and rural, less the cost of NGN Ethernet NTU, as the nationally averaged input price. This option was discussed in detail in ComReg Document No 11/32.

6.30 ComReg was of the preliminary view that using the more remote low density NGN Ethernet fibre access price as an input to PPC local end fibre access would enable Eircom to ensure compliance with its cost orientation obligation. In addition, it is forward looking as migration towards NGN would probably occur first in more densely populated areas. For the provision of PPCs, ComReg believed that it was necessary for Eircom to install SDH equipment on the access part of the network, both at the customer premises and the customer exchange. ComReg was of the preliminary view that this SDH equipment was incremental for the provision of fibre access and therefore must be incorporated into the price of PPC EUL local ends. It was also noted that NGN Ethernet fibre access prices already include fibre NTU costs and that these costs must be removed from the NGN Ethernet fibre access prices in order to compute PPC EUL fibre prices.

6.31 In addition, the price calculated relates to the first 0.5 kilometres of the access connection and there is an incremental cost per 100 metres thereafter.

6.32 ComReg was of the preliminary view that the maximum prices for PPC local access circuit speeds between 34Mbps and 45Mbps should be calculated as follows:

The annualised cost of fibre pairs + annualised SDH equipment costs

6.33 ComReg was also of the preliminary view that the maximum PPC local access circuits between 34Mbps and 45Mbps were in line with ComReg's conclusions on the costing methodology, the cost modelling approach and the pricing approach, set out in the earlier sections of this document.

• **PPC core conveyance pricing**

6.34 As set out in ComReg Document No 11/32, ComReg was of the preliminary view that PPC core conveyance should continue to be made up of a non-distance dependent MLA charges and a distance dependent MLD charge. PPC MLAs recover the non-distance costs which are primarily made up of leased line node costs, SDH transmission equipment costs and WDM multiplexing costs. PPC MLD charges primarily recover trench and fibre costs. ComReg Document No 11/32 includes an illustration (*Figure 3*) of the current PPC core conveyance pricing and readers are referred to that document for further details.

6.35 ComReg was of the preliminary view that the current pricing structure should continue whereby 50% of the MLA is charged when an OAO end user and the OAO point of interconnection is served from the same Eircom exchange.

6.36 Where an OAO end user and the OAO point of interconnection is served from different serving Eircom exchanges, then ComReg was of the preliminary view that 100% of the MLA charge is applicable plus the respective distance dependent MLD charge.

6.37 ComReg also pointed out that up until now, the current MLD pricing structure had a

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break-point at 20km, where there was a differentiation between the charges per km either side of this breakpoint.

- 6.38 As part of the cost modelling exercise and the review of the leased line charges, ComReg noted an anomaly with respect to the break-point for MLD between PPCs and WLLs. The break-point for WLLs is 30km, while the break-point for PPCs is 20km. Eircom agreed to change the breakpoint for PPCs so that the breakpoint is consistent with WLLs at 30km. ComReg believed that by increasing the break-point for PPCs MLDs to 30km, that this would address the anomaly between PPCs and WLLs and also create a greater incentive for OAOs to move to infrastructure investment because it would create incentives to buy PPCs for OAOs which have a very capillary network. A sensitivity analysis was carried out by ComReg on the change to the breakpoint for PPCs and there was no material impact on OAOs currently using PPCs, by changing the MLD break point from 20km to 30km. ComReg was of the preliminary view that the maximum PPC core conveyance charges, were in line with ComReg's conclusions on the costing methodology, the cost modelling approach and the pricing approach, set out in the earlier sections of this document.

Main issues raised by respondents:

- 6.39 All four respondents agreed with the proposed approach for determining PPC fibre access prices.
- 6.40 ALTO stated that it is aware that Eircom are expecting significant price reductions commencing in 2011, but as yet it has seen no formal notification or guidance in relation to this. ALTO added that this is an obvious cause for concern for ALTO members (and indeed other non-ALTO members) if matters are left unregulated in the interregnum. In this regard, ComReg would refer ALTO to the Information Notice published by ComReg on 1 April 2011 in ComReg Document No 11/26. The revised PPC fibre access prices are included in the Eircom Network price list²², effective from 1 July 2011. ComReg also notes that PPC customer sited handover ("CSH") interconnect link annual rental prices reduced by approximately 23%²³, effective from 1 October 2011.

ComReg's conclusion:

- 6.41 ComReg is of the view that the approach set out above in paragraphs 6.13 to 6.38 and which was consulted on in ComReg Document No 11/32 remains relevant and appropriate for setting PPC maximum prices.
- 6.42 The current maximum prices, as published in Eircom Network price list (version 4.5) for PPC interconnect, PPC local access and PPC core conveyance reflects the methodologies, the principles and the modelling approach that have been further specified in Sections 3, 4 and 5 of this decision document. Nevertheless, the onus is on Eircom to ensure compliance with its price control obligation, which is further specified in this decision document.
- 6.43 Eircom has revised its PPC prices over the past eighteen months, and this is now in

²² <http://www.eircomwholesale.ie/Reference-Offers/LLRO/>

²³ Ref: Network price list - Service Schedule 001 - Interconnect and Partial Private Circuit Transport Links, Rental charges updated from 1 October 2011. See Table 1 (STM1), Table 2 (STM4) and table 3 (STM16).

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line with the changes identified in this review. Eircom is obliged to ensure that the maximum prices for PPCs continue to comply with the price control obligation.

ComReg Conclusion: Eircom shall base the charges for PPCs on the BU-LRAIC plus methodology. Eircom should charge no more than the maximum prices referred to in Appendix A.

3. NGN Ethernet

Consultation Proposal:

6.44 As outlined in ComReg Document No 10/70 and in ComReg Document No 11/32, there are three main elements to the NGN Ethernet pricing:

- A. Wholesale Ethernet Interconnection Link (“WEIL”)²⁴
- B. Wholesale Symmetrical Ethernet Access Physical (“WSEA Physical”)²⁵
- C. Wholesale Symmetrical Ethernet Access Logical (“WSEA Logical”)²⁶.

6.45 A more detailed discussion of the above is set out in Section 6 of ComReg Document No 11/32.

6.46 Set out below are the proposals from ComReg Document No 11/32 regarding the application of the pricing principles in order to determine the prices associated with NGN Ethernet, consideration of the respondents’ views as well as ComReg’s conclusions.

A. WEILs

6.47 As set out in Section 6 of ComReg Document No 11/32, the WEIL is the point of handover to the OAO, between the OAO designated aggregation node and the OAO network WEILs, where the point of handover is to the OAO designated aggregation node, are offered based on a number of handover options:

- Customer sited handover (“CSH”)
- In span handover (“ISH”)
- In building handover (“IBH”)

6.48 As set out in ComReg Document No 11/32, CSH provides a dedicated fibre access between the OAO designated aggregation node and the OAO network located in the OAOs premises. ComReg therefore, proposed that CSH prices should incorporate the costs of the fibre access network plus the associated node costs. ISH involves providing a dedicated fibre access between the OAO designated aggregation node and the OAO network located at a chamber close to the OAO designated aggregation node. The ISH option utilises less of the fibre access network than CSH, therefore ComReg proposed that ISH prices should incorporate some costs of the fibre access network plus the associated node costs. IBH involves providing a dedicated fibre across the OAO designated aggregation node as the OAO is co-located in the Eircom

²⁴ WEIL is the point of handover to the OAO, between the OAO designated aggregation node and the OAO network.

²⁵ WSEA physical is the **access** element from the ODF in the nearest aggregation Eircom node to the NTU in the end-users premises.

²⁶ WSEA logical is the **conveyance** element between the OAO designated aggregation node and the aggregation node connection to the end user.

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aggregation node. ComReg proposed that IBH prices should be based primarily on the node costs associated, which incorporates the fibre across the exchange.

6.49 As set out in Section 6 of ComReg Document No 11/32, Edge Node Handover (“ENH”) is delivered where the point of handover is between the OAO designated edge node and the OAO network. The current ENH product is delivered based on circuit speeds of 10,000Mbps and delivered as a CSH. Due to the design of Eircom’s NGN core network, the ENH product effectively involves building a dedicated aggregation node on the OAOs premises. Building a dedicated aggregation node on an OAO premises involves significant associated equipment costs. It was proposed that these costs of a dedicated aggregation node be recovered over a period of 3 or 5 years, in addition to the dedicated fibre related costs.

6.50 ComReg was of the preliminary view that the maximum WEIL charges, as referred to in Appendix A, following analysis, are in line with ComReg’s conclusions on the costing methodology, the cost modelling approach and the pricing approach, set out in the earlier sections of this document.

B. WSEA physical

6.51 As set out in Section 6 of ComReg Document No 11/32, the WSEA physical element of NGN Ethernet is delivered over fibre pairs.

6.52 ComReg proposed that the WSEA physical prices should be based on the following geographical criteria:

- Urban
- Provincial
- Rural

6.53 ComReg believed that the cost of access delivered over fibre did not vary with circuit speed; therefore ComReg proposed that fibre access prices should be based on a single 1,000Mbps price. WSEA physical prices are distant dependant, where up to the first 500 metres is recovered through the standard annual rental price and ComReg proposed that there was an incremental charge per 100 metres thereafter.

6.54 ComReg also proposed that in addition to the fibre pairs required, a NTU is required to terminate the access circuit in the customer’s premises.

6.55 ComReg was of the preliminary view that the maximum WSEA physical charges, as set out below, were in line with ComReg’s conclusions on the costing methodology, the cost modelling approach and the pricing approach, set out in the earlier sections of this document.

Figure 1: WSEA physical annual rental charges

<u>Urban</u>	<u>Provincial</u>	<u>Rural</u>	
€2,100	€2,162	€3,187	First 500m
€154	€166	€324	Per additional 100m or part thereof

C. WSEA logical

6.56 In Section 6 of ComReg Document No 11/32, ComReg set out that WSEA logical prices should be based on the following:

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- circuit speed
- pricing gradient
- geographical location
- quality of service requirements.

6.57 The full details are set out in ComReg Document No 11/32 but an overview of each element is discussed below.

- **Circuit Speed**

6.58 As set out in Section 6 of ComReg Document No 11/32, WSEA logical prices would be available on circuit speeds from 10Mbps and up to 1,000Mbps delivered over core fibre.

- **Pricing gradient**

6.59 In ComReg Document No 11/32, ComReg concluded that it was reasonable to apply a gradient in order to determine the charges for leased line products within the market for wholesale terminating segment of leased lines so long as Eircom complied with its price control obligations.

6.60 In ComReg Document No 11/32, ComReg explained that in the case of NGN Ethernet Leased Lines speeds extend to 1,000Mbps therefore the gradient is constructed based on leased line speeds up to 1,000Mbps. However, in practice leased line speeds up to 1,000Mbps are only available for the 'best effort' class of service. EF and AF classes of service are generally only available for leased line circuit speeds up to 150Mbps and 300Mbps respectively. ComReg explained that given that the model included the current level of traffic on Eircom's core legacy network and by using these traffic volumes as a basis for the traffic on the NGN core network (including lines with speeds of 1,000Mbps), these capacity restrictions could not be taken into account in the model.

6.61 ComReg understood that because of the leased line circuit speed restrictions in relation to core conveyance; there was a possibility that the price gradient could be excessive in cases where OAOs wished to avail of the EF and AF classes of service NGN Ethernet products.

6.62 Therefore, ComReg was of the preliminary view that the launch of traffic based class of service NGN Ethernet core conveyance products, had alleviated some of the problems that may have been caused by capacity restriction of the NGN core network. OAOs could avail of up to 10% EF, 20% AF and 70% best effort on 1,000 Mbps leased line circuit speeds over the core network. ComReg also explained that Eircom had committed to the possibility of increasing the EF class of service capacity availability from 150Mbps to 300Mbps by the end of 2011, which has now been implemented by Eircom, and had also committed to looking into eliminating capacity restrictions.

6.63 ComReg was of the preliminary view that the current price gradient should remain in place to ensure price stability, but this is subject to Eircom continuously eliminating capacity restrictions on the NGN core network.

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• Geographical location

- 6.64 In ComReg Document No 11/32, ComReg proposed that a nationally de-averaged pricing approach should be used to determine the prices of NGN Ethernet products. ComReg recognised that the costs of the core network were driven by the “topology” of the core network and in turn Eircom identified two types of regions: high density and medium density.
- 6.65 ComReg set out that the proposed WSEA logical prices were dependent on the geographical location of the end user, the geographical location of the OAOs point of interconnection and the categorisation of the associated NGN aggregation nodes according to density factors.
- 6.66 In addition to the NGN aggregation nodes, there was also an extended reach node product available. The costs of the extended reach node equipment and the costs of dedicated fibre were incorporated into ComReg’s NGN core model and were recovered by the WSEA logical charge. Therefore, WSEA logical prices also apply to extended reach nodes, subject to the availability of dedicated fibre between the extended reach node and the specific NGN aggregation node it is directly connected to.
- 6.67 As stated in ComReg Document No 11/32, WSEA logical pricing is not distance dependent and prices have been modelled on traffic dimensioned under the following scenarios of NGN node handover, same NGN region handover and different NGN region handover, further differentiated by high and medium density areas.
- 6.68 In ComReg Document No 11/32, ComReg set out a table which demonstrated the pricing discussed above. Please refer to *Figure 7* in ComReg Document No 11/32 for the details.

• Quality of Service

- 6.69 In ComReg Document No 11/32, ComReg was of the view that it was reasonable and in line with international best practice to differentiate Ethernet leased line products on the basis of the quality of service of conveyance.
- 6.70 Eircom offered two WSEA logical quality of service offerings:
- Circuit based class of service (“Cos”); and
 - Traffic based CoS
 - **Circuit based CoS**
- 6.71 As already set out in ComReg Document No 11/32, circuit based CoS is broadly offered based on two types of services in this regard:
- Best efforts; and
 - Real time.
- 6.72 The details regarding the difference between real-time traffic and best efforts are set out in ComReg Document No 11/32.
- 6.73 In ComReg Document No 11/32, ComReg set out that given the distinction between the two types of services, it is reasonable that the charges for real time traffic are higher than those for best efforts traffic.

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6.74 In ComReg Document No 11/32, ‘real time’ traffic was further categorised as:

- a) Assured traffic (“AF”); and
- b) Expedited traffic (“EF”).

6.75 ComReg explained that there are currently capacity restrictions applicable to the ‘real time’ classes of service, where the AF CoS is only available on circuit speeds up to 300Mbps and the EF CoS is only available on circuit speeds up to 150Mbps. However these traffic limitation restrictions have now been increased to 600Mbps and 300Mbps respectively and Eircom have committed, through the relevant industry forum, to further investigate NGN core network capacity restrictions.

6.76 In ComReg Document No 11/32 ComReg set out a summary of the WSEA logical class of services, in line with Eircom’s product description. Please refer to *Figure 8* in ComReg Document No 11/32 for further details.

- o **Traffic based CoS**

6.77 In ComReg Document No 11/32, ComReg explained that traffic based CoS allows an operator or customer to better tailor the mix of real time and best efforts traffic required for a specific products or service, or efficient delivery of a combination of products and services.

6.78 ComReg believed that EF traffic should bear a price premium over and above AF traffic and the premium should be applied by taking an average of EF and AF and applying a premium. Therefore, ComReg set out that the premium should be set so as to ensure the average revenues of EF and AF recover the average costs. In addition, ComReg stated that it would monitor the actual split as the product(s) develop and if the actual traffic for both EF and AF differs from that forecasted, then prices may need to be adjusted accordingly.

6.79 The proposed formula outlined below, enables OAOs to calculate the relevant rental associated with a selected WSEA logical bandwidth, class of service option and the associated node/region/density, where:

Where A and B are selected from the calculation inputs for the required WESA (logical) bandwidth from the relevant tables (service schedule 014, tables 12 through 16 – conveyance by region/density).

Where C and D are the EF and AF percentages associated with the WESA (logical) traffic based class of service options by bandwidth (in service schedule 014, tables 10).

6.80 The objective of the proposed traffic based CoS formula was to calculate the price for a required mix of real time and best effort traffic and ensure consistency with the pricing approach (gradient) used for circuit based CoS. The formula has been explained in detail in ComReg Document No 11/32.

6.81 In summary, ComReg was of the preliminary view that the maximum WSEA logical charges, as referred to in Appendix A, were in line with ComReg’s conclusions on the costing methodology, the cost modelling approach and the pricing approach which have been, set out in the earlier sections of this document.

Main issues raised by respondents:

6.82 Eircom agreed with the application of the pricing gradient for WSEA logical prices.

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- 6.83 BT and ALTO stated that a pivot of 1,000Mbps is being applied to form an exponential pricing gradient up to 1,000Mbps. They are both concerned that the majority of the wholesale customer base is in the lower part of the gradient in the sub 300Mbps and in many cases sub 100Mbps regions where the prices per Mbps are high. In addition, they both believed that Eircom as the largest single customer on their own network would be able to avail of more attractive prices further up the scale due to their large requirements for bandwidth, thus benefiting their downstream retail business against wholesale customers. BT stated that ComReg should take into account the Eircom proposal to double the capacity of Expedited and Assured traffic.
- 6.84 ComReg remains of the view that the current gradient applied in the context of WSEA logical is reasonable. The EF and AF classes of services will be increased by Eircom from 150Mbps to 300Mbps and from 300Mbps to 600Mbps respectively from 1 October 2011, as set out in Eircom Network price list (version 4.5) on Eircom's website. ComReg is of the view that in the medium to long term, the limit should be 1,000Mbps as the model is a forward looking model. In addition, this avoids numerous modifications to the prices on an ongoing basis. However, if the limit remains well below the 1,000Mbps level for a significant period of time, then ComReg may consider reviewing the cost recovery mechanism in this regard.
- 6.85 ComReg is of the view that the gradient between 100 Mbps and 1,000Mbps is not overly excessive since the cost per Mbps is divided by 2. ComReg would also like to clarify that the pivot is not set at 1,000Mbps (it is set at a level significantly lower than 1,000Mbps), as stated by BT and ALTO in their responses. The gradient is applied to retail and wholesale leased line services only and not to Eircom's other businesses. Therefore, the gradient is not providing an overall benefit to Eircom's internal business. In addition, OAOs can use similar gradients for their own network, if they so wish.
- 6.86 BT and ALTO also stated that while ComReg mandated a cost orientation obligation on Eircom, it was not clear from the ComReg commentary in clauses 6.69 to 6.74 whether cost orientation is fully demonstrated. Therefore, they submitted that ComReg should consider the application of the pricing gradient to WSEA logical prices, particularly when the EF and AF traffic classes are doubled. However, as stated by ComReg above, the gradient is based on a forward looking approach and the limits will be increased by Eircom from October 2011. By doubling the EF and AF capacities, there will be no impact on the gradient even if the cost recovery mechanism takes account of this change. As such, ComReg is of the view that this will not create a problem as envisaged by BT and ALTO.
- 6.87 All respondents generally agreed with the approach and the resulting draft maximum prices for WLLs, PPCs and NGN Ethernet.
- 6.88 BT stated that the combination of AF and EF traffic would be more correctly described as "committed" rather than "real time". In addition, BT stated that ComReg's forecast of a 50/50 split between demand for AF and EF has a direct and significant bearing on the cost orientation of the offer, given that there is a 22% premium charged for EF over AF. BT added that this split should be reviewed annually.
- 6.89 As set out in ComReg Document No 11/32, ComReg has committed to undertaking an internal yearly review of the main aggregated model inputs to assess any material changes. This review includes consideration of capacity restrictions on the NGN core

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network for real time classes of service. As part of the annual review ComReg will ensure it is kept up to date on industry developments through the ComReg industry forum or if and where issues are raised by either Eircom or OAOs. Where material issues arise, ComReg will discuss these with Industry either as part of the Leased Lines forum or by another means, as deemed appropriate. Depending on the outcome of this annual review, and if material changes are identified, Eircom may be required to revise its maximum charges as a result.

- 6.90 In addition, BT stated that in their opinion the best effort service is priced below cost. As it was not appropriate to model the achievable contention across the network as equal to the maximum contention allowed by network design. BT claimed that best effort traffic should be valued at 33% of the bandwidth cost which would reflect an achievable outcome from an efficiently loaded network i.e. average 3:1 contention achieved against a theoretical maximum of 5:1.
- 6.91 ComReg is of the view that BT's proposal would generate significant practical difficulties. First of all, BT's proposal is not forward looking and means that prices may need to be reviewed more frequently. Therefore, no price certainty, which is a key objective for ComReg, would be provided to the marketplace if this approach were taken. In addition, the rest of the cost model would be based on a forward looking view, where it is assumed that the current legacy traffic is fully transferred or migrated to the NGN network (as explained in section 4.71 of ComReg 10/70). BT's proposal, on the contention of the network, would not be forward looking and therefore inconsistent with the main part of the cost model. ComReg also believes that BT's approach would not be in line with the principle of BU modelling as it would be based on an observation rather than reconstruction of the contention across the network. The approach adopted by ComReg is more consistent with the views of Eircom's engineers, who dimension the network. Indeed, Eircom's engineers must forecast the traffic for dimensioning purposes and it is entirely reasonable that they cannot tell in advance what the real traffic will be. Therefore, the engineers will need to make assumptions on the evolution of the traffic and the model reflects these assumptions based on discussions with Eircom. As set out in ComReg Document No 10/70, a BU model is based on engineering rules where the starting point of a BU model is the forward looking demand data; this is used to dimension, through economic, engineering and accounting principles, an efficient network capable of serving that demand.

