



Consultation Paper

Local Loop Unbundling Costing Consultation

Access network design parameters and costs of certain access network elements

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All responses to this consultation should be clearly marked:-
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(current consultations), to arrive on or before 17:30, 9 April
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Contents

1	Foreword.....	2
2	Introduction	3
2.1	CONTEXT OF THE CURRENT CONSULTATION	3
2.2	PURPOSE OF THE CURRENT CONSULTATION	3
3	General Issues Relating to Costs and Network Structure	5
4	Civil Works Costs.....	6
4.1	POLE ROUTE.....	6
4.2	CABINETS.....	6
4.3	JOINT BOXES.....	7
5	Installed Underground Cable Costs.....	8
5.1	CABLE, CABLE PULLING AND JOINTING	8
5.2	MDF TERMINATION	9
5.3	PRESSURISATION EQUIPMENT.....	9
6	Installed Overhead Cable Cost.....	10
7	Network Structural Issues.....	11
7.1	JOINT BOX DISTRIBUTION	11
7.2	DUCT ROUTE SHARING BETWEEN THE MAIN NETWORK AND THE DISTRIBUTION NETWORK...	11
8	Submitting Comments.....	12
	Appendix – Consultation Questions	13

1 Foreword

The widespread availability of affordable broadband internet access is universally recognised to be vital to the future interests of Irish consumers and businesses. As recognised at the Lisbon Summit of 2000, Local Loop Unbundling (LLU) is integral to promoting competition in the provision of broadband services and delivering the benefits of these services to consumers. Unfortunately, the take-up of broadband in Ireland lags significantly behind most of our European partners.

Competition in the provision of broadband services utilising the eircom local access network, made possible by LLU, has yet to develop in the anticipated fashion. Clearly, the setting of appropriate prices for access to the eircom network by competing operators is essential for the development of competition.

This consultation paper sets out for comment ComReg's proposals on some of the points related to the determination of the charges other operators face for use of eircom's copper wire network. Thus far eircom and ComReg have not been able to agree on particular aspects of deriving an appropriate cost for eircom's access network and ComReg believes that in the interests of transparency, objectivity, openness, non-discrimination and fairness, it is appropriate to invite comment on these matters from other interested parties.

This paper invites comments on some of the network design parameters that form the basis of a bottom up Long Run Incremental Cost (LRIC) model of the access network. ComReg invites comments, and where appropriate element costs with supporting documentary evidence where available. It also provides ComReg's understanding of some indicative price ranges for particular access network elements.

John Doherty,
Chairman

2 Introduction

2.1 Context of the Current Consultation

The introduction of Local Loop Unbundling, (LLU) has been contentious and time-consuming since its introduction in January 2000, and the implementation of a set of prices for the products have been the most contentious of all. ComReg and its predecessor, the ODTR, have made a number of decisions over the last few years directing eircom to change its prices and on each occasion, eircom has challenged those decisions by way of judicial review proceedings.

Access network element costs and indeed some parameters of the access network design have been two of the areas of disagreement between ComReg, eircom and the Other Authorised Operators (OAOs). The design parameters and element cost ranges described within this consultation paper, together with the responses to be received as a result of this publication, will form an important part of ComReg's review of eircom's pricing submission for the LLU products for the period from April 2004 to March 2005 and beyond.

This consultation deals specifically with only two of the areas of disagreement between ComReg, eircom and the OAOs, namely the areas of access network design parameters and network element costs. A separate consultation, ComReg 04/21 has dealt with other areas of disagreement between ComReg and eircom, specifically, the treatment of operating costs in a bottom up LRIC model.

2.2 Purpose of the Current Consultation

On 28 May 2003, ComReg published Decision Notice D12/03 directing eircom to amend its prices for LLU services published in its Access Reference Offer (ARO). This Decision Notice was subsequently challenged by way of judicial review by eircom; the grounds for appeal included a challenge to the decisions taken by ComReg in relation to those issues unresolved by an industry advisory group. The judicial review was settled before being heard by the High Court and it was agreed between the parties that ComReg would initiate a new process for the purposes of agreeing with eircom new LLU prices to be effective from 1 April 2004, or in default of such agreement, making a new decision fixing LLU prices to be effective from that date.

ComReg has continued its analysis of the issues, taking account of both the recommendations of the chairman of the industry working group and any legitimate concerns raised during the process by both eircom and the OAOs. As a result of the further analysis undertaken, ComReg now feels in a position to share with the industry and other interested parties its current information and analysis with regard to certain element costs and network design parameters for a LRIC price for LLU. Any cost ranges provided below are provided for indicative purposes only and do not necessarily constitute ComReg's final view.

Local Loop Unbundling Costing Consultation/Access network design parameters and costs of certain access network elements

ComReg seeks reasoned comments on the information put forward in this consultation paper and, in particular, would welcome supporting evidence to which we may not otherwise have access from the industry. The more supporting evidence and detail that is provided the more reliance that ComReg can place on the information provided. Any information submitted to ComReg that the respondents consider to be confidential, submitted in confidence or commercially sensitive should be marked as such.