ComReg's conclusion:

- 6.92 ComReg is of the view that the approach set out above in paragraphs 6.44 to 6.81 and which was consulted on in ComReg Document No 11/32, remains relevant and appropriate for setting NGN Ethernet prices.
- 6.93 The current maximum prices, as published in Eircom's Network price list for NGN Ethernet prices reflects the methodologies, the principles and the modelling approach which have been further specified in Sections 3, 4 and 5 of this decision document. Nevertheless, the onus is on Eircom to ensure compliance with its price control obligation, which has been further specified in this decision document.
- 6.94 ComReg remains of the view that the current gradient applied in the context of WSEA logical is reasonable and in line with the forward looking cost modelling approach. ComReg has also noted that Eircom have committed to increasing the

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class of service capacities, as outlined above, from October 2011. Nevertheless, if the limit remains well below the 1,000Mbps level in the longer term, then ComReg may consider reviewing the cost recovery mechanism in this regard.

- 6.95 ComReg has committed to an internal annual review of the main aggregated inputs, to assess any material or exceptional changes. As part of the review ComReg will ensure it is kept up to date on industry developments through the ComReg industry forum and where issues are raised by OAOs. Where material issues arise, ComReg will discuss these with Industry either as part of the Leased Lines forum or by another means, as deemed appropriate. Depending on the outcome of this annual review, and if material changes are identified, Eircom may be required to revise its maximum charges as a result.

ComReg Conclusion: Eircom shall base the charges for NGN Ethernet on the BU-LRAIC plus methodology. Eircom should charge no more than the maximum prices referred to in Appendix A. The maximum prices for NGN Ethernet are nationally de-averaged.

7 Further specification of the Margin Squeeze test between WLLs, PPCs and NGN Ethernet

Introduction

- 7.1 In ComReg Document No 11/32 ComReg further consulted on the details of the Margin Squeeze test to assess the appropriate economic space between WLLs and PPC.
- 7.2 As already stated in ComReg Document No 11/32, the details or inputs for the Margin Squeeze test as set out below will apply to the test between all of the steps of the ladder of investment, in relation to any of the wholesale products, in the market for wholesale terminating segments of leased lines. For NGN Ethernet, ComReg would adapt the Margin Squeeze model to take account of the different costs associated with the different technologies and to ensure that the appropriate economic space is maintained between the relevant wholesale products.
- 7.3 ComReg, in Section 7 of ComReg Document No 11/32, has also set out the approach to determine the minimum price floors for WLLs by reference to the efficient costs of a hypothetical new entrant availing of PPCs (or equivalents). In essence, this sets the minimum price floors by reference to a SEO cost base, as the minimum price floors are informed by the costs facing a hypothetical new entrant availing of PPCs with a lower market share and network reach than that of Eircom.
- 7.4 The main points are discussed under the following headings:
 1. Reasons for setting minimum price floors for WLLs
 2. Further specification of the margin (price) squeeze test.

1. Reasons for setting minimum price floors for WLLs

Consultation Proposal:

- 7.5 In ComReg Document No 11/32 ComReg was of the preliminary view that the Margin Squeeze test between WLLs and PPCs (or equivalents), by way of setting price floors for WLLs, aimed to ensure the promotion of efficient infrastructure investment and encouraged OAOs to climb the ladder of investment. This would, therefore, facilitate effective and sustainable competition. ComReg was also of the preliminary view that the margin between WLLs and PPCs (or equivalents) must be sufficient to incentivise OAOs to invest in its own infrastructure. Further, any investments would not be stranded where Eircom decides to lower certain prices for products on the ladder of investment which could undermine the regulatory process (and structure of competition).
- 7.6 As ComReg highlighted in ComReg Consultation Document No. 10/70, the importance of WLLs in the Irish market has decreased steadily over the last number of years as a result of take up of PPCs. ComReg is conscious that the current WLL prices are based on a historic retail minus basis, where there is no longer an obligation to provide a minimum set of retail leased lines. However, on the basis of proportionality ComReg believed that while the application of an economic space created a price floor, there should also be a price ceiling for WLLs to avoid significant distortions to the in-situ install base of WLL users and to avoid excessive pricing of WLLs in general. As referred to earlier the current prices for WLLs may not be cost oriented due to the age of the network over which they are provided,

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therefore any increase to the prices could not be justified. In addition, ComReg believed that setting minimum price floors for all WLLs in the relevant market would also allow Eircom flexibility to reduce WLL prices or offer promotions where it chooses to do so.

- 7.7 With regard to the Margin Squeeze test, ComReg highlighted the consistency in its approach with respect to the non-eviction principle and the application of an appropriate economic space, in line with the approach applied in some other EU countries, albeit in a somewhat different context. In 2007²⁷ and 2009²⁸, ERG, in its Common Position papers, supports the concept of an appropriate economic space between wholesale products. ARCEP, in its leased lines market analysis of 2006²⁹ and 2010³⁰, set out its approach regarding the application of the non-eviction principle, which ensures that wholesale tariffs set by France Telecom do not evict operators that have deployed their own infrastructure.

Main issues raised by respondents:

- 7.8 In general, Magnet, BT and ALTO agreed with the proposal to set a minimum price floor for WLLs and other equivalents but had a number of comments on the details of the Margin Squeeze test. These are discussed later in this section.
- 7.9 Eircom disagreed with ComReg's proposal to set a price floor for WLLs and stated that it was not a proportionate or adequate measure. A number of general points were raised by Eircom in this regard and these are discussed below. Eircom also raised a number of points regarding the details of the Margin Squeeze test. These points are discussed later in this section.
- 7.10 Eircom stated that WLLs are not part of the terminating segment market. However, as per ComReg Decision D06/08, WLLs are and continue to be a mandated product in the market for wholesale terminating segments of leased lines and this decision does not change that position. Eircom also stated in its response that the market analysis supporting Decision D06/08 does not support the floor price control for WLLs and that ComReg is not entitled to design a price remedy which is concerned with setting the "appropriate economic space" between PPCs and WLLs.
- 7.11 ComReg would like to clarify that it is further specifying the price control obligation and the margin squeeze obligation as imposed in ComReg Decision D06/08. In ComReg Decision D06/08 ComReg determined that until such time as a decision is made by ComReg, following further consultation in relation to the price control for products services and associated facilities in the Market, the prices charged by Eircom for WLLs of capacities up to and including 2 Mbps shall be no more than the prices currently published in Eircom wholesale's network price list and that WLLs

²⁷ European Regulator's Group ("ERG") in Common Position 07 (53), Report on BEST PRACTICES ON REGULATORY REGIMES IN WHOLESALE UNBUNDLED ACCESS AND BITSTREAM ACCESS. Sections 3.1 and 3.2.

²⁸ European Regulator's Group ("ERG") in Common Position 09 (21), Report on price consistency in upstream broadband markets supporting the concept of an appropriate economic space between two wholesale products, namely LLU and Bitstream.

²⁹ ARCEP Decision 06-0592 of 26 September 2006, page 117, IV.2.6.1.
http://www.arcep.fr/fileadmin/uploads/tx_gsavis/06-0592.pdf

³⁰ ARCEP Decision 10-0402 of 8 April 2010, page 117, IV.2.6.1 http://www.arcep.fr/uploads/tx_gsavis/10-0402.pdf

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above 2 Mbps shall be no more than the prices currently in place³¹. In addition, ComReg also specified that the PPC prices charged by Eircom would be cost oriented and such costs would be calculated using a pricing model based on a forward looking long run incremental costs ("FL-LRIC") or an alternative pricing model, if ComReg decided, following consultation, to adopt such an alternative pricing model. ComReg Decision No. D06/08 also imposed a margin squeeze obligation on Eircom but the principles or underlying details of this obligation were not specified at that time. Therefore, it should be clear that this decision is now further specifying the existing price control obligation for WLLs, PPCs and NGN Ethernet products and services. In addition, ComReg is also further specifying the principles that apply in the context of the Margin Squeeze test and the details of the inputs to the test, which have not been specified previously. The necessity for an appropriate price control was first introduced in ComReg Document No. 08/63³², where the Price Control and Cost Accounting proposed changes to the way in which WLLs were regulated once the retail minus regime, used up until recent years, was removed. This consultation also highlighted the potential competition problems that could arise which might foreclose possible investment by other operators where the appropriate price control does not set the appropriate "build" or "buy" incentives.

7.12 Eircom also stated that ComReg's reference to the decision by the French regulator, ARCEP, is of no assistance to ComReg. Eircom added that France Telecom is not subject to an obligation to provide operators with WLLs and the principle of non-eviction, as invoked by ARCEP, is considered for the purposes of setting an appropriate price control for PPCs to ensure a competitive retail market. In addition, Eircom stated that the French solution includes cost oriented prices for terminating segment below 2 Mbps and a margin squeeze test for terminating segments above 2 Mbps, reflecting the differences in intensity of France Telecom's market power above and below 2 Mbps.

7.13 ComReg would like to clarify and confirm that ARCEP used the principle of "non eviction" in its market analysis decisions, in 2006 and in 2010. This principle was required to ensure that the prices of leased lines sold at the wholesale level (which are similar to PPCs) did not distort investment in alternative infrastructure i.e. own OAO network infrastructure. ComReg is of the view that this is the same principle being adopted now so as to avoid the same issue and is consistent with the regulatory objectives set out earlier.

7.14 Eircom raised the point that the market analysis supporting Decision D06/08 was undertaken more than 3 years ago and under the Better Regulation Directive NRAs are obliged to conduct market analysis at least every three years. In addition, Eircom believed that there have been fundamental changes to the marketplace in Ireland and that there could be no justification for the extension of the remedies under Decision D06/08, and clearly none for the imposition of a new remedy in the form of the price control proposed by ComReg. Eircom included a number of examples of where it claimed there were fundamental changes to the market.

7.15 ComReg would like to clarify that Decision D06/08 was only published in December

³¹ ComReg Decision 08/103 (Decision D6/08) Appendix A: Decision Instrument, Section 11.3

³² ComReg Document No. 08/63, Market Analysis: Leased Lines Markets Rresponse to Consultation and Consultation on Draft Decision, dated 6 August 2008.

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2008 and therefore was less than three years old at the time this review commenced and was notified to the European Commission. Much of this Decision is as a result of detailed analysis and work with Eircom to better understand their core network and how it should be priced. As the rollout of the NGN core networks by Eircom and industry has taken some time, so too has the detailed cost modelling and pricing. Nevertheless, ComReg intends to review the market for wholesale terminating segments of leased lines in 2012. In the meantime, the market analysis under ComReg Decision D06/08 remains relevant until the next market review is completed.

- 7.16 While the costs and technologies related to the products and services provided as part of the market for wholesale terminating segments have evolved over the past few years, this has been reflected in the updated price control and associated cost model. ComReg does not believe however, based on responses received throughout the consultation process, that these recent developments in technology have given rise to a fundamental change in the Market for Terminating Segments of Leased Lines. In addition, it would not be in the interests of the marketplace to wait until such time as the next market review is complete as this may have implications from the point of view of price certainty and there may be implications with Eircom's compliance with the price control obligation as it stands. Therefore, ComReg has made a number of necessary changes and these are now reflected as part of the further specification of the price control remedy. It should be noted that ComReg notified the draft measures to the European Commission in September 2011 and a "No Comments" letter was received by ComReg on 13 October 2011.
- 7.17 The current review of the price control obligation is also important given that the NGN Ethernet product prices were published by Eircom in August 2010. This review and decision should now give operators and the marketplace confidence in the maximum prices, given that no changes are currently necessary to those maximum charges. This is also important for any operators who have already made investments based on current prices or who have built their business case models on the basis of the prices previously published.
- 7.18 Eircom claimed that the "space" between "retail leased lines" and WLLs is, entirely artificial. Eircom was of the view that the "economic space" between PPCs and WLLs was by definition that between a wholesale access service and an end-to-end retail product. Eircom stated that if ComReg was concerned that WLLs act as a disincentive to PPC investments, it would appear that the simplest solution would be to remove the obligation on Eircom to offer "wholesale" leased lines. Eircom believed that OAOs would have all the incentives to invest in PPCs and, and if this was not efficient, they could avail of end-to-end circuits from Eircom on the non-regulated downstream retail markets (possibly availing of volume discounts).
- 7.19 ComReg's position is in accordance with ComReg Decision D06/08, WLLs continue to be a mandated product and therefore remain relevant to the market. While the purchase of WLLs at the wholesale level has reduced significantly over recent years with the advent of new and cheaper technology, they still remain an important product for OAOs wishing to reach a national customer. The infrastructural issues of achieving the equivalent national reach have not changed to the extent the WLLs are no longer an important product in the short to medium term. In addition, WLLs must be priced below retail leased lines so as to avoid a margin squeeze in accordance with Eircom's obligations. Nevertheless, WLLs must not be priced so low that they

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disincentives investment in infrastructure as recognised by Eircom later in their response³³. Therefore, Eircom's views seem to be somewhat contradictory on this point. ComReg believes that the problem of ensuring an appropriate relative price difference would still arise even in the absence of regulation of WLLs.

7.20 Eircom also stated that Decision D06/08 cannot be construed to require Eircom to provide wholesale Ethernet end-to-end leased lines at a discount. Eircom believed that any maximum or minimum wholesale price that ComReg imposes in relation to WLLs would not apply to Ethernet end-to-end products provided to OAOs.

7.21 However, the obligations including the price control obligation imposed in ComReg Decision No D6/08 and further specified by this decision will apply to all mandated products within the market for wholesale terminating segments of leased lines. ComReg is of the view that if wholesale Ethernet end-to-end leased lines become a mandated product, then the principles set out in this decision will apply in this context.

ComReg's conclusion:

7.22 By setting a price floor for WLLs Eircom is allowed flexibility to price below the current published prices and this should ensure possible future added benefits to end-users who avail of these lower prices. In essence, Eircom can take a commercial decision to price between the maximum price ceiling and the minimum price floor so long as it does not lead to under-recovery of costs. The approach relates to all WLLs generally in the market for wholesale terminating segments of leased lines.

7.23 The imposition of a price floor for WLLs should encourage OAOs onto the ladder of investment and encourage infrastructure investment while promoting sustainable competition in the retail market, based on the pricing mechanism established in this decision. This should also meet ComReg's regulatory objective to encourage infrastructure based competition, under Section 12 of the Act. The importance of ensuring consistent pricing between relevant wholesale inputs such that the prices set for a particular wholesale service do not squeeze another wholesale alternative is clear and widely acknowledged with the European regulatory community. In 2007 and 2009, ERG, in its Common Position papers, supports the concept of an appropriate economic space between wholesale products. ARCEP, in its leased lines market analysis of 2006 and 2010, set out its approach regarding the application of the non-eviction principle, which ensures that wholesale tariffs set by France Telecom do not evict operators that have deployed their own infrastructure. ComReg is also mindful of the European Commission Decision in 2007 from Case COMP/38.78410³⁴ relating to a proceeding under Article 82 of the EC Treaty where it notes that:

“It is therefore necessary that there should not be any margin squeeze in relation to any “step” of the ladder, i.e. in relation to any wholesale product. If there was such a margin squeeze, new entrants that are climbing the ladder of investment, would be foreclosed.....All national regulatory authorities agree that the process of climbing

³³ Eircom stated that “However, any proposal to reduce the current maximum prices for WLL services runs the risk of discouraging OAOs from extending their networks. Such a short term reduction in one set of wholesale prices may well be against the long term interests of users by limiting competition to service-based competition where network-based competition may be more appropriate, given demand levels and potential returns available”.

³⁴ Case COMP/38.784 – Wanadoo España vs. Telefónica; 4.07.2007

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the ladder of investment can only be effective if there is a margin between all the steps of the ladder”.

7.24 ComReg also believes that the transition to infrastructure based competition is sending the right signals to the retail market, by way of differentiated products leading to greater choice and quality of services for end users. ComReg believes that service-based competition maintains, within the market, a dependency towards the technological and commercial choices made by the incumbent whereas infrastructure-based competition permits a higher level of independence and differentiation from the incumbent and the potential for OAOs to exercise a more sustained competitive constraint, thus presenting the opportunity to gradually reduce regulatory controls towards the ultimate goal of de-regulation. The Margin Squeeze test set out is also relevant in order to assess the appropriate economic space between all of the steps of the ladder of investment, in relation to any of the wholesale products, in the market for wholesale terminating segments of leased lines only (i.e. the price floor does not relate to WLLs which straddle the trunk market which has been de-regulated). This is discussed further below.

2. Further specification of the Margin Squeeze test

Consultation Proposal:

7.25 In ComReg Document No 11/32, ComReg set out the details and inputs regarding the Margin Squeeze model which was developed to ensure that there is an appropriate economic space between the relevant regulated wholesale products in the market for wholesale terminating segment of leased lines. The details of the Margin Squeeze model are set out below.

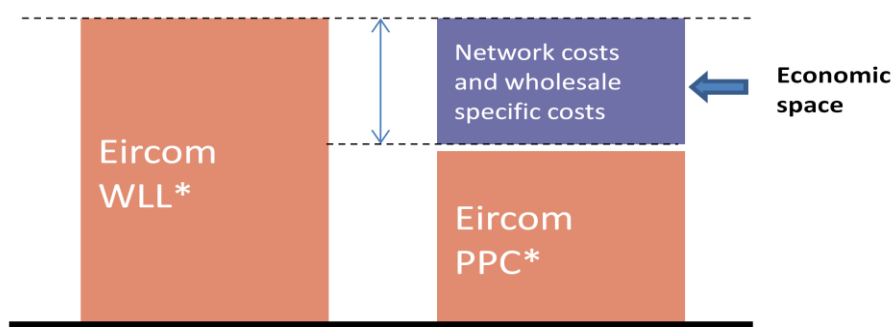
7.26 In ComReg Document No 11/32 ComReg proposed that the Margin Squeeze test to be applied should be calculated based on:

- Wholesale inputs based on the results of the cost based model for PPCs and NGN Ethernet

Plus

- Derived SEO costs (as set out below).

Figure 2: Cost Elements for WLLs and PPCs



**Or other Ethernet equivalent product*

7.27 ComReg’s objective, in the application of the Margin Squeeze test, is to ensure that an appropriate economic space is maintained in the short to medium term, by ensuring that relevant regulated wholesale prices cannot be less than a price floor, based on the test consulted on in ComReg Document No 11/32 and as set out below.

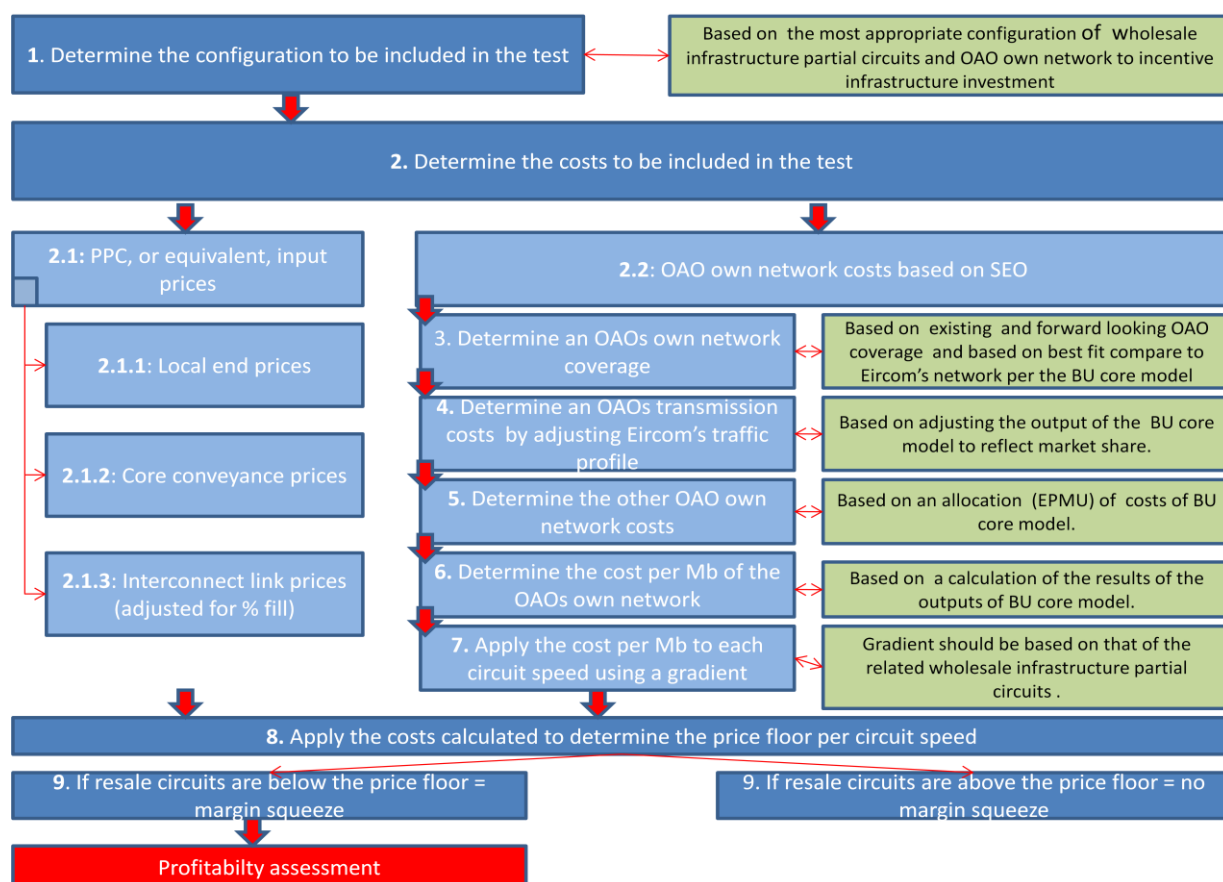
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The Margin Squeeze test should facilitate effective and sustainable competition. The margin between WLLs and PPCs must be sufficient so that OAOs have the incentives to invest in their own infrastructure and should ensure that any investments made are not stranded, nor retail competition distorted to the detriment of competing infrastructure-based operators, as a result of a margin/price squeeze by Eircom.

- 7.28 In ComReg Document No 11/32, ComReg proposed that a product-by-product basis was the most appropriate for now and that the test should be defined by circuit speed and where there is also a distance factor, as with PPCs and WLLs, an average distance(s) should be applied, by circuit speed.
- 7.29 However, given the anticipated evolution to Ethernet technology over the coming years, ComReg believed that it may be necessary to further assess the options available on a case by case basis in the future. This could involve a change to a portfolio approach; however this would be subject to further consultation.
- 7.30 In ComReg Document No 11/32, ComReg stated that the proposed Margin Squeeze test, based on a SEO cost base, would ensure that there was a sufficient margin between wholesale products, by setting price floors for WLLs. ComReg stated that it would be up to Eircom, in line with their obligation not to cause a margin squeeze as set out in Section 11 of Decision No D06/08, to review any proposed tenders for compliance with the Margin Squeeze test. ComReg proposed that it would review a sample, at least annually, for the sale of regulated wholesale products for compliance with the Margin Squeeze obligation. In ComReg Document No 11/32 ComReg also stated that in the event of a compliance investigation or dispute arising as a result of a particular bid, ComReg may require Eircom to demonstrate a profitability assessment of a specific bid. ComReg proposed that the profitability analysis would clearly identify the regulated and unregulated elements of that particular bid and the regulated elements of that bid should clearly demonstrate that no Margin Squeeze exists, using the SEO cost base. ComReg also stated that an assessment would be carried out before a decision is made on whether any breach of the profitability analysis could cause a serious distortionary effect on an ex-ante basis.
- 7.31 In ComReg Document No 11/32, ComReg set out a flow chart which included the proposed inputs required and the steps involved in calculating the appropriate economic space between WLL and PPCs, based on the SEO cost base. The relevant flow chart is set out below. Each of the proposed steps in the table below was discussed in detail in ComReg Document No 11/32 in Section 7. Readers are referred to Section 7 of ComReg Document No 11/32 for the full details of the initial steps proposed. In summary, these steps are set out in the illustration below.

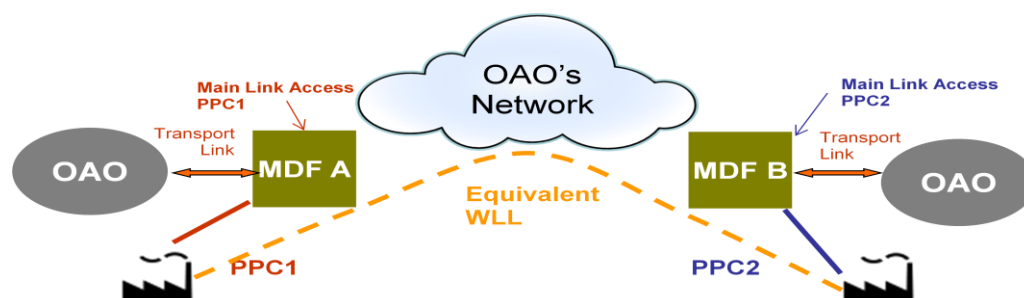
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Figure 3: Illustration of proposed steps in the application of the Margin Squeeze test



7.32 In addition to the summary of steps set out above, ComReg also, in Section 7 of ComReg Document No 11/32 set out its preferred Margin Squeeze test configuration to be considered. This equates to step 1 of the proposed steps above and is set out below

Figure 4: Illustration of preferred test configurations:



Main issues raised by respondents:

7.33 BT, Magnet and ALTO raised the point that the proposal to apply ex-ante rules for the margin squeeze test on a case by case basis but to assess it on an ex-post basis was a weaker approach to regulation as it would be extremely difficult for industry to detect or prove anti-competitive behaviour due to lack of transparency. These respondents believed that intrusive monitoring of the incumbent is required and transparency of the outcome is important. In addition, BT and ALTO stated that the test needs to be able to address the bundled scenario, or more commonly called the

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wholesale solution, where a business customer will typically require a mixture of regulated and non-regulated components. These two respondents believed that ComReg should highlight specifically how non-regulated or non-reported activities are addressed in the bundled scenario.

- 7.34 To clarify, the Margin Squeeze test between the wholesale products in the market for wholesale terminating segments of leased lines is an ex-ante obligation where Eircom will have at its disposal a margin squeeze model to ensure that it is compliant with the Margin Squeeze principles set out. Therefore, the onus of proof will be on Eircom to ensure that a particular tender is in compliance with the Margin Squeeze test/model before they present a bid for that tender. ComReg intends to undertake a review by selecting a random sample of tenders to ensure compliance with the Margin Squeeze test/model and the associated principles set out. Notwithstanding any complaints from industry that may be received from time to time, the first review will be made within in one year of this Decision and ad hoc thereafter depending on the circumstances, but at least annually. Eircom will be obliged to set out the regulated and unregulated elements of that particular bid and the regulated elements should clearly demonstrate that no Margin Squeeze exists, using the SEO cost base. In the event that ComReg finds that Eircom is non-compliant and where a margin (price) squeeze exists, this will be investigated by ComReg under the normal procedure for a compliance investigation.
- 7.35 BT and ALTO also stated that the cost of exchange or remote buildings/rental of space necessary to house the nodes and connecting systems around the country are missing from the table at *Figure 13* in ComReg Document No 11/32. However, ComReg would like to confirm that the costs referred to above have already been included as part of the cost of each Leased Line node and transmission node, therefore these costs are captured in the cost categories listed in *Figure 13* in ComReg Document No 11/32.
- 7.36 Eircom raised a number of points on the details of the Margin Squeeze test. Eircom believes that the margin squeeze test set out in section 7 of Consultation Document 11/32, will cause significant damage to Eircom's retail and wholesale data network businesses, since Eircom believe that it would effectively prevent Eircom from competing for leased lines and related managed services. Eircom believe that this is because the test proposed by ComReg in the Draft Decision would set price floors for Eircom's self supply at a level that is above the maximum costs faced by a competitor. In this regard, Eircom believed that an efficient OAO will only build its own network where a lower unit cost than the Eircom national average can be achieved. Once OAOs have built their own network, they will compete efficiently in the leased line market by pricing both above and below the average unit cost for that investment.
- 7.37 ComReg sets below its views with regard to the main points raised by Eircom. Where possible; ComReg has linked the points raised by Eircom to Steps 1-8 as illustrated in *Figure 3* above in this document. ComReg notes that Eircom have submitted evidence as part of their response to Consultation Document No 11/32, which suggests that tenders have been lost to alternative access providers as a result of cheaper wholesale prices being available from alternative network providers compared to Eircom wholesale's regulated prices. ComReg has considered the evidence provided by Eircom carefully. As a result of this review ComReg is concerned that the nationally averaged wholesale prices, based on Eircom's overall

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costs and volumes could distort the market and lead to either inefficient investment by alternative networks or foreclosure of Eircom wholesale from certain tenders in the Leased Line market. ComReg has already, through previous consultation documents, also referred to the significant risk that Eircom might lower prices to the detriment of OAOs wishing to invest and compete higher up the value chain. Managing this within a general Margin Squeeze test is complex. Therefore, ComReg has set out the general guidelines and principles (supported with a detail Margin Squeeze test model) that must be adhered to and will review the application of these principles from time to time. The specific details of any particular Margin Squeeze test review may require amendment over the course of the next three years as circumstances in the market evolve. Where any change is material this may either be consulted on or notified to industry as appropriate. These general principles of an effective Margin Squeeze test are to ensure:

- a) The appropriate replicability of network services is available to OAOs who rely on Eircom wholesale's Leased Line products
- b) the promotion of sustainable medium to long term competition in the Leased Line Market
- c) minimise distortions to the market (for example prices are not set too cheap so as to foreclose efficient alternative operator infrastructure)
- d) overall consumers benefit in the long run (for example prices are not held artificially high as a result of an ex ante Margin Squeeze test imposed where no alternative network provider is available or likely to be in the medium to long term).

7.38 With regard to Step 1 of the Margin Squeeze test on the network configuration, Eircom claimed that the diagrams set out by ComReg provided only a partial view of the nature of competition in the leased line market in Ireland. Eircom stated that increasingly OAOs' networks already reach many customer premises and where that is the case Eircom's network is only required to deliver one end of a leased line service. For the avoidance of doubt, ComReg would like to clarify that the network configuration is flexible in the Margin Squeeze model and it will allow for both point-to-point services and point-to-multipoint services.

7.39 Eircom also had issues with regards to Step 2 of the Margin Squeeze test, when determining the costs to be included in the test. This point raised by Eircom relates to the PPC, or equivalent, input prices into the Leased Lines Margin Squeeze test, re-labelled in Step 2.1 in *Figure 3* above for illustration purposes. Eircom believe that the costs of alternative access mechanisms (LLU, E-net, Airspeed, etc.) are not included for circuits delivered into those parts of the market where such alternative mechanisms are available. They believe this is wrong and should be amended to reflect the alternatives available. Eircom believe that this has clear implications on the configuration proposed in Step 1 of the Margin squeeze test as an OAO who builds network to reach a customer premises or where an OAO buys an access service from an alternative access provider (eg, E-net) can likely serve customers at a significantly lower cost than the published regulated access prices. Therefore, Eircom believes that the margin test proposed is explicitly designed to exclude Eircom from competing to sell leased line services to that customer.

7.40 ComReg has considered the specific issue raised by Eircom that the costs of

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alternative *Access* providers and the subsequent prices they may offer in the market (e.g. an LLU OAO, E-net, Airspeed, etc.) are not allowed for in the Margin Squeeze test initially proposed. In ComReg Decision D06/08, Eircom were designated with SMP in the national market for the provision of Leased Lines. ComReg's analysis, based on consideration of the responses to consultation, has indicated that there is no evidence of significant change since that review. Alternative access infrastructure providers, such as E-net, Airspeed, BT and UPC, do not have ubiquitous networks. While alternative access infrastructure providers may be in a position to offer a cheaper service in certain discrete areas of the national market, ComReg does not and cannot understand fully the profitability or business strategy of these operators. It is therefore inappropriate to suggest that Eircom should be allowed to price for tenders based on anecdotal evidence of cheaper prices available from other operators, while having no visibility of the underlying pricing strategy and sustainability of those cheaper prices in the medium to long term. When applying a Margin Squeeze test, any suggested alternative SEO type inputs must be robust and justified with evidence and be consistent with the general principles set out above.

- 7.41 Following consideration of Eircom's response to Consultation Document No 11/32, ComReg concludes that in order to ensure the promotion of efficient competition between all of the industry operators, including Eircom, the *Access* price input into the Margin Squeeze test may be amended in certain exceptional cases. That is where there are reasonable indications of competitive developments emerging in particular areas which may be subject to different structural conditions. Recognising that entry possibilities can differ according to the possibility to realise economies of scale and density in particular areas, the degree of actual infrastructure replication can be used as an initial indicator of changing competitive dynamics in discrete areas to ensure that regulation may be sufficiently responsive to any such developments should they occur. ComReg will therefore allow, in exceptional circumstances, Eircom to amend the access price component in the Margin Squeeze test model in cases where Eircom can clearly demonstrate that there are at least two competing alternative operators providing access with lower access prices than Eircom. In addition, it must be clear that Eircom's published prices are such that they could not possibly offer a competitive wholesale offer when compared to the alternative access providers. Further, it is not clear if the alternative access prices, available to OAOs, are sustainable and not just short term discounted rates for commercial reasons unknown to Eircom or ComReg. To allow Eircom to use such pricing would likely be very disruptive.
- 7.42 ComReg believes that, in view of the insufficient competitive development of the market for wholesale terminating segments of leased lines to date, this concept will be the exception rather than the norm. In such cases Eircom will be allowed to use the modern equivalent asset ("MEA") of that alternative operator providing access and charge the lower of its published access price or that of the alternative access provider as part of a given tender in that area. The first option available to Eircom of course is to reduce their own wholesale prices to meet any particular competition issues it faces, subject to prior approval from ComReg. Where this is not possible, for example due to the timing of certain bids or the discrete nature of certain bids, the burden of proof will be on Eircom to demonstrate to ComReg when requested, that there are at least two alternative access operators present and that the access prices used are supported by operator price lists or quotations. The access price used should

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reflect any associated build and connection charges. These may be publicly available or shared bi-laterally with ComReg where direct quotes are provided. It would also need to be clear from the alternative access provider that their prices are representative of the MEA in that area and are not short term loss making prices (for commercial reasons unknown to Eircom or ComReg).

7.43 Where there are at least two alternative platforms providing access in a particular area, it could be expected that other operators would also have the choice to use that alternative access service (to the extent that it is a substitutive service for the requirements of any given bid request) at the lower price. The substitute service considered (to the extent that it is a substitutive service for the requirements of any given bid request) should be that of a fit-for-purpose product³⁵ meeting the technical requirements of a particular bid request. This degree of flexibility should ensure that the replicability principle is adhered to while also ensuring that end-users have ample choice and reasonably competitive prices from all access providers, including Eircom. Furthermore, given the nascent level of any competitive developments, it is considered appropriate for the burden of proof to rest with Eircom to ensure that regulation is not prematurely reduced with detrimental consequences for the competitive process and consumers.

7.44 It is important to note that in the context of the Margin Squeeze test “Access” refers to that part of the network from the customer premises to the nearest serving Eircom exchange (or equivalent). This refers to the local access input (labelled as step 2.1.1) in *Figure 3* above. Therefore, any application of the MEA as an input to the Margin squeeze test would be amending the price input of the PPC access element (i.e. EUL local access) or the NGN Ethernet access element (i.e. WSEA physical). ComReg does not accept that a MEA may be used as an alternative input in the Margin Squeeze test for the core conveyance element³⁶ and the point of handover (interconnection) element³⁷. As this would be extremely difficult to monitor and could lead to significant confusion in the market where Eircom is allowed to use pricing for end to end connections based on alternative prices to those on their published price list. This would be a material change to the Margin Squeeze test proposed in the consultation documents to date. ComReg will however keep Eircom’s proposal under review and where there is clear evidence of contracts which Eircom have failed to win as a result of its regulated core conveyance and interconnection wholesale prices, compared to that of alternative access infrastructure operators in discrete areas, ComReg may intervene to ensure market distortions are minimised.

7.45 Where it is clear that Eircom is losing significantly as a result of the Margin Squeeze test applied (and there is no other non-price related issues), then ComReg may move to an MEA to incorporate the access, core conveyance and point of handover element for services offered in a bid where alternative access providers are also in a position

³⁵ The product considered as a substitute service for that particular bid request must meet the technical requirements (e.g. specific security requirements, quality of service requirements, etc.) of that particular bid request. For example, a particular access product (e.g. a wireless access product) may not be considered as appropriate to fulfil the technical requirements of a particular bid request, therefore that particular access product may not be considered as a substitute service for that particular bid request.

³⁶ i.e. PPC EUL MLA or NGN Ethernet WSEA logical and labelled as step 2.1.2 in *Figure 3* above

³⁷ i.e. PPC TL or NGN Ethernet WEIL and labelled as step 2.1.3 in *Figure 3* above

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to replicate the end to end managed data service offered by Eircom. However, it should also be noted that a further consideration to be taken into account is that PPC prices are maximum prices, and Eircom could make an application to ComReg to lower its PPC prices, nationally or in defined geographic areas, should it identify a need to do so. Any notification and implementation of PPC price changes would be subject to the conditions set out under the transparency obligation in ComReg Decision D6/08.

- 7.46 With regard to step 4, ComReg in Consultation Document No 11/32 calculated Eircom's share of traffic in the trunk market as 45%, based on data gathered in the 2008 market analysis decision (ComReg Decision D06/08) and with a hypothetical OAO share of traffic of 25%. As part of the consultation process Eircom separately submitted, confidential data to ComReg, to demonstrate its share of traffic against that of an OAO. Its submission demonstrated that the adjustment made by ComReg for Eircom's share of traffic against that of an OAO, in the part of the network where OAOs have deployed infrastructure, should be updated slightly. However, ComReg's review of this data was not conclusive that a material change was required. Further to Eircom's submission, ComReg subsequently reviewed and adjusted the relevant percentage, based on a review of more updated confidential quarterly questionnaire data. The updated information meant that the factor of 1.8 which was previously used to adjust Eircom's traffic has now been revised downwards to approximately 1.4. This factor is an important driver of the unit cost input into the SEO Margin Squeeze test. The lower the factor the closer the unit cost equivalent of the SEO is, thereby lowering the price floor in the test. As this factor is driven by volumes of leased lines and the associated traffic, it can be subject to change. For example, ComReg is aware that there are some large managed data network service contracts up for tender, with respect to backhaul for mobile operators and branch networks relating to major financial institutions. These types of key contracts will drive Eircom's share of traffic against that of an OAO and increase or decrease the factor applied in the SEO test. Should Eircom retail or OAOs using Eircom Wholesale win these contracts Eircom's share of traffic will increase and the factor will increase, however should OAOs using their own networks or using alternative infrastructure networks win these contracts, their share of traffic will increase and the factor will decrease further. ComReg intends to monitor any further information that may become available in this regard to ensure the application of the Margin squeeze model is adaptive to the particular changing dynamics of the market.
- 7.47 With regard to Step 6 of the Margin Squeeze test relating to the OAOs costs, Eircom stated that it was not a sufficient or appropriate input into a margin squeeze test to apply it on a circuit by circuit, speed by speed or a contract by contract basis. Eircom claimed that a large proportion of the total cost, that is an input into the average cost per Mbps calculation, is fixed or common and that these costs are not relevant for pricing decisions in the market for leased line services. Eircom included an example where an OAO will price as low as average variable costs in the case where the contract is offered into the most competitive region of the market. Eircom stated that the level of cost per Mbps modelled by ComReg is the level that the OAO must recover, on average, across all contracts, across all speeds, and across all regions to achieve target return on the network investment. A similar approach should be used in a margin test across the full portfolio of Eircom WLL services.
- 7.48 Eircom further stated that the fundamental disagreements that Eircom had with the

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ComReg approach to constructing the proposed test can be summarised into two main issues:

- The set of costs included in the test to set an Eircom price floor are always greater than the set faced by an efficient OAO competing in the national market for retail leased line services.
- The degree of averaging applied to these costs has the effect, when applied to all contracts on a speed-by-speed basis, of excluding Eircom from the high-speed urban portions of the market where competition is most intense.

7.49 Further to the two points raised above, Eircom believed that there were a number of ways that the test could be modified to make it appropriate to both protecting efficient OAO investment, and to benefiting end users of leased line services. Eircom suggested that there should be at least two distinct margin tests as follows:

- (a) A margin squeeze test for leased lines up to and including 2 Mbps. Eircom proposed that this test should be applied in two stages. At the first stage Eircom proposed that the leased line services in the customer contract should pass the test to the average variable cost (AVC) standard. At the second stage of the leased line services across all customer contracts at any time should pass the test to the average total costs (ATC) standard. Eircom claimed that this would allow it to compete on the basis of the same structure of costs as the OAO using PPCs as an input to supplement their own core network investment in delivering end-to-end leased line services.
- (b) A margin squeeze test for leased lines above 2 Mbps. As stated above, Eircom's main concern with this part of the proposed test is that there is no recognition of the lower access costs available in cities and provincial towns and that all key competitors to Eircom are pricing their services to reflect the range of access solutions available. Therefore, Eircom proposed that the test must include the real costs faced by the OAO, which would include the costs of the actual access solution used, a contribution of the costs of interconnection services bought from Eircom (for the proportion of Eircom access actually needed) and the cost of the OAO transmission and leased line core network modelled on an EEO basis. In this regard, Eircom proposed that the costs of the actual access solution used should be included e.g. third party charges from E-net, Airspeed radio charges.

7.50 ComReg sought clarification from Eircom on its proposal that all customer contracts at any time should pass the test to the average total costs (ATC) standard. Eircom clarified this point to mean that the average of the 'LRAIC plus' costs across all contracts/bids should pass the test. This meant that Eircom did not disagree with the principle of "LRAIC plus" as the appropriate cost standard in the context of the Margin Squeeze test.

7.51 ComReg considered Eircom's point, with respect to the OAOs' own network cost and its view that an efficient OAO will only build its own network where a lower unit cost than Eircom's national average can be achieved. In order to ensure that ComReg achieves its objectives proportionately, ComReg has decided that the OAO network costs in the Margin Squeeze model/test, with respect to WLL circuit speeds greater than 2Mbps (deployed over fibre pairs but also for any point to multipoint offer), be amended to reflect the difference in the OAO network costs per region. These de-averaged OAO network costs are calculated on the basis of the NGN

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Ethernet leased line cost model developed by ComReg, where the various regions (or areas) were consulted on in ComReg Document No 10/70. The model determines the distribution of the costs of Eircom's core network across the different regions of Ireland (consistent to the approach used for setting the geographic de-averaged prices for NGN Ethernet). A gradient is then applied to the de-averaged OAO network costs to determine the costs per circuit speed. In essence, there are five different OAO network cost categories³⁸ (where the OAO network costs would be based on the costs of one of these costs, depending on the bid/contract under consideration). For example, a bid/contract in Dublin, which is classified as a high density area, is based on the average 'LRAIC costs' of providing the product/service in Dublin. This approach takes account of the fact that, in line with the replicability principle, OAO network costs vary by area and this approach reflects the cost differences for operators to provide a leased line service in major urban areas compared with the more provincial or rural areas.

- 7.52 Following on from the point discussed above and as set out previously in Step 9 Eircom must ensure that the costs are recovered by the bid, however this will now entail the recovery of the de-averaged costs depending on the geographical location of the circuits included in the bid. Given the over-riding obligation on Eircom of cost recovery, Eircom must ensure that the costs of all bids won over any 12 month period are fully recovered. Please refer to Section 7 of this document for details.
- 7.53 ComReg does not agree with Eircom that an EEO test is appropriate in this situation. Given the limited extent of competition in the market for wholesale terminating segment of leased lines, ComReg is of the view that the EEO approach is not appropriate and would not achieve its regulatory objective of encouraging infrastructure investment while encouraging OAOs to climb the ladder of investment due to the importance of economies of scale. Therefore, the SEO approach is a more appropriate cost base in the current context.
- 7.54 With regard to Step 8, Eircom disagrees with ComReg's proposal, where the cost of Eircom's PPC EULs has been included at a nationally averaged circuit length. Eircom believe that this has the effect of raising the price floor in urban areas where the EULs used by the OAOs are a shorter distance than the average distance proposed in the test. Eircom believes that if the price control is to be used in relation to Eircom's self-supply, this places Eircom at a significant competitive disadvantage in geographic areas marked with significant alternative infrastructure. In the interest of ensuring ComReg's obligation of proportionality is achieved and to ensure the promotion of efficient competition, the Margin Squeeze test now reflects the actual distance of the customers' premises to the nearest serving exchange and the actual distance of the nearest serving exchange to the exchange providing the point of interconnection ("POI")³⁹. Eircom is effectively interconnected in each leased line enabled exchange throughout the country; therefore some rules must be applied to determine the relevant POIs in the context of the Margin Squeeze test. The test must reflect the criteria of those exchanges where other operators are interconnected at, so

³⁸ NGN Ethernet leased lines are also primarily based on 5 types of charges depending on the location of the 2 ends of the leased line: 1) within high density area, 2) within medium density area, 3) from one high density area to another high density area, 4) from one medium density area to another medium density area and 5) from one high density area to a medium density area.

³⁹ A main distribution frame (MDF) or exchange where an OAO is interconnected.

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as OAOs may be able to at least replicate the service offered by Eircom in the bid situation. In this regard, ComReg believes that the relevant exchanges to be considered as POIs are those where there are at least two OAOs interconnected for the purpose of PPC provision. It will be the responsibility of Eircom to ensure, and keep up-to-date, the POIs considered in the Margin Squeeze test as representing the Eircom exchanges where other OAOs are interconnected and therefore in a position to replicate the end to end managed data service offered by Eircom.

- 7.55 This section is primarily dealing with the Margin Squeeze test between PPCs and WLLs; however there is a transition in progress from traditional PPC and WLL products to NGN Ethernet products, therefore ComReg must also set out the principles of determining the POIs for NGN Ethernet products to be considered in the Margin Squeeze test. The volumes of NGN Ethernet POIs has not yet reached the same scale as that of PPC POIs, as the NGN Ethernet product was only launched in August 2010 by Eircom wholesale and product modifications have been ongoing. Therefore, from an SEO test perspective there are differences between the scale of PPC POIs and NGN Ethernet POIs which have to be considered in the Margin Squeeze test, to ensure that OAOs can replicate the respective services offered by Eircom. The key principle to be adhered to, as with traditional PPC and WLL products, is that of replicability; where an OAO must be able to at least replicate the respective service offered by Eircom in the case of a bid and within the timeframe of that bid.
- 7.56 ComReg believes that determining the NGN Ethernet POI to be considered in the Margin Squeeze test is likely to be a dynamic exercise, as NGN Ethernet services grow and evolve. From a replicability perspective it is important to consider the POIs that OAOs have already been built or will be built within the timeframe of a particular bid. It is expected that the scale of NGN Ethernet POIs (i.e. The NGN Ethernet interconnect product: WEILs) will continue to increase, as long as there are no barriers to OAOs purchasing WEILs in a reasonable timeframe and at cost oriented prices such that OAOs can replicate the services offered by Eircom. ComReg is aware that lead times for the delivery of certain wholesale NGN Ethernet services by Eircom can take some time, however this must not act as a barrier to effective competition. OAOs must be allowed to purchase and build WEILs within a reasonable timeframe in order to make competitive bids. Significant progress has been made to ensure such barriers are minimised. For example there is an In Building Handover (“IBH”) version of the WEIL product. IBH is available to OAOs currently availing of the Eircom physical co-location service provided in an Eircom exchange which facilitates LLU, therefore an OAO co-located for LLU can avail of WEIL IBH without the long lead times and civil costs associated with this form of interconnection.
- 7.57 ComReg also recognises that there are other costs associated with WEIL connection faced by an OAO and it is therefore important that charges such as quote infrastructure build (“QIB”) charges and provide infrastructure build (“PIB”) charges are charged at cost oriented prices and on a fully transparent basis. ComReg also notes that the NGN Ethernet product is currently delivered over fibre only and there is some evidence of alternative fibre networks in discrete areas in Ireland where OAOs can alternatively interconnect. For example, OAOs have the possibility to build a POI with E-net on a MAN in a discrete area, in order to provide a service to that discrete area as part of a bid. Again, it will be the responsibility of Eircom to

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ensure, and keep up-to-date, the NGN Ethernet POIs consider in the Margin Squeeze test as representing defined areas where OAOs can interconnect and therefore are in a position to replicate the end to end managed data service offered by Eircom wholesale. ComReg will monitor this quarterly through the review of Leased Line Forum minutes and any other feedback from industry with regard to general operational issues that may arise.

ComReg's conclusion:

- 7.58 In this decision ComReg has now further specified the margin squeeze obligation pursuant to ComReg Decision D06/08. The further specification ensures that there is an appropriate economic space between the difference steps of the ladder of investment in relation to the wholesale products in the market for wholesale terminating segments of leased lines.
- 7.59 As set out earlier in the document, ComReg uses the term "Margin Squeeze test" but ComReg would like to clarify that the test is not a margin squeeze test in the sense of a margin between products or services in upstream or downstream markets, as is usually understood in Competition Law. However, in the current context ComReg is using the principle of a margin squeeze in a regulatory context, to mean the assessment of the appropriate economic space between the different steps of the ladder of investment in relation to any of the wholesale products in the market for wholesale terminating segments of leased lines. ComReg believes that this should encourage operators onto the ladder of investment and encourage infrastructure investment while promoting sustainable competition in the retail market, based on the pricing mechanism established in this decision.
- 7.60 While the steps set out below refer to the economic space between WLLs and PPCs, the principles and individual components of the test relate generally to the assessment of the economic space between the different steps of the ladder of investment in relation to any of the wholesale products (current or future) in the market for wholesale terminating segments of leased lines.
- 7.61 The Margin Squeeze model built as part of this consultation process and decision should allow Eircom to ensure that it is compliant with its obligations. ComReg intends to monitor Eircom's compliance with the test/model, in terms of any future tenders to ensure that those tenders are in line with the details contained in the Margin Squeeze model/test. ComReg does not believe that is practical to review all bids and ComReg's review of sample bids will ensure compliance with this Decision.

ComReg Conclusion: ComReg has decided that Eircom shall, no later than six months after the effective date of this Decision Instrument, provide ComReg with a list of all tenders bid for and/or won since the Effective Date that include products and services in the terminating segment of wholesale leased lines market. Following a selection by ComReg of sample tenders from the list provided, Eircom shall, no later than one month after such request from ComReg, provide ComReg with evidence of its compliance with its obligations in respect of Section 4 of the Decision Instrument for the tenders selected.

- 7.62 The Margin Squeeze test is based on SEO costs (as set out below).

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- 7.63 The Steps consulted on in ComReg Document No 11/32 and as referred to in the subsection above remain largely relevant to this decision, with a limited number of changes to some of the components of the test. The changes made to some of the individual components of the Margin Squeeze test should encourage infrastructure based investment, sustain competition in the retail market, adhere with the replicability principle while also ensuring that regulation is proportionate in the market and that end-users have ample choice and reasonably competitive prices.
- 7.64 The main changes to the individual components in the Margin Squeeze test have been discussed above in paragraphs 7.36 through to 7.60. While some of these changes will only apply in certain cases as outlined above, ComReg will continue to monitor market circumstances to ensure that the individual components and indeed the overall Margin Squeeze test remains proportionate and relevant to the competition problems it addresses. ComReg will keep this under review as part of ComReg's ongoing monitoring of tenders/bids on a 12 monthly rolling basis or as appropriate.
- 7.65 In summary, the main steps, as set out below apply in the context of the Margin Squeeze test for assessing the appropriate economic space between the different steps of the ladder of investment in relation to the wholesale products (current or future) in the market for wholesale terminating segments of leased lines.

ComReg Conclusion: ComReg has decided that the Margin Squeeze test shall be applied as detailed in Steps 1-9 as outlined below.

Step 1 – Determine the most appropriate network configuration to be included in the SEO test

- 7.66 The most relevant network configuration corresponds to a mature OAO connected to both MDFs with point-to-point leased line service provision. In this configuration, the OAO buys two short PPCs and manages the traffic itself between the MDFs to which it is interconnected to on its own network. Also, contrary to other possible configurations, this configuration fully takes account of the network costs of an OAO which provides appropriate build or buy signals and the incentive to climb the ladder of investment.
- 7.67 This configuration refers to a point-to-point configuration, however ComReg also recognises that there also is also a point-to-multipoint configuration. In this case a mature OAO buys not two (like the provision of point to point) but several short PPCs and manages the traffic itself between the different MDFs to which PPCs are originating on its own network.
- 7.68 Therefore, the test is flexible to satisfy either a point-to-point configuration or a point-to-multipoint configuration.

Step 2 – Determine the costs to be included in the test

- 7.69 The costs⁴⁰ included in the Margin Squeeze test are based on the following cost stack:

⁴⁰ Cost referred to in this section refer to the LRAIC plus costs, derived from BU model(s)

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Figure 5: Cost stack for Margin Squeeze test

Description of inputs		
Interconnect link input price(s)	X	
Core conveyance price(s)	X	
Local access price(s)	<u>X</u>	
Total PPC input prices		X
Transmission equipment costs	X	
Trenches and WDM costs	X	
Tie cable costs	X	
Leased Lines node costs *	X	
Network Management Systems cost	X	
Power costs	X	
OPEX (including common costs)	<u>X</u>	
Total OAO own network costs based on SEO		<u>X</u>
Total costs included in margin squeeze test		X

*Note: Building costs are included in node costs

7.70 As outlined above, Eircom may amend the local access price component (above) in the Margin Squeeze test model, using the MEA price of an alternative infrastructure provider, in cases where Eircom can clearly demonstrate that there are at least two competing alternative operators providing access with lower access prices than Eircom over an extended period of time.

Step 3 – Determine an OAOs own network coverage

7.71 The BU-LRAIC plus legacy core model is used to calculate the SEO costs by adjusting Eircom’s legacy core network for scale and by adjusting the market share to reflect OAO traffic. The OAOs own network transmission costs are also taken into account⁴¹.

7.72 Eircom’s legacy core network is divided into three network levels: a sub-sub network level, a sub network level and a main network level. The number of main network level sites, is broadly consistent with the number of exchanges considered for LLU, and represents a reasonable base for an OAO’s network coverage in the SEO test. The BU LRAIC plus core model is capable of calculating the costs for the main network level only.

7.73 The configuration of the network levels in Eircom’s legacy core transmission network are illustrated in *Figure 14* of ComReg Document No 11/32.

Step 4 – Determine a OAOs transmission costs by adjusting Eircom’s traffic profile

7.74 Once the coverage of an OAO network is established, the BU LRAIC plus legacy

⁴¹ Where transmission costs incorporate transmission equipment costs, cable management systems (“CMS”) and tie cable costs.

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core model is used to calculate the cost of an OAOs own network. For that purpose, it is necessary to calculate the average cost per Mbps of the main network for an OAO with a lower market share.

- 7.75 Eircom's traffic is adjusted by a factor to reflect Eircom's share of traffic in the main transmission network. ComReg intends to monitor this factor and where more up-to-date information becomes available, either as part of the internal annual review or as a result of the next market review, then ComReg will consider the data and if it is material it may update or amend this input.

Step 5 – Determine an OAO's other network costs

- 7.76 The OAO's own network costs, other than the transmission costs calculated above, are included in the SEO test. These costs relate to leased line node costs, power costs, network management systems costs and operating costs. These costs are typically costs that are incurred by an OAO who wishes to replicate Eircom's resale offers.
- 7.77 As set out above, an OAOs own network is assumed to have coverage similar to Eircom's main core network. Therefore, the OAO's other network costs, are those costs allocated to the main network, which are extracted from the BU LRAIC plus legacy core model. The allocation of these costs is based on an Equi-Proportionate Mark-Up ("EPMU")⁴² approach.

- 7.78 The other OAO's network costs also include operating costs, which include common costs.

Step 6 – Calculate an OAO's own network cost per Mbps

- 7.79 The cost per Mb is then calculated by dividing the total of an OAO's own network cost by the volume of traffic on the main network level multiplied by 155Mbps. The results of this calculation equates to a nationally averaged cost per Mbps per annum.
- 7.80 A second step is also applied to reflect the differences in the OAO network costs per region. The de-averaged OAO network costs are calculated on the basis of the NGN Ethernet leased line cost model developed by ComReg for pricing purposes. The model determines the distribution of the costs of Eircom's core network across the different regions of Ireland (consistent to the approach used for setting the geographic de-averaged prices for NGN Ethernet as discussed in Section 5 above). This distribution of costs is applied to the cost per Mbps calculated in the BU-LRAIC legacy model.

Step 7 – Apply the cost per Mb to each circuit speed using a price gradient

- 7.81 The cost per Mbps calculated above is then applied to each speed using a gradient. ComReg assumes that an OAO trying to replicate Eircom's WLL uses the same pricing gradient as Eircom. The slope of the gradient used is the gradient used for PPCs. The pivot is the speed at which the cost per Mbps is equal to the average cost per Mbps. It is set at a point that ensures overall cost recovery, so that the total revenues generated by leased lines with prices set on the basis of this gradient equals total costs allocated to leased lines.

⁴² The Equi- Proportionate Mark-Up ("EPMU") methodology leads to the recovery of common costs through the addition of a mark-up on top of incremental costs. These mark-ups are defined so that each service bears a share of the common costs that is proportionate to the incremental costs of the service

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7.82 The pricing gradient applied is illustrated in *Figure 15* in ComReg Document No 11/32.

Step 8 - Apply the costs calculated to determine the price floor per circuit speed

7.83 The actual distance of the customer's premises to the nearest serving exchange and the actual distance of the nearest serving exchange to the exchange providing the POI are relevant to determine the local end and core conveyance pricing inputs. It will be the responsibility of Eircom to ensure, and keep up-to-date, the POIs considered in the Margin Squeeze test as representing the Eircom exchanges where other OAOs are interconnected and therefore in a position to replicate the end to end managed data service offered by Eircom.

7.84 In certain exceptional cases where there are reasonable indications of competitive developments emerging in particular areas where structural conditions permit; ComReg will allow Eircom to amend the access price component where Eircom can clearly demonstrate that in certain areas there are at least two competing alternative operators providing suitable alternate access with lower access prices than Eircom. However, Eircom will be obliged to adhere to the requirements set out in paragraphs 7.40 through to 7.45 above. However, it should also be noted that PPC prices are maximum prices, and Eircom could make an application to ComReg to lower its PPC prices, nationally or in defined geographic areas, should it identify a need to do so. Any notification and implementation of PPC price changes would be subject to the conditions set out under the transparency obligation in ComReg Decision D6/08.

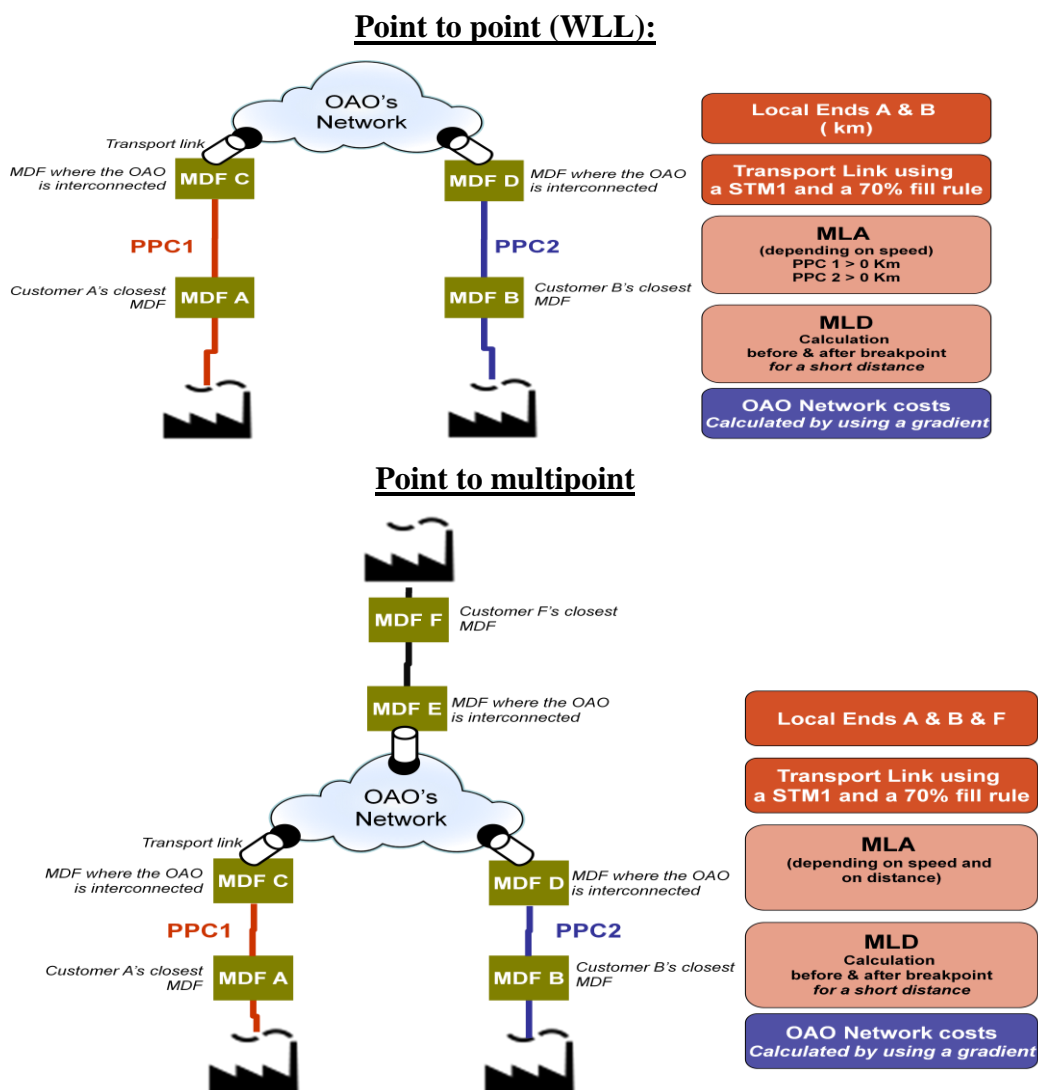
7.85 The situation being considered in the context of the current Margin Squeeze test is where the OAO has to buy two short PPCs to supply an end-to-end service or a number of short PPCs to supply a point-to-multipoint service.

7.86 The OAO network costs included are the nationally averaged cost for WLLs up to 2Mbps and the nationally de-averaged cost for point-to-multipoint circuits and point-to-point circuits greater than 2Mbps. The nationally de-averaged costs are based on the geographical location of the OAOs POI to serve its end users.

7.87 In summary, the main inputs to Step 8 are illustrated below.

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Figure 6: Illustration of point-to-point and point-to-multipoint



Step 9 - Results

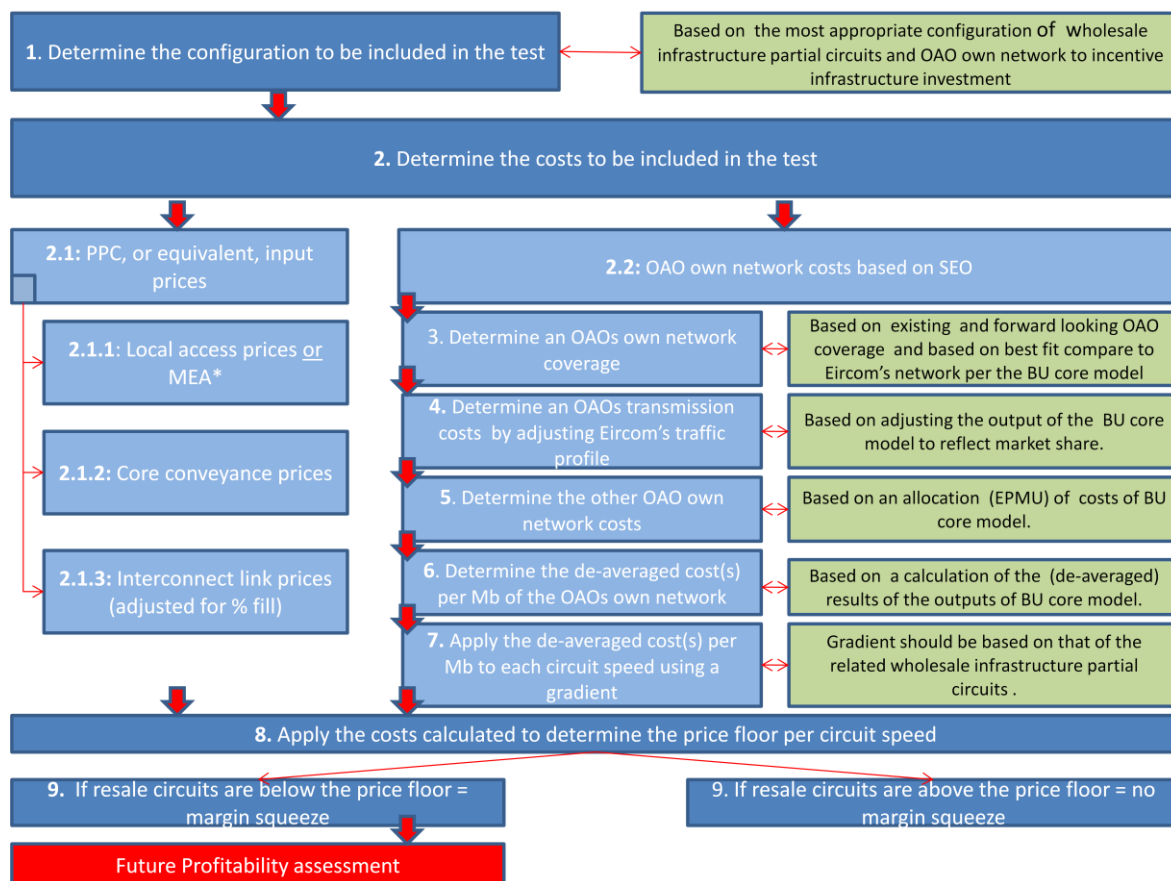
7.88 The results of the test, per Step 8, create the price floors.

7.89 The test for WLLs is conducted on a product by product basis, a product being defined by a leased line with a given speed. For point to multi-point circuits, the test is conducted on the sum of each point of the service provided. The distance element is the actual distances of the access and core conveyance inputs in a particular bid. If the price(s) included in a particular bid are above the price floor, then it is likely that no Margin Squeeze will be caused. However, if the price(s) included in a particular bid are below the price floor, then it is likely that a Margin Squeeze will be created.

7.90 A summary of Steps 1 to 9 of the Margin Squeeze test are illustrated in the diagram below. These steps are relevant in the context of an assessment of the economic space between the different steps of the ladder of investment in relation to the wholesale products (current or future) in the market for wholesale terminating segment of leased lines.

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Figure 7: Illustration of the updated steps for applying the Margin Squeeze test



* MEA as specified in Sections 7.40 to 7.45

7.91 As set out above with regard to Step 9, Eircom must ensure that the overall costs of the regulated elements (i.e. the terminating segment of wholesale leased lines) of each bid are recovered; however this will entail the recovery of the de-averaged costs depending on the OAOs POI to serve its end users included in the bid. Given Eircom's overriding obligation of cost recovery, Eircom must demonstrate that the nationally averaged costs of the regulated elements of the bids won over any 12 month period are fully recovered over the lifetime of the contracts assessed. For example, ComReg may assess all contracts entered into in the period 1 July 2012 to 30 June 2013 in the event that there is significant concern that a Margin Squeeze is occurring and where it appears that OAOs are at a significant disadvantage in the market.

7.92 ComReg recognises that bids won at a wholesale level may contain regulated and unregulated elements. In the context of the current Margin Squeeze test Eircom must be able to clearly identify the regulated and unregulated elements of each bid made at a wholesale and retail level. ComReg will, as part of a Margin squeeze test review, assess the individual regulated elements of the bids for appropriate cost recovery also. Eircom will also have competition law obligations for unregulated services.

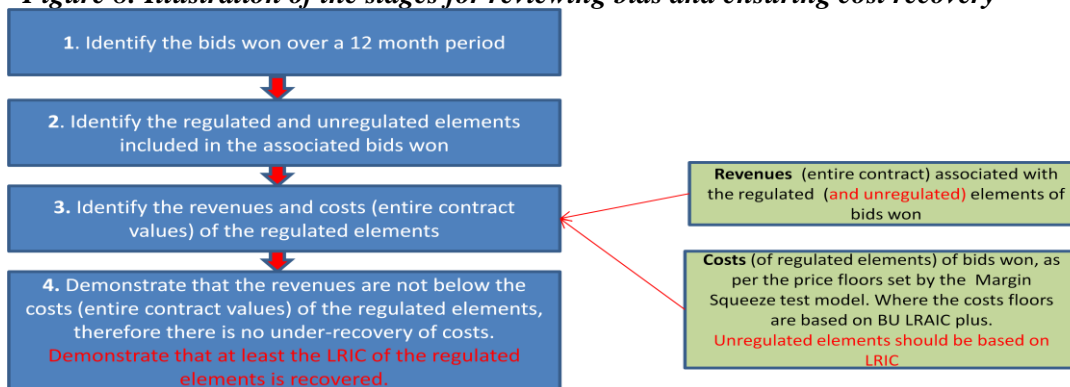
7.93 For the purposes of the Margin Squeeze test set out above, ComReg believes that the unregulated elements should recover at least the LRIC of providing those services. However, this would have to be determined based on the nature of the services bundled in any bid and the materiality of that bid.

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- 7.94 In terms of assessment of regulated costs, the nationally averaged costs to be recovered are defined as the nationally averaged “BU-LRAIC plus” costs of Eircom’s wholesale inputs and the OAOs network costs based on SEO approach.
- 7.95 Eircom, using the Margin Squeeze test model, must demonstrate overall cost recovery; where the total revenue (of regulated elements) in bids won over a 12 month period is not less than the associated total nationally averaged costs (per the price floors calculated by the Margin Squeeze test model).
- 7.96 The revenues and costs associated with a bid in a 12 month period relates to all of the revenues and costs (of regulated elements) over the entire duration of that contract won. Therefore, the contract value rather than the annual equivalent value is relevant. For example, in a 12 month period a bid is won for a managed data services contract worth three million euros (related to the regulated elements) over a three year contract, then the entire three million euro value of that bid is considered in the test for the 12 month period in question against the relevant costs over that same period.
- 7.97 Eircom’s separated accounts (or historical cost accounts) may not be a good proxy for assessing the cost recovery of the regulated elements of wholesale leased lines. Regulated prices are based on BU-LRAIC models and not on Eircom’s separated accounts and therefore, the impact of different depreciation methods, efficiency adjustments and modelled (NGN and legacy) networks may skew the results. However, as stated in ComReg Document No 10/70, the results of the BU model will be compared with Eircom’s top down costing accounting information, where available.

7.98 The stages discussed above can be summarised below.

Figure 8: Illustration of the stages for reviewing bids and ensuring cost recovery



ComReg Conclusion: Eircom shall charge not less than the minimum price floors, as specified by the SEO Test (set out above), so as to not cause a Margin Squeeze between related WLL services, including but not limited to, PPCs and NGN Ethernet

8 DECISION INSTRUMENT AND DIRECTIONS

DECISION INSTRUMENT

1. STATUTORY AND LEGAL POWERS

1.1 This Decision and these Directions are made by the Commission for Communications Regulation (“ComReg”):

1.1.1 Pursuant to Regulations 8, 9, 13 and 18 of the Access Regulations⁴³ ;

1.1.2 Pursuant to and having regard to the Significant Market Power (“SMP”) designation on Eircom Limited in the national wholesale terminating segment of wholesale leased lines market as contained in ComReg Decision No. D06/08⁴⁴, in particular, but not limited to sections 6, 8, 9 and 11;

1.1.3 Having had regard to the analysis and reasoning set out in ComReg Document No 10/70⁴⁵ and ComReg Document No. 11/32⁴⁶ and the submissions received from respondents in relation to same;

1.1.4 The analysis and reasoning set out in ComReg Document No. 12/03⁴⁷, which shall where necessary, be construed together with this Decision Instrument and this Decision further to Regulations 12 of the Framework Regulations⁴⁸;

1.1.5 Having regard to the following analysis and reasoning set out in the following ComReg decisions:

1.1.5.1 Market Analysis: Leased Lines Markets Review of Urban Centres, Response to Consultation and Final Decision, Document No. 12/10, D02/10, dated 15 February 2010.

:

⁴³ The European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011)

⁴⁴ ComReg Document No. 08/103 (Decision No. D06/08) Decision Notice and Decision Instrument: Market Analysis – Leased Line Market Review; 22 December 2008

⁴⁵ ComReg Document No. 10/70: Further specification of the price control obligation, the transparency obligation and the access obligation in relation to the market for wholesale terminating segments of leased lines; dated 10 September 2010.

⁴⁶ ComReg Document No. 11/32: Response to Consultation Document No 10/70 and a further consultation and draft decision on the price control obligation in the market for wholesale terminating segment of leased lines: dated 29 April 2011.

⁴⁷ ComReg Document No. 12/03 (ComReg Decision D02/12): Response to Consultation Document No. 10/70 and 11/32. A final decision further specifying the price control obligation in the market for wholesale terminating segments of leased lines. Dated 2 February 2012

⁴⁸ The European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2011 (S.I. No. 333 of 2011)

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1.1.5.2 Response to Consultation and Final Decision: Amendments to the transparency obligation and the access obligation in the market for wholesale terminating segments of leased line, Document No. 11/22, D02/11, dated 22 March 2011.

Which shall, as necessary, be construed together with this Decision Instrument.

1.1.6 Having regard to its functions and objectives under sections 10 and 12 respectively of the Communications Regulation Act 2002, as amended and Regulation 16 of the Framework Regulations;

1.1.7 Having, where appropriate, complied with Policy Directions made by the Minister⁴⁹;

1.1.8 Having notified the draft measure and the reasoning upon which the measure is based to the European Commission, further to Regulation 13 of the Framework Regulations whereby it was also made accessible to national regulatory authorities (NRAs) in other EU Member States, and having taken the utmost account of the European Commission's response.

2. DEFINITIONS

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

2.2 “**Access Regulations**” means the European Communities (Electronic Communications Networks and Services) (Access) Regulations 2011 (S.I. No. 334 of 2011);

2.3 “**BU-LRAIC plus**” means ‘Bottom Up Long Run Average Incremental Costs plus’ and means the average efficiently incurred directly attributable variable and fixed costs, plus an appropriate apportionment of joint and common costs;

2.4 “**Current prices**” refer to the current WLL annual rental prices as published in Eircom's network price list, as published on Eircom's Wholesale website;

2.5 “**Eircom**” means Eircom Limited and its subsidiaries, and any undertaking which it owns or controls and its successors and any undertakings which own or controls Eircom Limited and its successors and assigns;

2.6 “**Ethernet**” is a family of packet -based computer networking technologies initially developed for local area networks and becoming increasingly deployed in wide area public networks;

2.7 “**Margin Squeeze**” means the setting of a wholesale price by Eircom for wholesale leased lines services below the minimum price floor set by the Margin Squeeze Test Model for wholesale leased lines;

2.8 “**Margin Squeeze Test Model**” is a model used to calculate the appropriate minimum price floor between any wholesale products, in the market for

⁴⁹ Policy Directions made by the Minister for Communications, Marine and Natural Resources on 21st February, 2003 and 26th March, 2004.

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terminating segments of wholesale leased lines. The Margin Squeeze test Model shall be based on SEO costs as provided for in Section 7 of ComReg Doc. No. 12/03;

- 2.9 **“OAO”** means Other Authorised Operator;
- 2.10 **“Next Generation Networks” (“NGN”)** is a packet-based network able to provide services including telecommunication services and able to make use of multiple broadband, quality of service-enabled transport technologies and in which service-related functions are independent from underlying transport-related technologies;
- 2.11 **“NGN Ethernet”** is a sub set of the leased line products set offered by Eircom Wholesale. NGN Ethernet is similar to PPC, but is delivered over Eircom’s NGN core network utilising Ethernet technologies;
- 2.12 **“Private Partial Circuit” (“PPCs”)** are a sub set of the leased line products set offered by Eircom Wholesale. PPC is a generic term used to describe a category of private circuits that terminate at a point of connection between two communications providers’ networks. It is therefore the provision of transparent transmission capacity between a customer’s premises and a point of connection between the two communications providers’ networks. PPCs are delivered over Eircom’s legacy core network;
- 2.13 **“Product”** means any offering in the terminating segment of wholesale leased lines market. Products are subsets of services;
- 2.14 **“Reference Offer”** refers to Eircom’s leased line reference offer.
- 2.15 **“SEO Test”** refers to the application of an economic space test, based on the Margin Squeeze Test Model outlined in *Steps 1 to 9* at Section 7 of ComReg Doc No. 12/03;
- 2.16 **“service”** means a group of offerings in the terminating segment of wholesale leased lines market;
- 2.17 **“Similarly Efficient Operator” (SEO)** means a hypothetical operator which shares the same basic cost function as Eircom but which does not yet enjoy the same economies of scale and scope as Eircom;
- 2.18 **“SMP Decision”** ComReg’s decision in Market Analysis: Leased Lines Markets Review, Response to Consultation on draft Decision Instrument, Final Decision Notice and Decision Instrument, ComReg Document No. 08/103 D06/08;
- 2.19 **“terminating segment of wholesale leased lines market”** means the wholesale leased lines market as defined in section 3 of the SMP Decision;
- 2.20 **“Wholesale Leased Lines” (“WLLs”)** are a sub set of the leased line products set offered by Eircom Wholesale. WLLs are an end to end leased line provided by the incumbent operator;

3. SCOPE AND APPLICATION

- 3.1 This Decision Instrument applies to Eircom.
- 3.2 This Decision Instrument is binding upon Eircom and Eircom shall comply with it in all respects.

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4. DIRECTIONS FURTHER SPECIFYING THE OBLIGATION OF PRICE CONTROL

- 4.1 The Directions in this section is issued pursuant to Regulations 8,13 and 18 of the Access Regulations, for the purposes of further specifying requirements to be complied with by Eircom relating to obligations imposed upon it pursuant to Regulation 13 of the Access Regulations and section 11 of the SMP Decision.
- 4.2 In accordance with section 11 of the SMP Decision, Eircom are obliged to offer cost oriented prices and not to cause a margin squeeze.
- 4.3 Eircom is hereby directed to charge no more than current published prices for WLL as referred to in Appendix A.
- 4.4 Eircom is hereby directed to charge not less than the minimum price floors, as specified by the SEO Test, so as to not cause a Margin Squeeze between related WLL services, including but not limited to, PPCs and NGN Ethernet.
- 4.5 Eircom is hereby directed to base the charges for PPCs and NGN Ethernet on the BU-LRAIC plus methodology.
- 4.6 Eircom is hereby directed to charge no more than the prices referred to in Appendix A for PPC's and NGN Ethernet.
- 4.7 Notwithstanding ComReg's general data gathering powers, Eircom shall, no later than six months after the effective date of this Decision Instrument, provide ComReg with a list of all tenders bid for and/or won since the Effective Date that include products and services in the terminating segment of wholesale leased lines market. Following a selection by ComReg of sample tenders from the list provided, Eircom shall, no later than one month after such request from ComReg, provide ComReg with evidence of its compliance with its obligations in respect of Section 4 of this Decision Instrument for the tenders selected.

5. WITHDRAWAL OF SMP OBLIGATIONS

- 5.1 It is hereby decided that sections 11.3, 11.4 and 11.5 of the SMP Decision shall be withdrawn.
- 5.2 Section 5.1 shall not come in to operation if this Decision Instrument and these Directions are appealed, or are otherwise the subject of legal proceedings and if a stay or suspension in respect of this Decision Instrument and these Directions (or a section or provision thereof) has been ordered by a Court, or if this Decision Instrument and these Directions (or a section or provision or portion thereof) is annulled or found unlawful or invalid by a court, or remitted by a Court to ComReg.

6. STATUTORY POWERS NOT AFFECTED

- 6.1 Nothing in this Decision Instrument shall operate to limit ComReg in the exercise and performance of its statutory functions, powers and duties under any primary

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or secondary legislation (in force prior to or after the effective date of this Decision Instrument) from time to time as the occasion may require.

7. MAINTENANCE OF OBLIGATIONS

7.1 With the exception of section 5 of this Decision Instrument, if any other section, clause or provision or portion thereof contained in this Decision Instrument is 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 section, clause or provision or portion 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 thereof of this Decision Instrument, and shall not in any way affect the validity or enforcement of this Decision.

8. EFFECTIVE DATE

8.1 This Decision Instrument shall be effective from 2 February 2012.

**CHAIRPERSON
THE COMMISSION FOR COMMUNICATIONS REGULATION
THE 2nd DAY OF February 2012**

9 Regulatory Impact Assessment

Introduction

- 9.1 A Regulatory Impact Assessment (“RIA”) is an analysis of the likely effect of proposed new regulation or regulatory change. The RIA should help identify regulatory options, and should establish whether proposed regulation is likely to have the desired impact. The RIA is a structured approach to the development of policy, and analyses the impact of regulatory options on different stakeholders.
- 9.2 ComReg’s approach to the RIA is set out in the Guidelines published in August 2007 in ComReg Document Nos. 07/56 & 07/56a. In conducting the RIA, ComReg takes into account the RIA Guidelines⁵⁰, issued by the Department of An Taoiseach in June 2009 under the Government’s Better Regulation programme. Section 13(1) of the Communications Regulation Act 2002 requires ComReg to comply with Ministerial Policy Directions. Policy Direction 6 of February 2003⁵¹ 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 Government’s “Better Regulation” programme.
- 9.3 In conducting the RIA, ComReg has regard to the RIA Guidelines, while recognising that regulation by way of issuing decisions e.g. imposing obligations or specifying requirements in addition to promulgating secondary legislation may be different to regulation exclusively by way of enacting primary or secondary legislation. ComReg’s ultimate aim in conducting a RIA 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 towards a RIA. As decisions are likely to vary in terms of their impact, if after initial investigation, a decision appears to have relatively low impact; ComReg may carry out a lighter RIA in respect of those decisions.
- 9.4 ComReg wishes to point out that since it is not imposing a new regulatory obligation on an undertaking, it is not mandatory for it to conduct a RIA. However, ComReg has nonetheless decided to carry out a RIA in order to demonstrate that it has considered and evaluated the regulatory options available, with due regard to necessity, effectiveness, proportionality, transparency, accountability and consistency. ComReg has considered all respondents views to Consultation Document No 10/70 and to Consultation Document No 11/32 as part of this decision.
- 9.5 In assessing the available regulatory options, ComReg’s approach to the RIA followed five steps as follows:

Step 1: describe the policy issue and identify the objectives

Step 2: identify and describe the regulatory options

Step 3: determine the likely impacts on stakeholders

⁵⁰ See “Revised RIA Guidelines How to Conduct a Regulatory Impact Analysis”, June 2009. http://www.betterregulation.ie/eng/Developments_in_Better_Regulation_Policy/Revised_RIA_Guidelines.pdf

⁵¹ Ministerial Policy Direction made by the Minister of Communications, Marine and Natural Resources on 21 February 2003.

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Step 4: determine the likely impacts on competition

Step 5: assess the likely impacts and choose the best option.

1. Identify the regulatory objectives and describe the policy issues

- 9.6 ComReg considers that one of the main objectives, *inter alia*, is to foster competition in the telecommunications industry through appropriate and efficient infrastructure investment.
- 9.7 When determining the appropriate cost base and ultimately the resulting charges for legacy wholesale leased lines products and services (i.e. WLLs and PPCs) as well as wholesale NGN Ethernet leased lines products, it is necessary to ensure that the cost base and the charges finally set lead to the efficient recovery of costs, efficient investment by operators, prevent or mitigate the possibility of exploitative or distortionary behaviour such as excessive wholesale pricing, margin (price) squeeze and/or distortion of competition by way of an insufficient economic space, as well as providing greater choice and competitive prices for consumers (in this case business customers).
- 9.8 ComReg is also minded to the relevant objectives as set out in section 12 of the Act, which includes, in particular, the following:
- Ensure that there is no distortion or restriction of competition;
 - Encourage efficient investment in infrastructure and promoting innovation;
 - Promote the interests of users within the Community; and
 - Encourage access to the internet at a reasonable cost to end-users.
- 9.9 An important consideration for this RIA is the scope of the further specification of the price control obligation and the margin squeeze obligation. In terms of the price control obligation it is important for ComReg to consider and determine whether the costing methodology and the pricing approach provides Eircom, and OAOs with efficient competition and investment incentives while at the same time enhancing consumer welfare i.e. for business customers. The cost orientation obligation imposed on Eircom in the most recent market analysis decision (ComReg Decision D06/08) remains relevant to address potential exploitative behaviour, such as excessive pricing, within the market. However, a price control obligation on its own is not sufficient and the existing price control obligation could be undermined by Eircom's relative pricing of its provision of wholesale leased line products further downstream. A margin squeeze obligation was also imposed on Eircom in ComReg Decision D06/08, and it is now therefore important to determine the principles that should apply in order to assess the appropriate economic space between the wholesale products in the market for wholesale terminating segments of leased lines. ComReg believes that the Margin Squeeze test between the WLLs and PPCs should aim to ensure the promotion of efficient infrastructure investment and encourage OAOs to climb the ladder of investment.
- **Costing methodology**
- 9.10 As set out in section 3 of this document, a BU-LRAIC (LRAIC plus) costing methodology is the most appropriate basis for determining the relevant efficiently

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incurred costs for PPCs, current generation Ethernet leased lines and wholesale NGN Ethernet leased lines going forward. The LRAIC plus costing methodology includes all of the average efficiently incurred directly attributable variable and fixed costs, plus an appropriate apportionment of joint and common costs, which is the calculus faced by any operator when deciding to enter or expand. The main objectives of this approach is that it sends the correct “build/buy signal” to industry and therefore encourages efficient infrastructure investment while allowing operators to assess their possible investment decisions and promotes competition in the market for wholesale terminating segment market of leased lines. This approach also encourages operator efficiency and should assist in incentivising investment. Please refer to Section 3 of this document for the details.

- 9.11 One exception to the BU-LRAIC plus costing methodology is the costing approach in relation to WLLs. ComReg is of the view that if it were to impose a cost based approach (or cost orientation obligation) on WLLs, this could lead to a significant anomaly where the cost of a WLL is cheaper than a PPC which would undermine the principle of network investment and be contrary to ComReg’s objectives. Therefore, ComReg is of the view that a minimum price floor is set for WLLs, based on the appropriate economic space (or margin) between WLLs and PPCs. This is discussed separately below.

- **Margin Squeeze test**

- 9.12 WLLs are a legacy product, provided over a legacy network where the costs have largely been recovered. The importance of WLLs in the Irish market has decreased over the last number of years as a result of take up of PPCs. Therefore, ComReg is of the view that in the interests of proportionality that the maximum charges are set on the basis of the current published prices, which would not distort the current in-situ base and would set the right signals for infrastructure investment. In addition, ComReg believes that a minimum price floor should be set for WLLs, based on the appropriate economic space (or margin) between WLLs and PPCs on the basis of a SEO test.

- 9.13 ComReg believes that the Margin Squeeze test between the WLLs and PPCs should aim to ensure the promotion of efficient infrastructure investment and encourage OAOs to climb the ladder of investment. A PPC allows alternative operators to combine elements of their own network infrastructure with parts of the incumbent’s network, while a WLL is an end-to-end product over the incumbent’s network. The importance of ensuring consistent pricing between relevant wholesale inputs such that the prices set for a particular wholesale service do not squeeze another wholesale alternative is clear and widely acknowledged. In this regard, ComReg is mindful of the European Commission Decision in 2007 from Case COMP/38.78410 relating to a proceeding under Article 82 of the EC Treaty where it notes that:

“It is therefore necessary that there should not be any margin squeeze in relation to any “step” of the ladder, i.e. in relation to any wholesale product. If there was such a margin squeeze, new entrants that are climbing the ladder of investment, would be foreclosed.....All national regulatory authorities agree that the process of climbing the ladder of investment can only be effective if there is a margin between all the steps of the ladder”.

- 9.14 The Margin Squeeze test should, therefore, facilitate effective and sustainable competition. The margin between WLLs and PPCs must be sufficient so that OAOs

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have the incentives to invest in their own infrastructure and should ensure that any investments made are not stranded, nor retail competition distorted to the detriment of competing infrastructure-based operators, as a result of a margin/price squeeze by Eircom. The Margin Squeeze test set out also relates to an assessment of the appropriate economic space between any of the steps of the ladder of investment in relation to the wholesale products (current or future) in the market for wholesale terminating segments of leased lines only (i.e. the price floor does not relate to WLLs which fall within the trunk market).

9.15 The relevant principles of the Margin Squeeze model/test between the products and services in the wholesale market, including PPCs and WLLs, have been further discussed below. This has also been discussed in Sections 3 and Section 7 of this document.

- **Pricing methodology**

9.16 As set out in Section 5 of this document, ComReg concluded that in general the nationally averaged pricing approach will continue for the legacy WLLs and PPCs products. This has been the approach for a number of years and the pricing approach is well established and understood by the telecommunications Industry in Ireland. In general, a nationally averaged pricing approach remains relevant for current generation WLLs and PPCs given that these are legacy products, provided over a legacy network and where the costs have already been largely recovered.

9.17 The wholesale NGN Ethernet leased the prices are based on nationally de-averaged prices, whereby the prices reflect the costs of the geographic regions i.e. high density (or major urban) regions and medium density (or outside urban) regions for core network charges and urban, provincial and rural for access network charges. Prices set in this manner should more closely reflect underlying costs and should set more accurate price signals to potential entrants on whether to build or buy capacity.

9.18 ComReg considered whether the de-averaged pricing approach would mean that more rural regions would be more expensive than the urban regions due to economies of scale. In order to prevent a situation where some existing or potential future key business areas in regions across the country may consider moving or relocating in urban regions to avail of lower Ethernet prices, ComReg decided that a high density pricing approach will be adopted, on a case by case basis, in some medium density regions where there is sufficient demand. This approach will be based on presentation of evidence of future demand, an assessment of that evidence on unit costs and communicating any changes to stakeholders. ComReg believes that this approach should ensure that any significant existing or future direct investment which requires significant bandwidth is not materially disadvantaged through a de-averaged pricing approach to the detriment of end users. In addition, ComReg also considered a number of options for measuring the demand in those medium density regions. The options for determining demand included bandwidth, footprint or on a case-by-case basis. Any re-categorisation of an NGN aggregation node or extended reach node from medium to high density will be assessed by ComReg on a case-by-case basis. Please refer to section 5 for further details.

9.19 ComReg also noted that even in the more rural regions of Ireland, the updated Eircom NGN Ethernet prices were considerably lower than the legacy PPC prices therefore all consumers would benefit from price reductions.

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2. Identify and describe the regulatory options

9.20 Set out below are the main regulatory options considered by ComReg in order to further specify the appropriate price control obligation and the margin squeeze obligation. This includes the options considered in order to determine the costing methodology, the pricing approach and the appropriate principles for a Margin Squeeze test between wholesale products in the market for wholesale terminating segment of leased lines.

9.21 These regulatory options are discussed as follows:

- a) Regulatory options for the costing and pricing approach for current generation PPC products;
- b) Regulatory options for the costing and pricing approach for the wholesale NGN Ethernet leased lines products and services;
- c) Regulatory options for the costing and pricing approach for current generation WLL products;
- d) Regulatory options for determining the appropriate principles for the Margin Squeeze test between wholesale products;

A. Regulatory options for the costing and pricing approach for current generation PPC products

9.22 ComReg considered the following in order to determine the appropriate costing methodology and pricing approach in relation to the current generation PPC products.

- **Option 1:** Use the BU-LRAIC plus model to determine the national average monthly rental charges for PPCs;
- **Option 2:** Use the BU-LRAIC plus model but differentiate the costs by high and medium density regions (geographic de-averaging) in order to determine the geographic de-averaged monthly rental charges for PPCs.

9.23 Option 1 means a continuation of the national average pricing approach while using a BU-LRAIC plus model to determine the costs of PPCs. The BU-LRAIC plus approach should be reflective of the prices that would prevail in a competitive market and it should send the right “build/buy” signals to new entrants. This costing methodology includes all of the average efficiently incurred directly attributable variable and fixed costs, plus an appropriate apportionment of joint and common costs, which is the calculus faced by any operator when deciding to enter or expand. ComReg is of the view that a nationally averaged pricing approach remains relevant for currently generation PPC products given that these are legacy products, provided over a legacy network and where the costs have already been largely recovered. In addition, the nationally averaged pricing approach is well established and understood by the telecommunications Industry in Ireland. This has been discussed in Section 3 of this document.

9.24 Option 2 is similar to option 1 from a cost modelling perspective but there would be a change in the pricing approach from national averaged prices to prices

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differentiated on the basis of the costs associated with the specific geographic regions. However, ComReg is of the view that geographic differences in costs are less relevant to current generation leased line products compared to new build products given that these are legacy products where the costs have already been largely recovered. This is also reinforced by the fact that Eircom have not differentiated, to date, the prices for its existing legacy products according to geography.

B. Regulatory options for the costing and pricing approach for the wholesale NGN Ethernet leased lines products and services

9.25 ComReg considered the following three options in order to determine the appropriate costing methodology and pricing approach in relation to the wholesale NGN Ethernet leased lines products and services within the market for wholesale terminating segment of the leased lines.

- **Option 1:** Use the BU-LRAIC plus model to determine the nationally averaged monthly rental charges for the wholesale NGN Ethernet leased lines products and services in the market for wholesale terminating segment of the leased lines;
- **Option 2:** Use the BU-LRAIC plus model but differentiate the cost by high and medium density regions (geographic de-averaging) in order to determine the geographic de-averaged monthly rental charges for the wholesale NGN Ethernet leased lines products and services in the market for wholesale terminating segment of the leased lines. In addition, consider applying the 'high density' pricing approach to medium density areas on a case by case basis where there is demand requirements; or
- **Option 3:** Use the BU-LRAIC plus model for those areas of high density (urban areas) but use top down historical cost data (based on fully distributed costs) for the access network for those regions of low density and low demand in order to determine the geographic de-averaged monthly rental charges for the wholesale NGN Ethernet leased lines products and services within the market for wholesale terminating segment of the leased lines.

9.26 Option 1 means that the wholesale NGN Ethernet leased lines prices would be based on nationally averaged prices on the basis of a BU-LRAIC plus model. Unlike the current generation products, wholesale NGN Ethernet leased lines are a range of new products and services which are provided over a newly built network and where Eircom have identified the differences in terms of costs and economies of scale/scope between the more urban areas in Ireland and the more rural areas. A nationally averaged pricing approach for NGN Ethernet leased line product and services would mean that the higher costs of more rural regions of the country would be compensated by the lower cost of urban regions. ComReg considered that under a national averaged pricing approach as competition developed in cities it was likely that, since they would by definition be above cost, Eircom would increasingly be unable to compete in these areas thereby eroding the profitability in urban areas required to subsidize rural pricing which would not recover the full costs under a nationally averaged pricing approach.

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9.27 Option 2 means that the wholesale NGN Ethernet leased lines prices would be geographically de-averaged on the basis of a BU-LRAIC plus model. By using this approach wholesale NGN Ethernet leased lines prices would differ between urban areas (high density) and other parts of the country (medium density) based on geographical cost differences. The rationale for geographic de-averaging is generally to bring prices for the various regions (high and medium density) in the country closer to their actual economic costs. ComReg noted that there are a number of advantages to a de-averaged pricing approach. Prices set in this manner, which will more closely reflect underlying costs should set more accurate price signals. In particular, all operators should face the correct signals as to whether it is better to rent or buy capacity. For example, because there would be no cross subsidy from urban areas based on Eircom's prices an alternative operator may be more likely to build its own infrastructure in some less densely populated areas than otherwise would have been the case. From Eircom's perspective it is more likely to supply remote areas since it now would be in a position to recover its costs. Conversely, in cities Eircom's prices will be lower than otherwise which should improve the competitiveness of services in these areas. As a result, this should help improve the competitiveness of Irish cities internationally

9.28 Option 3 is similar to option 2 but this option takes account of the fact that a BU-LRAIC plus approach may not be appropriate for those regions of the access network where densities and demand are lower. This option would most likely lead to lower access prices than those arrived at using a BU-LRAIC plus cost model given that the costs already recovered on the access network are not included. However, ComReg believed that the BU-LRAIC plus cost approach was more appropriate given that it encouraged investment in infrastructure and is consistently applied.

C. Regulatory options for the costing and pricing approach for current generation WLL products

- **Option 1:** Set the current WLLs charges, in the market, as the maximum price ceiling charges and determine the minimum price floor for WLLs by assessing the appropriate economic space between WLL and PPC.
- **Option 2:** Set the WLL charges based on Eircom's BU-LRAIC costs.

9.29 Option 1 means that the current WLLs prices will be set as maximum price ceiling charges and there will also be minimum price floors, which will be determined as part of the Margin Squeeze test to assess the appropriate economic space between WLLs and PPCs. ComReg is of the view that in the interests of proportionality that the maximum charges be set on the basis of the current published prices, which would not distort the current in-situ base and should set the right signals for infrastructure investment. In addition, the minimum price floor would be set for WLLs, based on the appropriate economic space (or margin) between WLLs and PPCs on the basis of a SEO test. ComReg believes that the Margin Squeeze test between the WLLs and PPCs should aim to ensure the promotion of efficient infrastructure investment and encourage OAOs to climb the ladder of investment. A PPC allows alternative operators to combine elements of their own network infrastructure with parts of the incumbent's network, while a WLL is an end-to-end product over the incumbent's network. The importance of ensuring consistent pricing between relevant wholesale inputs such that the prices set for a particular wholesale service do not squeeze another wholesale alternative is clear and widely

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acknowledged. This Margin Squeeze test should, therefore, facilitate effective and sustainable competition.

- 9.30 Option 2 could lead to a significant anomaly where the cost of a WLL is cheaper than two PPC which would undermine the principle of network investment and be contrary to ComReg's objectives. The main reason is the fact that WLLs are a legacy product, provided over a legacy network where the costs have largely been recovered. The importance of WLLs in the Irish market has decreased over the last number of years as a result of take up of PPCs. Therefore, ComReg is of the view that in the interests of proportionality that the maximum charges be set on the basis of the current published prices, which would not distort the current in-situ base and would set the right signals for infrastructure investment.

D. Regulatory options for determining the appropriate principles for the Margin Squeeze test between wholesale products:

- 9.31 ComReg considered the following points regarding the options for determining the principles that should apply for a Margin Squeeze test between the wholesale products in the market for wholesale terminating segments of leased lines.

- a) *Whether the test is based on an Equally Efficient Operator ('EEO'), Reasonably Efficient Operator ('REO') or Similarly Efficient Operator ('SEO')?*

ComReg is of the view that the SEO approach is the most appropriate operator cost base to use in the context of assessing the appropriate economic space between WLLs and PPCs given that competition is developing in the market. ComReg believes that this approach should send the appropriate investment signals to new entrants which should encourage infrastructure investment and encourage OAOs to climb the ladder of investment. The SEO recognizes that OAOs do not benefit from the same economies of scale and scope and have different unit network costs. Given ComReg's statutory objective to promote competition, the use of EEO is not considered appropriate. The use of REO is akin to a SEO test except that the costs of the OAOs are used. Taking account of the need to promote efficient competition and to avoid encouraging inefficient entry/expansion, ComReg prefers the use of SEO in this instance as for the most part the costs are based on costs provided by Eircom, which are subject to a cost accounting system and associated audit, thereby providing some assurance that the costs used in the test are reasonable. Furthermore, as the costs are based on Eircom's, Eircom knows the costs included in the test to which it must comply.

- b) *Whether 'Long Run Average Incremental Cost plus' or 'Average Avoidable Cost' or 'Average Variable Cost' is the appropriate measure of cost?*

In choosing the appropriate cost standard, ComReg considered using the lower thresholds of average variable cost ("AVC") and average avoidable cost ("AAC") and the respectively higher thresholds of Long Run Average Incremental Cost ("LRAIC plus") and Average Total Cost ("ATC"). ComReg does not believe the use of AVC is appropriate as it does not include fixed costs which over the long-term must be covered by an OAO in order to enter/remain/expand. ComReg does not believe that AAC is appropriate as it does not include an apportionment of joint and common

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costs which over the long-term must be covered by an OAO in order to enter/remain/expand. ComReg believes that ATC and 'LRAIC plus' are appropriate as they ensure that all relevant costs are recovered over the long-term. In this instance, ComReg prefers 'LRAIC plus' as it includes appropriate amounts of variable, fixed and common costs, which is the calculus faced by any operator when deciding to enter or expand in a market. 'LRAIC plus' is defined to include all of the average efficiently incurred, directly attributable variable and fixed costs, plus an apportionment of joint and common costs.

c) *Whether the test is conducted on a product-by-product basis?*

ComReg is of the view that a product-by-product basis is the most appropriate approach for now given that the market is not competitive to advocate the portfolio approach. ComReg set out that a product is defined by circuit speed and where there is also a distance factor, as with PPCs and WLLs, an actual distance(s) will be applied, by circuit speed. The distance element to be used would be the actual distances of the access and core conveyance inputs in a particular bid. For point to multi-point circuits, the test would be conducted on the sum of each leg of the service provided. However, given the anticipated evolution to Ethernet technology over the coming years, ComReg believes that it may be necessary to further assess the options available on a case by case basis in the future.

3. Determine the likely impacts on stakeholders

9.32 The likely impact on stakeholders was also considered and discussed in ComReg Document No 10/70 and in ComReg Document No 11/32. The main points are included below under the following headings:

- a) Likely impact on stakeholders based on the costing and pricing options for the current generation PPC products and services.
- b) Likely impact on stakeholders based on costing and pricing options for the wholesale NGN Ethernet leased lines products and services.
- c) Likely impact on stakeholders based on the costing and pricing options for WLLs. The principles are further considered under point (e) below.
- d) Likely impact on stakeholder based on the principles for the Margin Squeeze test to assess the appropriate economic space between any current or future variant of the wholesale products in the wholesale terminating market for leased lines.

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• Likely impact on stakeholders based on the costing and pricing options for current generation PPC products and services

<i>Option 1 – Use the BU-LRAIC plus model to determine the national average costs and charges for legacy products i.e. PPCs</i>		
(a) Impact on incumbent	(b) Impact on OAOs	(c) Impact on consumer
<p>(i) No change to the pricing approach which has been in place for a number of years. There is currently a large in-situ base of WLLs and PPCs in Ireland. These are legacy products provided over a legacy network where the costs have already been largely recovered. Continuing with the average pricing approach ensures that there are no unnecessary disruptions in the marketplace.</p> <p>(ii) Reductions in leased lines access prices (particularly fibre prices). This ensures consistency with the prices for NGN Ethernet access prices.</p>	<p>(i) The status quo of a nationally average price will remain in place. Historically OAOs have based their investment decision on this well established approach. A continuation of this approach will provide OAOs with stability and certainty over the timeframe of this review.</p> <p>(ii) OAOs will benefit from reduced access prices.</p>	<p>(i) Business consumers continue to pay a national price regardless of geographic region. This ensures that no distortions are created in the marketplace for those current in-situ based customers using PPCs.</p> <p>(ii) On contract renewal, OAOs have an opportunity to offer more competitive prices to its business customers.</p>
<i>Option 2 – Use the BU-LRAIC plus model to determine the costs and charges for high and medium density regions i.e. geographic de-averaging for legacy products</i>		
(a) Impact on incumbent	(b) Impact on OAOs	(c) Impact on consumer
<p>i) A change from a long established national average pricing approach for legacy leased line products which may be unduly disruptive to the marketplace.</p> <p>ii) A nationally averaged pricing approach remains relevant for currently generation WLLs and PPCs given that these are legacy products, provided over a legacy network and where the costs have already been largely recovered. It is also important to note that the demand for WLLs is decreasing.</p>	<p>(i) May create instability for OAOs given that they initially made their investment decisions based on the national averaged pricing approach.</p>	<p>(i) There will be no significant changes from a pricing perspective for those consumers that remain on legacy products, pursuant to any contractual arrangements agreed between operators and its business customers.</p>

• Likely impact on stakeholders based on the costing and pricing options for wholesale NGN Ethernet leased lines products and services

<i>Option 1 – Use the BU-LRAIC plus model on the basis of national average costs and charges for NGN Ethernet leased lines</i>
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(a) Impact on incumbent	(b) Impact on OAOs	(c) Impact on consumer
(i) Will restrain Eircom from setting lower charges (based on costs) for services in high density (urban) areas and therefore may constrain Eircom from competing with other operators in those urban areas.	(i) OAOs pay lower prices in the more rural regions of the country where they are unlikely to invest in given the higher costs associated with lower density areas. OAOs will pay higher prices in urban areas to compensate for the costs of rural areas.	(i) Business customers in high density (urban) areas could pay prices above the actual economic cost for those regions so as to compensate the high cost regions (rural areas).
(ii) May dis-incentivise Eircom from further investment in NGN.	(ii) May discourage further infrastructure investment by the OAOs	
	(iii) Limited scope for new, efficient, entry by OAOs. May not provide OAOs with the correct build/buy decisions.	
	(iv) May discourage operators from migrating from legacy to the higher speed wholesale NGN Ethernet leased lines products as the price differentiation is not so significant.	
Option 2 – Use the BU-LRAIC model to determine the costs and charges for high and medium density regions i.e. geographic de-averaging for NGN Ethernet leased lines		
(a) Impact on incumbent	(b) Impact on OAOs	(c) Impact on consumer
(i) Given that this approach is based on geographic costs differences it should ensure recovery of costs for the specific regions, Eircom may be more likely to supply more remote areas of the country.	(i) This approach sets more accurate price signals. All operators should face the correct signals as to whether it is better to rent or buy capacity.	(i) Prices could be lower in all regions but this approach should particularly improve the competitiveness in urban areas where some significant business customers are located.
(ii) Provides Eircom with the appropriate incentives to invest in NGN.	(ii) Encourages further infrastructure investment by the OAO.	
(iii) Increases the incentive for Eircom to offer competitive and innovative products and services especially in urban areas.	(iii) Wholesale charges provide OAO's (including platform competitors) with correct make/buy decisions and facilitate efficient entry.	
(iv) The prices published by Eircom for NGN Ethernet in August 2010 are not expected to change therefore no immediate impact on Eircom's current	(iv) For OAOs currently availing of NGN Ethernet services there are no changes expected to current NGN Ethernet prices at this time. This will not affect any investment	

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prices.	decisions already taken by OAOs since August 2010.	
Option 3 – Use the BU-LRAIC model to determine the costs and charges applicable in high density regions (urban regions) and use the top down historical costs to determine the access network costs in the medium density regions for NGN Ethernet leased lines		
(a) Impact on incumbent	(b) Impact on OAOs	(c) Impact on consumer
(i) Eircom’s charges in lower density areas will reflect the fact that a significant portion of the access network costs have already been recovered for trenches and ducts.	(i) OAOs are only expected to pay for the incremental costs relating to the access network in lower density regions.	(i) Consumers may benefit from more choice given that OAOs may extend their geographic reach.
(ii) May be subject to more competition in lower density areas i.e. rural areas.	(ii) May promote investment in technology where it is cheaper to get access to a wider network.	(ii) Consumers may have increased levels of choice.
(iii) Inconsistency in approach to cost recovery of high and medium density areas. Discourage Eircom to invest in medium density areas.	(iii) Disincentives OAOs to invest in medium density areas.	
(iv) The prices published by Eircom for NGN Ethernet in August 2010 would change where existing prices could rise or fall depending on the geographic area, leading to pricing uncertainty in the market.	(iv) The prices published by Eircom for NGN Ethernet in August 2010 would change where existing prices could rise or fall depending on the geographic area, leading to pricing uncertainty in the market.	

• Likely impact on stakeholders based on the costing and pricing options for WLLs

Option 1 - Determine the cost for WLLs on the basis of an appropriate economic space assessment with PPCs and setting this as the WLL minimum price floor. Setting the current WLL charges as maximum price ceiling.		
(a) Impact on incumbent	(b) Impact on OAOs	(c) Impact on consumer
(i) Ensures that Eircom recover its efficiently incurred costs. (ii) By setting price floors and prices ceilings this allows Eircom price flexibility for WLLs.	(i) Sends the correct buy/build price signal to OAOs. (ii) Incentivises infrastructure based competition (ii) Encourages OAOs to climb the ladder of investment. (iii) Ensures that those OAOs that have or that intend to invest are not evicted from the market.	(i) Ensures a better choice of services for consumers. (ii) No immediate risk of price increases for current in-situ based WLL customers.

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	(iv) By setting price ceiling, avoids the risk of excessive pricing for current WLL customers.	
Option 2 - Determine the cost for WLLs based on a cost based approach (or cost orientation obligation).		
(a) Impact on incumbent	(b) Impact on OAOs	(c) Impact on consumer
(i) Potentially reduce the price of WLLs, as the cost of current generation assets are already largely recovered. This could potentially impact on Eircom’s revenues and profits.	(i) Disincentive to investment in infrastructure-based competition by sending the wrong buy/build signal to OAOs. (ii) Risk of stranded assets from previous OAO investments.	(i) Less innovative and competitive products available to consumers as OAOs may not invest in their own infrastructure.

• Likely impact on stakeholders based on the assessment of the Margin Squeeze test between current or future variants of wholesale products in the market for wholesale terminating segment of leased lines

<p>1. Assessment for appropriate economic space between the wholesale products in the market for wholesale terminating segment of leased lines is based on an SEO approach.</p> <p><i>The access input into the Margin Squeeze test between PPCs and WLLs may, in exceptional circumstances, be based on the MEA approach, rather than Eircom’s published wholesale price list. Eircom may be allowed to use the MEA of an alternative access operator and charge the lower access prices as part of a given tender in an area. The MEA may only be applied where there at least two alternative access operators present and prices can be clearly demonstrated with reference to published price lists or operator quotes, where the burden of proof lies with Eircom.</i></p>		
(a) Impact on incumbent	(b) Impact on OAOs	(c) Impact on consumer
(i) This is based on BU model taking into account Eircom’s costs and adjusting for efficiencies and economies of scale to take account of the fact that OAOs do not yet enjoy the same economies of scale and scope as Eircom.	(i) This approach provides the appropriate “build/buy” signal to new entrants. The SEO approach will also encourage infrastructure investment while encouraging OAOs to climb the ladder of investment.	(i) Allows the promotion of competition by OAOs/entrants to the benefit of consumers.
(ii) By allowing the use of MEA as an input for the access element of the test to ensure the appropriate economic space allows Eircom, from a replicability perspective, to compete in areas where there are other alternative access operators.	(iii) From a replicability perspective, by allowing the use of MEA as an input for the access element of the test to ensure the appropriate economic space, OAOs should also be able to get access to and benefit from the lower access prices of alternative access operators.	(ii) Ensures a better choice of services for consumers.

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<p>(iv) By allowing Eircom to use a MEA, in exceptional circumstances, as an input to the Margin Squeeze test between PPCs and WLLs, Eircom can offer lower access prices, in line with competitive prices offered by other infrastructure based operators. However Eircom has, as a first option, the choice to lower its published access prices, per D6/08 notification process, as these are maximum prices.</p>	<p>(ii) Eircom may only apply the MEA as the access input in exceptional circumstances and not as the norm. This alleviates risks of eviction of alternative operators own access infrastructures.</p>	<p>(iii) Ensure consumers are getting access to competitive prices.</p>
<p>2. Assessment for appropriate economic space between the wholesale products in the market for wholesale terminating segment of leased lines is conducted on a product by product basis</p>		
<p>(a) Impact on incumbent</p>	<p>(b) Impact on OAOs</p>	<p>(c) Impact on consumer</p>
<p>(i) More transparent and ensures that Eircom is complying with its obligations.</p>	<p>(i) The application of an appropriate economic space assessment on a product-by-product basis allows for enhanced transparency and confidence in the effective operation of the obligation, ensuring that there is no distortion or restriction of competition and supporting investment by OAOs.</p> <p>(ii) Allows the promotion of competition by OAOs/entrants which currently have a smaller range of products than the incumbent.</p>	<p>(i) Allows the promotion of competition by OAOs/entrants which currently have a smaller range of products than the incumbent to the benefit of consumers.</p>
<p>3. Assessment for appropriate economic space between the wholesale products in the market for wholesale terminating segment of leased lines is based on a 'LRAIC plus' cost measure.</p> <p><i>The LRAIC plus cost of the OAO network costs (SEO) should be based on nationally de-averaged costs (for circuit speeds greater than 2Mbs), consistent with the approach for NGN Ethernet WSEA logical pricing.</i></p>		
<p>(a) Impact on incumbent</p>	<p>(b) Impact on OAOs</p>	<p>(c) Impact on consumer</p>
<p>(i) Allows Eircom to recover all of its average efficiently incurred directly attributable variable and fixed costs and an apportionment of joint and common costs.</p>	<p>(i) Enables a potential entrant to recover all of its efficiently incurred cost while promoting infrastructure competition by OAOs.</p>	<p>(i) Allows the promotion of sustainable competition by OAOs to the benefit of consumers.</p>

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<p>(ii) An efficient OAO will only build its own network where a lower unit cost than the Eircom national average can be achieved. This approach addresses those cost differences.</p>	<p>(i) From a replicability perspective an efficient OAO will only build its own network where a lower unit cost than the Eircom national average can be achieved.</p>	<p>(ii) Ensure consumers are getting access to competitive prices.</p>
<p>(iii) Eircom has an overall obligation of cost orientation, so while Eircom will apply a nationally de-averaged OAO network cost to certain bids based on geographical location, it must ensure that it is recovering the nationally averaged OAO network (LRAIC plus) cost over in any 12 month period.</p>	<p>(ii) Eircom has an overall obligation of cost orientation, so while Eircom will apply a nationally de-averaged OAO network cost to certain bids based on geographical location, it must ensure that it is recovering the nationally averaged OAO network (LRAIC plus) cost over in any 12 month period.</p>	
<p>(iv) This approach is primarily applicable to fibre based services. A nationally averaged OAO network cost will still apply to circuit speeds up to 2Mb/s. This approach is consistent with the approach applied to NGN Ethernet WSEA logical costing.</p>		

4. Assess the likely impacts and choose the best option

9.33 In ComReg Document No 11/70 and ComReg Document No 11/32 ComReg considered the likely impact and its views on the best option in the context of further specifying the price control obligation, including the margin squeeze obligation in the market for wholesale terminating segments of leased lines.

9.34 The full details of ComReg’s initial views and reasoning are contained in ComReg Document No 10/70 and also in ComReg Document No 11/32 and readers are referred to both of these documents for further details. The main points on the methodologies and principles that were concluded on in ComReg Document No 11/32 remain relevant. However, there are some changes to a number of the individual components within the Margin Squeeze test to take account of the views of respondents. These changes have been discussed in Section 7 and are also referred to below.

Main issues raised by respondents:

9.35 Eircom did not agree that the proposed margin squeeze test was appropriate if it was applied in relation to Eircom’s self-supply for retail purposes. In addition, Eircom claimed that in any event, ComReg had made a number of crucial errors, and the form of margin test proposed would not, for that reason, assist ComReg in meeting the objectives it has identified.

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- 9.36 Firstly and as set out earlier in the document, Eircom believed that the single charge for the WLL price floor would distort and restrict competition. It further added that the proposed test would distort competition because the WLL price floor it sets is above the level of cost faced by an OAO buying Eircom PPC services to deliver a service across Dublin. Eircom believed that if the test was to apply to Eircom's self-supply, then its application results in excluding Eircom from competing for short urban services. Eircom stated that conversely the same test applies a price floor for services offered over long distances in rural parts of Ireland that is well below the cost of the inputs needed by the OAO to provide the service. Eircom claimed that this would have the effect of excluding OAOs from tenders for provincial leased line networks (that require access inputs from Eircom). Eircom stated that the effect of the test is to limit competition for provincial leased lines. Eircom also stated that as well as restricting competition by excluding Eircom from urban networks and OAOs (without access networks) from rural networks the test has further potential to distort competition. Eircom stated that in urban areas OAOs generally compete at price levels well below the floor set for Eircom by the proposed test. Eircom claimed that as this floor is at a single rate per speed the results of a number of competitions may indicate to the larger OAOs competing against Eircom that there is a clear level below which Eircom cannot bid and when this level becomes known to the market it is likely that price competition will centre on a level just below this floor. Eircom believed that the concentration of OAO bids around this level is, of course, a distortion of real competition where all operators price bids in relation to their own costs – in the absence of information around competitors pricing constraints.
- 9.37 ComReg have considered Eircom's views as stated above and it has made some amendments to the Margin Squeeze test, as a result. These amendments are set out in Section 7 above. Please refer to the amendment made by ComReg in Section 7, under Step 8.
- 9.38 Secondly, Eircom stated that the investment signals that the proposed margin test sends to the OAO considering building out a leased line network are stark and unambiguous. It added that the application of the same price floor per circuit for Eircom in urban and rural areas signals that they can face costs below the Eircom floor in urban areas with a minimal network investment. Eircom believed that the same test sends a very different message to an OAO considering a network investment outside of urban areas and that these conflicting signals seem very unlikely to encourage efficient investment. In addition, in the markets for WLLs and the downstream markets for retail data networks, Eircom stated that the interests of end users were best protected by ensuring that there are a number of credible bidders for each contract and that the proposed test would have the effect of excluding the provider with the most extensive network from bidding competitively for urban networks. Eircom believed that the proposed test would also have the effect of excluding OAOs that rely principally on Eircom PPC inputs to extend their own network reach to bid for provincial leased lines from the market for such services. Eircom stated that to this extent the proposed test has the capacity to damage the interests of end users of both urban and provincial data networks.
- 9.39 ComReg has made some changes to the Margin Squeeze test, as a result of the concerns raised. These amendments are set out in Section 7 above. Please refer to the amendment made by ComReg in Section 7, under Step 6 and also as discussed below.

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9.40 Eircom stated that the competitive dynamics in this market have changed significantly since ComReg conducted its last Market Review in 2008. It further added that it is important to note that the data on which this market review is based is now over three years old and increasingly unrepresentative of current competitive conditions. Eircom listed a number of its views/observations on the competitive dynamics as follows:

- Significant growth in competitor capability and market shares has also changed.
- Growth of E-Net, selling state subsidised competitive networks in 93 cities town and villages. According to Eircom, this fact alone should invalidate previous market analysis at the fibre level.
- Entry of NTL/UPC into the business market.
- Airspeed and other suppliers now have significant radio infrastructure.
- The recent acquisition by Vodafone of Interfusion.
- The current severe domestic and international recession has caused retraction in the market, and customers are now focusing on price as a major factor in choosing network suppliers.
- On the retail market, there has been evidence of the severe competitive pressure on all bids, with multiple competitors, most using alternative access infrastructure.

9.41 ComReg Decision D06/08 was published in December 2008 and therefore is less than three years. Nevertheless, ComReg intends to review the market for wholesale terminating segments of leased lines in 2012. In the meantime, ComReg is of the view that the market analysis under ComReg Decision D06/08 remains relevant until the next market review is completed. The costs and technologies related to the products and services provided as part of the market for wholesale terminating segments have evolved over the past few years and this is now reflected in the updated price control and associated cost model. In addition, it would not be in the interests of the marketplace to wait until such time as the next market review is complete as this may have implications from the point of view of price certainty and also in terms of Eircom's compliance with the price control obligation as it stands. Therefore, ComReg has made a number of necessary changes and these are now reflected as part of the further specification of the price control remedy.

9.42 The current review of the price control obligation is also important given that the NGN Ethernet product prices were published by Eircom in August 2010. This review and decision should now give operators and the marketplace confidence in the maximum prices, given that there no changes necessary to the current maximum charges. This is also important for any operators who have already invested based on current prices or who have built their business case models on the basis of the prices previously published.

ComReg's conclusion:

9.43 This decision further specifies the price control obligation, including the margin squeeze obligation in the market for wholesale terminating segments of leased lines. The methodologies and principles were consulted on in ComReg Document No 10/70 and ComReg Document No 11/32 and this decision document now reflects the conclusions reached in this regard. A summary of the conclusions and decisions regarding the costing methodology, the pricing approach, the cost model inputs, the

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principles for assessing the economic space between wholesale products and the final maximum prices are set out in the earlier sections of this document.

- 9.44 While Eircom raised a number of concerns regarding the Margin Squeeze test, ComReg has considered these points and where necessary a number of amendments have been reflected in this decision document. ComReg is of the view that it is important that the measures contained within this decision meet its regulatory objectives while ensuring that the benefits of the price control measures further specified outweighs the costs. The further specification of the price control obligations also ensures that Eircom is clear on the obligations which it must comply with and that industry and other interested parties have transparency over the process used to determine the price control measures as well as the margin squeeze obligations.
- 9.45 The price control obligation, which is further specified in this decision, relates to the market for wholesale terminating segments of leased lines. The price control remedy that is further specified now takes account of the different levels of investment regarding each of the wholesale products within the given market.
- 9.46 ComReg has determined that the appropriate price control remedy for current generation PPC prices and NGN Ethernet leased line prices is a cost based approach (namely a BU-LRAIC plus model). This was discussed in Section 3 above.
- 9.47 While current generation PPC prices will remain on a nationally averaged price, ComReg has taken a policy decision to allow Eircom to set the prices for its newly launched NGN Ethernet leased line products on the basis of a nationally de-averaged pricing approach on the basis that it clearly demonstrated that there is cost differences between the provision of NGN Ethernet services in different geographic regions. For example, there are clear cost differences between the high density (or major urban) regions and medium density (or outside urban) regions for core network charges and urban, provincial and rural for access network charges. For current generation leased line products the geographic differences in costs are less relevant than for new build products such as NGN Ethernet. For current generation products, geographic de-averaging of prices was considered to be less relevant to date for the simple reason that those products are legacy products where the costs have already been largely recovered and where the demand for WLLs has also significantly declined in recent years.
- 9.48 At this stage the cost differences are the main driving factor for differentiated prices for NGN Ethernet leased lines, rather than clear and sustained differences in competitive conditions. In any case, ComReg will keep the market situation under review in case the observed differing cost structures in urban and rural areas support the development of clear and sustained geographic differences in competition over time.
- 9.49 ComReg is of the view that the geographic de-averaged pricing approach should result in Eircom being more likely to continue to supply remote areas since it now is in a position to recover the higher per unit costs. Conversely in cities Eircom's prices will be lower than if they were set with reference to a national average and this should improve the competitiveness of Eircom's services in these areas where some inter platform competition is developing. This should also help improve the competitiveness of Irish cities internationally and it is also likely to be more sustainable in the long-term.

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- 9.50 In this decision ComReg has also adopted measures to ensure that where existing or potential future key businesses across the country may consider moving or relocating in urban regions to avail of lower Ethernet prices, that a high density pricing approach would be adopted, on a case by case basis, in some medium density regions where there is sufficient demand. ComReg believes that this approach should ensure that any significant existing or future direct investment which requires significant bandwidth is not materially disadvantaged through a de-averaged pricing approach to the detriment of end users.
- 9.51 For WLLs, ComReg is of the view that if it were to impose a cost based approach (or cost orientation obligation) on WLLs, this could lead to a significant anomaly where the cost of a WLL is cheaper than two PPCs which would undermine the principle of network investment and be contrary to ComReg's objective of encouraging efficient infrastructure investment. The main reason is the fact that WLLs are a legacy product, provided over a legacy network where the costs have largely been recovered. The importance of WLLs in the Irish market has decreased over the last number of years as a result of take up of PPCs.
- 9.52 The price control remedy now further specified for current generation WLLs is based on an assessment of the appropriate economic space between PPCs and WLLs in order to determine the WLL price floor, while the current WLL charges in the market is set as the maximum charges. In this regard, ComReg has used the term "Margin Squeeze test" but ComReg would like to clarify that the test is not a margin squeeze test in the traditional meaning or understanding of the term. A margin squeeze generally arises where there are anti-competitive pricing practices between a product(s) in a wholesale market and the associated product(s) in a retail market. However, in the current context ComReg has interpreted the margin squeeze to mean the assessment of the appropriate economic space between two wholesale products on different steps of the ladder of investment in the market for wholesale terminating segments of leased lines. ComReg believes that this should encourage operators onto the ladder of investment and encourage infrastructure investment while promoting sustainable competition in the retail market, based on the pricing mechanism established in this decision.
- 9.53 Focusing on an assessment of the appropriate economic space between WLLs and PPCs in the context of setting the WLL price floor, ComReg is of the view that this should meet its regulatory objective to encourage infrastructure based competition. ComReg believes that the pricing mechanisms set for WLLs and PPCs at a wholesale level is particularly important for retail competition. The Margin Squeeze test (or assessment of the appropriate economic space) between the WLLs and PPCs should aim to ensure the promotion of efficient infrastructure investment and encourage OAOs to climb the ladder of investment. The importance of ensuring consistent pricing between relevant wholesale inputs such that the prices set for a particular wholesale service do not squeeze another wholesale alternative is clear and widely acknowledged.
- 9.54 The Margin Squeeze test should, therefore, facilitate effective and sustainable competition. The margin between WLLs and PPCs must be sufficient so that OAOs have the incentives to invest in their own infrastructure and should ensure that any investments made are not stranded, nor retail competition distorted to the detriment of competing infrastructure-based operators, as a result of a margin/price squeeze by Eircom. By setting a price floor for WLLs, ComReg believes that this allows Eircom

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flexibility to offer promotions to the benefit of end-users. In essence, Eircom can take a commercial decision to price between the maximum price ceiling and the minimum price floor so long as it does not lead to under-recovery of costs by a similarly efficient operator and does not create a margin squeeze. The approach for WLLs relates to all WLLs generally in the market for wholesale terminating segments of leased lines. This has been discussed in Section 7 above.

- 9.55 In the interests of proportionality, the maximum charges for WLLs are set on the basis of the current published prices, which will not distort the current in-situ base and should set the right signals for infrastructure investment. The minimum price floor for WLLs is based on the appropriate economic space (or margin) between WLLs and PPCs on the basis of a SEO test. This is further discussed below.
- 9.56 The Margin Squeeze test is based on the SEO approach, which for the most part is based on Eircom's cost information but adjusted to reflect the fact that OAOs would not yet enjoy the same economies of scale and scope as Eircom. This approach takes account of the insufficient competitive development of the market and should send the appropriate investment signals to new entrants which should encourage efficient infrastructure investment and encourage OAOs to climb the ladder of investment.
- 9.57 ComReg also set out that a 'LRAIC plus' approach is the most appropriate costing standard as it allows for the recovery of all of the directly attributable efficiently incurred fixed and variable costs plus a mark-up for joint and common costs. As stated above, this is the calculus faced by any operator when deciding to enter or expand in the relevant market. ComReg also determined that an adjustment for economies of scale will be carried out to determine the WLL charges, given the different volume base between Eircom and a typical new entrant. Cognisant of the need to promote efficient investment and competition and to avoid incentivising inefficient investment, ComReg decided that a hypothetical operator with a market share of 25% is appropriate in this context. In addition, ComReg also decided that a product-by-product basis is the most appropriate approach given that the market is not yet sufficiently competitive to advocate the portfolio approach. Taking account of the insufficient competitive development of the market, ComReg believes that a disaggregated approach is appropriate in facilitating product-level entry by alternative operators. The product is defined by the circuit speed and where there is also a distance factor, as with PPCs and WLLs, an appropriate distance(s) is applied by circuit speed. However, ComReg notes that given the anticipated evolution of Ethernet technology over the coming years, ComReg believes that it may be necessary to further assess the options available on a case by case basis in the future.
- 9.58 While the details above contain the main principles of the Margin Squeeze test ComReg also consulted on the steps of the model used to assess any potential or actual Margin Squeeze that may exist between any of the wholesale products on the different steps of the ladder of investment in the given market. As a result of the consultation process, ComReg considered the concerns and issues raised by respondents with regard to the individual components of the Margin Squeeze test and this decision now reflects a number of changes to the steps of the test.
- 9.59 Firstly, one of the main changes to the individual components in the Margin Squeeze test relates to the change to the *access* input prices. ComReg initially proposed in ComReg Document No 11/32 that the access input prices should be based on Eircom's published wholesale access prices. However, in order to address the issues

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raised in the response to consultation, and recognising that entry possibilities can differ according to the possibility to realise economies of scale and density in particular areas, the prices for the access element of the service may be amended in certain cases. ComReg believes that, in view of the insufficient competitive development of the wholesale terminating segments market to date, this concept will be the exception rather than the norm. However, acknowledging that future entry possibilities can differ depending on the structural conditions present in particular areas, ComReg will use the degree of actual infrastructure replication as an initial indicator of changing competitive dynamics in discrete areas to ensure that regulation may be sufficiently responsive to any such developments should they occur. The first option available to Eircom of course is to reduce their own wholesale prices to meet any particular competition issues it faces, subject to prior approval from ComReg. Where this is not possible, for example due to the timing of certain bids or the discrete nature of certain bids, the burden of proof will be on Eircom to demonstrate to ComReg, that there are at least two alternative access operators present, lower access prices than Eircom, and that the access prices used are supported by operator price lists or quotations. ComReg believes that this will be an exception rather than the norm. In such cases Eircom may be allowed to use the modern equivalent asset (“MEA”) of that alternative access operator and charge the lower access prices as part of a given tender in that area. However, the burden of proof is on Eircom to demonstrate to ComReg, in the event of a complaint or a compliance case, that at least two alternative access operators are present and that the access prices used are supported by operator price lists or quotations. Where there are at least two alternative access platforms providing viable wholesale access in a particular area, it could be expected that other operators would also have the choice to use that access service, to the extent that it meets their needs, at the lower price. This degree of flexibility should ensure that the replicability principle is adhered to while also ensuring that end-users have ample choice and reasonably competitive price. Furthermore, given the nascent level of any competitive developments, it is considered appropriate for the burden of proof to rest with Eircom at this stage to ensure that ex ante regulation is not pre-maturely reduced with detrimental consequences for the competitive process and consumers. It is important to note that in the context of the Margin Squeeze test “Access” refers to that part of the network from the customer premises to the nearest serving Eircom exchange (or equivalent). This refers to the local access input (labelled as step 2.1.1) in *Figure 3* in Section 7 of this document.

- 9.60 In addition to the above ComReg considered Eircom’s point, with respect to the OAOs’ own network cost and its view that an efficient OAO will only build its own network where a lower unit cost than the Eircom national average can be achieved. In order to ensure that regulation is proportionate and to ensure the promotion of efficient competition between all of the industry operators, ComReg has made some changes to the OAO network costs in the Margin Squeeze model/test, primarily in relation to the higher speed fibre based products, to reflect difference in the OAO network costs per region, rather than a nationally averaged OAO network cost. These de-averaged OAO network costs are calculated on the basis of the NGN Ethernet leased line cost model developed by ComReg which can determine the distribution of the costs of Eircom’s core network across the different regions of Ireland (consistent to the approach used for setting the geographic de-averaged prices for NGN Ethernet). This distribution of OAO network costs is then applied to the OAO

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network costs of the legacy core model. A gradient is then applied to the de-averaged OAO network costs to determine the costs per circuit speed. In essence, there is circa 5 different OAO network cost categories⁵² (where the OAO network costs are based on the costs of one of these costs, depending on the bid/contract under consideration). For example, a bid/contract in Dublin, which is classified as a high density area, is based on the average ‘LRAIC costs’ of providing the product/service in Dublin. This approach takes account of the fact that, in line with the replicability principle, OAO network costs vary by area and this approach reflects the cost differences for operators to provide a leased line service in major urban areas compared with the more provincial or rural areas. However, the OAO network costs included remain nationally averaged cost for WLLs up to 2Mbps and the nationally de-averaged cost for point-to-multipoint circuits and point-to-point will be applied to circuits greater than 2Mbps.

9.61 ComReg believes that this decision is consistent with ComReg’s statutory objectives under section 12 of the Act for the reasons set out above and as follows:

- a. Further specifying the price control obligation for the leased line rentals and the ancillary services/products in the market for wholesale terminating segment of leased lines together with the obligation not to margin (price) squeeze should facilitate greater regulatory certainty for longer-term competitive entry and expansion and greater flexibility for the development of innovative offerings, with positive implications for the price, choice and quality of products ultimately delivered to end-users.
- b. *Ensuring that there is no distortion or restriction of competition:*
By seeking to pre-empt the possibility for anti-competitive practices by the SMP operator to induce strategic barriers to entry in markets, the costing and pricing remedies now further specified in this decision should ensure that competitors can enter and sustain competition in the market and in adjacent markets.
- c. *Encouraging efficient investment in infrastructure and promoting innovation:*
The measures set out should allow greater flexibility to OAOs to offer more innovative retail products. In particular, the assessment of the appropriate economic space between the wholesale products should encourage entry and expansion by competitors wishing to invest in their own infrastructure over time. At the same time, the obligation not to margin (price) squeeze should facilitate entry and sustain competition by OAOs as efficient as the SMP operator which is consistent with encouraging efficient investment.

9.62 ComReg believes that this decision is also consistent with ComReg’s statutory objectives under Regulation 13 of the Access Regulations⁵³.

⁵² NGN Ethernet leased lines are also primarily based on 5 types of charges depending on the location of the 2 ends of the leased line: 1) within a high density area, 2) within a medium density area, 3) from one high density area to another high density area, 4) from one medium density area to another medium density area and 5) from one high density area to a medium density area.

⁵³ S.I. No. 334 of 2011. EUROPEAN COMMUNITIES (ELECTRONIC COMMUNICATIONS NETWORKS AND SERVICES) (ACCESS) REGULATIONS, 2011. .

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1. ComReg is of the view that by adopting a BU-LRAIC plus costing methodology to determine prices for PPCs and NGN Ethernet it has taken into account the investments made by Eircom and has allowed Eircom a reasonable rate of return on capital employed.
 2. ComReg is of the view that by adopting cost oriented prices for PPCs and NGN Ethernet based on BU-LRAIC plus and adopting a price floor for WLLs, to ensure there is sufficient economic space (based on SEO) between PPCs and WLLs, serves to promote efficiency and sustainable competition and maximise consumer benefits.
- 9.63 ComReg is also of the view that the further specification of the price control obligation in the market for wholesale terminating segments of leased lines set out in this decision meets the six principles of “Better Regulation” as follows:
- i. ComReg is of the view that this review was **necessary** for a number of reasons. The previous market analysis (ComReg Decision No D06/08) indicated that the current basis for WLL and PPC prices would remain in place until a decision was made by ComReg following a further consultation and decision. This decision now further specifies the price control remedy for WLLs and PPCs, and also for NGN Ethernet. In addition, this decision also further specifies the details of the margin squeeze obligation on Eircom, which was also imposed on it in ComReg Decision D06/08. Eircom are now clear on the details of the obligation that it must comply with in this regard. In addition, Eircom launched its NGN Ethernet leased lines products in April 2010 based on a geographic de-averaged pricing basis. This decision now gives operators and the marketplace confidence in the prices being charged and it also gives confidence to those operators that made infrastructure investment decisions based on the current prices charged.
 - ii. ComReg is of the view that it was **effective** in this review by ensuring that the price control remedies that it further specified are in line with its regulatory objectives. Given the different levels of investment required between the products in the market for wholesale terminating segments of leased lines, ComReg believes that the pricing measures set should encourage operators onto the ladder of investment, encourage infrastructure investment while promoting sustainable competition in the retail market. In particular, ComReg determined a “Margin Squeeze” test in a regulatory context to assess the appropriate economic space between the wholesale products in the given market so as to achieve its objectives. The assessment of the appropriate economic space between the wholesale products in the market for wholesale terminating segments of leased lines should ultimately promote retail competition. In time this should promote further wholesale competition as operators gain scale and further invest in their own networks.
 - iii. ComReg considers that it has been **proportionate** in its review. ComReg has considered all of the views of respondents to ComReg Document No 10/70 and ComReg Document No 11/32. ComReg has made a number of amendments to its initial proposals, in particular, in relation to the Margin Squeeze test. These amendments ensure that the obligations imposed on Eircom are not overly burdensome or onerous while ensuring that ComReg meets its regulatory objectives. The further specification of the margin squeeze obligation is also deemed to be proportionate as it provides Eircom with clarity on the principles that

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apply in that regard so that it can ensure compliance with its obligation. In addition, ComReg are not proposing any material changes to the prices in the existing network price list as published by Eircom, given that there have been recent reductions to PPC core conveyance prices of approximately 16% over the past eighteen months and PPC fibre access price reductions which has brought these prices in line with the price control obligations. The NGN Ethernet prices were launched in 2010 on foot of a cost modelling exercise carried out by ComReg at that time and the maximum prices in the market are in line with the principles now set out in this decision.

- iv. ComReg is of the view that it has been **transparent** in further specifying the price control obligation in the market for wholesale terminating segments of leased lines. ComReg published two consultation documents further specifying the costing methodology, pricing methodology, the modelling review, the maximum charges and the principles of the Margin Squeeze test for the wholesale products in the market for wholesale terminating segments of leased lines. The consultation process allowed Eircom, the Industry and other interested parties transparency of the process and the opportunity to provide their views on the proposed methodologies and principles relevant to the products and services in the market for wholesale terminating segments of leased lines, especially given the current transition to NGN technology.
- v. ComReg considers that it has been **accountable** in its review and that it has provided all of the relevant detail, reasoning and information necessary to justify its approach, including an assessment of the likely impact for stakeholders and competition. ComReg has clearly set out in each of the papers (including ComReg Document No 10/70 and ComReg Document No 11/32) the basis of conclusions and views and furthermore it has also shown how these conclusions are linked with its regulatory objectives under Section 12 of the Act.
- vi. ComReg considers that its review is **consistent** with previous ComReg Decisions (in particular the obligations set out in ComReg Decision No D06/08 in relation to the price control obligation). ComReg's decision is also consistent with work completed in other jurisdictions:
 - In 2007⁵⁴ and 2009⁵⁵, ERG, in its Common Position papers, supports the concept of an appropriate economic space between wholesale products. ARCEP, in its leased lines market analysis of 2006⁵⁶ and 2010⁵⁷, set out its approach regarding the application of the non-eviction principle, which

⁵⁴ European Regulator's Group ("ERG") in Common Position 07 (53), Report on BEST PRACTICES ON REGULATORY REGIMES IN WHOLESALE UNBUNDLED ACCESS AND BITSTREAM ACCESS. Sections 3.1 and 3.2.

⁵⁵ European Regulator's Group ("ERG") in Common Position 09 (21), Report on price consistency in upstream broadband markets supporting the concept of an appropriate economic space between two wholesale products, namely LLU and Bitstream.

⁵⁶ ARCEP Decision 06-0592 of 26 September 2006, page 117, IV.2.6.1. http://www.arcep.fr/fileadmin/uploads/tx_gsavis/06-0592.pdf

⁵⁷ ARCEP Decision 10-0402 of 8 April 2010, page 117, IV.2.6.1 http://www.arcep.fr/uploads/tx_gsavis/10-0402.pdf

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ensures that wholesale tariffs set by France Telecom do not evict operators that have deployed their own infrastructure.

- IBPT, in Belgium, endorsed the non-eviction principle, in its Decision⁵⁸ on margin squeeze tests for Ethernet products, to ensure that the proposed prices set by Belgacom do not evict alternative operators. Please refer to Sections 3 and 7 for further details of ComReg's approach.
- The European Commission Decision in 2007 from Case COMP/38.78410 relating to a proceeding under Article 82 of the EC Treaty where it notes that:

“It is therefore necessary that there should not be any margin squeeze in relation to any “step” of the ladder, i.e. in relation to any wholesale product. If there was such a margin squeeze, new entrants that are climbing the ladder of investment, would be foreclosed.....All national regulatory authorities agree that the process of climbing the ladder of investment can only be effective if there is a margin between all the steps of the ladder”.

58 IBPT: Décision du 8 avril 2009 concernant le test de ciseaux tarifaires des lignes louées Ethernet <http://www.ibpt.be/ShowDoc.aspx?objectID=3057&lang=fr>

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Appendix A: Reference to maximum prices

Note: The maximum prices for WLLs, PPCs and NGN Ethernet can be located at www.eircomwholesale.ie. A reference to the specific service schedules on Eircom's network price list is included in the table below.

Product	Product element	Eircom network price list / Service Schedule (“SS”) reference:
WLLs	Local access (Local ends)	SS 006, Table 4
WLLs	Core conveyance (MLA and MLD)	SS 006, Table 4
PPCs	Local access (Local ends)	SS 003, Table 2
PPCs	Core conveyance (MLA and MLD)	SS 003, Table 2
NGN Ethernet	Local Access (WSEA physical)	SS 014, Table 1
NGN Ethernet	Core conveyance (WSEA logical – Circuit based CoS)	SS 014, Tables 3 - 8
NGN Ethernet	Core conveyance (WSEA logical – Traffic based CoS)	SS 014, Tables 9-16
NGN Ethernet	Interconnection Links (WEILs)	SS 013, Table 2

Appendix B: Operator Responses – other points

Q.1. Do you agree with ComReg's proposed approach to determining PPC fibre access prices? Please provide reasons for your response.

BT believed that Eircom should notify industry in a non-discriminatory way at the same time as its own downstream wholesale solutions business and other downstream businesses of price changes. ALTO also raised this point. BT strongly believed that the wholesale market has now being split by Eircom into two parts, the first regulatory services and components traditionally sold by Eircom and secondly, wholesale solutions which offer solutions that can contain a mix of regulated and non-regulated services and management/operational support facilities similar to the Eircom 'White label' approach. BT believed that it should be notified of pricing and product changes at the same time as all of Eircom's downstream businesses including Eircom wholesale solutions.

This decision covers the review of the price control obligation only. The non-discrimination obligation is set out in ComReg Decision No D06/08.

Magnet highlighted a similar point to BT that the introduction of a price ceiling is only helpful once such price ceilings are implemented across all products and are notified to operators appropriately. Magnet also stated that it is important to ensure transparency in the marketplace so that there is an open and level playing field.

This decision covers the review of the price control obligation only. Any prices changes will be notified in line with Eircom's transparency obligation in ComReg Decision No D06/08.

Q.2 Do you agree with ComReg's approach on the application of the pricing gradient to WSEA logical prices? Please provide reasons for your response.

Magnet stated that the concept of applying a gradient is sound however, there are potential flaws. Magnet added that it must be noted that Eircom impose arbitrary restrictions on capacity through their NGN network which do not take into account the needs of its largest user base and that this is something that needs to be resolved to ensure that the product itself is fit for purpose.

ComReg has addressed this in Section 6.

Q.5 Do you believe that the draft text of the proposed decision is from a legal, technical and practical perspective, sufficiently detailed, clear and precise with regards to the specifics proposed? Please explain your responses and provide details of any specific amendments you believe are required.

Eircom stated that Decision D06/08 could not be used as the basis for the price control that ComReg is proposing. In particular, Eircom believed that the margin squeeze test between PPCs and WLLs in the form set out by ComReg was not justified by the market analysis that led to D06/08. Eircom further added that any such remedy can only be imposed, if justified and proportionate, following a new market analysis. Eircom believed that ComReg's proposed Decision was, accordingly, in breach of the Framework Regulations, which did not permit the imposition or amendment of an SMP obligation without first assessing competition in the relevant markets by way of a market analysis.

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In ComReg Decision D06/08 ComReg specified that until a decision is made by ComReg following further consultation in relation to the price control for products services and associated facilities in the Market, the prices charged by Eircom for wholesale leased lines (WLLs) of capacities up to and including 2 Mbps shall be no more than the prices currently in place and that WLLs above 2 Mbps would be based on equivalent prices to those offered to Eircom's retail arm. In addition, ComReg also specified that the PPC prices charged by Eircom would be cost oriented and such costs would be calculated using a pricing model based on a forward looking long run incremental costs ("FL-LRIC") or an alternative pricing model, if ComReg decided, following consultation, to adopt such an alternative pricing model. ComReg Decision No D06/08 also imposed a margin squeeze obligation on Eircom but the principles or underlying details of this obligation were not specified. Therefore, this decision now further specifies the existing price control obligation and margin squeeze obligation in the market for wholesale terminating segments of leased lines.

Eircom further noted that the market analysis for terminating segments of leased lines was undertaken more than three years ago. Eircom claimed that this meant that the maximum, period for market reviews allowed under the Better Regulation Directive had been reached. Eircom believed that it was accordingly not appropriate for ComReg to impose and/or specify a new price control on Eircom.

Decision D06/08 was published in December 2008. ComReg, over the last number of years, has carried out a consultation process⁵⁹, with respect to the further specification of the price control obligation. ComReg has also engaged significantly with Eircom and industry to develop BU-LRAIC plus models for PPCs and NGN Ethernet and a Margin Squeeze test model. ComReg intends to commence a review of the market for wholesale terminating segments of leased lines in 2012. In the meantime, ComReg is of the view that the market analysis under ComReg Decision D06/08 remains relevant until a further market review is completed.

Eircom did not agree that the definition of "Margin squeeze", by reference to "appropriate economic space", itself undefined, is sufficiently detailed, clear and precise. Eircom agreed with the definition of WLLs, which it believed was consistent with the definition of WLLs set out in ComReg Doc. 08/63 and reflected the position expressed by Eircom in response to Question 4. However, Eircom stated that elements of the test proposed by ComReg, in particular Step 9 at paragraph 7.28 and its reference to "bids", presumably on the retail market, did not reconcile with this definition.

The Margin Squeeze test as defined in the Decision Instrument has been slightly amended to read as follows:

The Margin Squeeze test shall mean the setting of a wholesale price as between any wholesale products, current or future, in the market for terminating segments of wholesale leased lines below the minimum price floor set by the SEO test. The Margin Squeeze test shall be based on SEO costs as provided for in Section 7...

ComReg is of the view that it has clearly set out in Section 7 of this decision the meaning of the Margin Squeeze test as well as the individual components that the test is based on. In addition, ComReg, with its consultants TERA, developed a Margin Squeeze model so that Eircom can ensure compliance with its obligations. ComReg has further elaborated

⁵⁹ ComReg Consultation Documents No. 10/70 and Consultation Documents No. 11/32

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under Step 9 on the overall cost recovery and the importance of identifying both regulated and unregulated elements of the bid, as part of test. Please refer to the latter part of Section 7 for the full details.

Eircom stated that Section 4.4 was not clear and that there appeared to be wording missing between "WLL services" and "(including but not limited to)".

ComReg has now added the word "between" in order to ensure that this section of the decision instrument is clear.

Eircom also stated that Section 4.7 should clarify that for the avoidance of doubt; compliance with this Decision did not require Eircom to amend prices for WLLs agreed and applied prior to the entry into force of this Decision.

ComReg's intention is not to apply this obligation retrospectively. ComReg did not specifically set out in the Draft Decision any obligation to retrospectively amend WLL prices agreed and applied before the effective date of this Decision.

Eircom also stated that section 4.8 and section 4.9 seem to impose contradictory obligations on Eircom, particularly as Eircom's current prices are not to be amended.

ComReg has amended this, which is now replaced by a new Clause 4.8.

BT, Magnet and ALTO referred to 4.8 and stated that given the 30 days notice requirement to retail customers, the proposed notification relaxation in this clause to give no notice potentially puts downstream operators in regulatory jeopardy and at risk of having to absorb additional costs until such a time they can correctly notify their customers.

As already set out in ComReg Document No 11/32, ComReg are not imposing any material changes to the prices in the existing network price list as published by Eircom, given that there have been recent reductions to PPC core conveyance prices of approximately 16% over the past eighteen months and PPC fibre access price reductions⁶⁰ which has brought these prices in line with the price control obligations. In addition, NGN Ethernet prices were launched in 2010 on foot of a cost modelling exercise carried out by ComReg at that time and the maximum prices in the market are in line with the principles now set out in this decision. Therefore, pre-notification is not an issue in this regard as the prices are already in the market place.

Eircom stated that the duration of the Decision should be expressed in terms of a maximum duration rather than a finite period. Eircom believed that the maximum duration should be linked to the market review period and the Decision adopted on the basis of relevant findings, and these should not exceed three years.

ComReg is of the view that in order to provide market and price certainty that a three year price control period is reasonable. It is important to provide longer term certainty to the marketplace and ComReg believes that the price control period should provide as much price certainty as possible over a reasonable period of time. However, as set out earlier in the document ComReg will carry out an internal annual review of the main aggregated inputs to the model to ensure that there are no material changes. In addition, ComReg has committed to commence a review of the underlying pricing methodologies

⁶⁰ PPC fibre access price reductions, effective 1 July 2011
http://www.comreg.ie/_fileupload/publications/ComReg1126.pdf

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and principles no later than six months in advance of expiration of the price control period.

Eircom also noted that the reference to “sections 10.2” in section 8.3 should be to section 8.2. ComReg has now amended that reference error.

BT and ALTO stated that given the transposition of the new regulatory regime on the 25th May 2011 or shortly after, they would assume that ComReg will be updating all appropriate references to the new Statutory Instruments when they are available.

ComReg has updated the reference to the new Statutory Instrument, in the Decision Instrument in Section 8.

BT, Magnet and ALTO also stated that the definition of Ethernet in clause 2.13 appeared limited as it gave the impression that it is used for local area networks whereas today it is common in wide area networks as well. They suggested a more descriptive definition, for example, to add at the end of the text “and becoming increasingly deployed in wide area public networks” The definition has now been revised to reflect this point.

Q.6. Do you have any views on this Regulatory Impact Assessment with regard to the draft maximum charges determined for WLLs, PPCs and NGN Ethernet and also with regard to the Margin Squeeze test and are there any other factors that ComReg should consider in competing its Regulatory Impact Assessment on these points? Please explain your response and provide details of any additional factors that should be considered by ComReg.

BT and Magnet agreed with the RIA. ALTO raised a concern regarding the procedure for ceasing/cancelling certain types of leased line services. ALTO stated that it was not satisfied that this matter was being addressed adequately in the context of industry discussion and that ComReg needs to consider it as a matter of priority.

ComReg believes that the issue raised by ALTO is not relevant in the context of the current review of the price control obligation but notes that progress has been made in this regard through discussion between the relevant parties.