When submitting responses to this consultation paper, ComReg would ask that the respondents keep the following factors in mind:

- responses should be consistent with the principles of the LRIC methodology;
- responses should be consistent with the network modelled during the Industry Advisory Group (IAG2) process, i.e. an efficient copper access network;
- responses should be consistent with the objectives of promoting competition and benefiting customers; while
- responses should also be consistent with the objectives of adequately rewarding investments made and providing appropriate incentives for future investment.

The present Consultation Document sets out for public consultation how ComReg proposes to review inputs contained within eircom's LLU product pricing submission with regard to access element costs and design parameters with a view to settling these issues in considering the level of charges to be effective from April 2004. This makes it an important step forward in offering broadband access to an increasing number of people and businesses.

3 General Issues Relating to Costs and Network Structure

ComReg intends to use a 'scorched node' LRIC model for access network costing (as discussed during the IAG2 process carried out during 2002/03). To this end the placing of main distribution frames (MDFs) within the access network must be taken as fixed. Certain other parameters are also fixed. Where this will affect responses, most particularly in regard to the size of particular elements e.g. Primary Cross-Connection Points, Comreg has provided the appropriate size within the specifications for costing given below.

The LRIC model provides the cost for building an access infrastructure to provide for the needs of Ireland: respondents providing cost inputs should bear in mind the economies of scale and quantity discounts which would be available in the execution of such an enterprise. As an example, the cost of installation of a single replacement telephone pole in an existing network will be far higher than the cost for a single pole installed as part of a several kilometre route.

It will be extremely helpful if not only the actual costs requested are supplied but also the method by which they were calculated and any individual cost elements included with the build-up. It is difficult for ComReg to assess the comparability of cost submissions without recourse to underlying detail.

4 Civil Works Costs

4.1 Pole Route

Comreg seeks information regarding the cost of telephone poles, installed, with appropriate fittings (e.g. footrests, cable brackets). The cost should be the average cost, bearing in mind that some poles will require lateral supports/bracing. Please specify the proportion of such supported braced poles allowed. Please also specify the type of pole for which costs are supplied (e.g. diameter, length, material and finish treatments {if any}).

ComReg preliminary view is that the cost of provisioning a single average pole within a large network build will probably be within the range of €230 to €280.

Q. 1. Do you believe that the installed cost of a pole for an access network to be built in Ireland would lie within the range given above? Whether within or outside of this range, can you indicate precisely where you consider the cost lies? Please provide detailed information to support your view in any case.

4.2 Cabinets

Cabinets are used for the primary cross-connect points (PCPs) in the access network. A typical cabinet would be expected to provide cross connect facilities for 900 pairs (400 E-side and 500 D-side). The cost required is that for a pressed steel cabinet of suitable size (please state), mounted adjacent to a joint box and must include the cost of installing the cabinet root, the ducts to the joint box, mounting the cabinet shell and all the internal fittings required to support the cross connect blocks, all cross connect blocks, the cost of terminating cables on both E-side and D-side and the cost of jumpering 80% of the E-side pairs.

ComReg's preliminary view is that the cost of provisioning an average PCP within a large network build will probably be within the range of €2,600 to €3,300.

Q. 2. Do you believe that the installed cost of a PCP cabinet for an access network to be built in Ireland would lie within the range given above? Whether within or outside of this range, can you indicate precisely where you consider the cost lies? Please provide detailed information to support your view in any case.

4.3 Joint Boxes

Clearly joint boxes for the access network will not all be of the same size and specification – for example some will be turning boxes only, some will be for major cable joints and some will be distribution point boxes where the distribution system is buried. Since specifications of such boxes will vary between operators the joint box usage specified and the requirement is for the specification and cost of boxes for such usage.

ComReg proposes to classify joint boxes to be used in the model in the following way:

- Joint box (large – copper)
- Joint box (small – copper)
- Joint box (large – fibre)
- Joint box (small – fibre)
- Turning box (large)
- Turning box (small)
- Distribution point box

If a respondent considers that other types of joint box may be required then that should be explained within their submission.

ComReg appreciates that boxes for some of these uses may be of identical specification within some respondents' networks. Where this is the case it is only necessary to provide the specification and cost for each type of box which is used, together with a statement on the usages to which that specification of box is put. Where ancillary structures are included in the costs of joint boxes, e.g. cable bearers, these costs should be identified separately.

Q. 3. What is your view on the appropriate costs and specifications for joint boxes in an access network to be built in Ireland? Please provide detailed information to support your view.

5 Installed Underground Cable Costs

5.1 Cable, Cable Pulling and Jointing

ComReg’s preliminary view of the likely ranges within which the costs of underground cabling lie are provided in the tables 1 and 2 below. Respondents are asked to provide their views as to whether these cost ranges are reasonable and, having indicated whether or not the ranges are considered reasonable, to indicate where, in precise terms, the actual cost should lie. The pressurised main network uses poly unit twin construction cable, whilst the non-pressurised cable is of jelly filled poly twin construction. All underground cables are installed within ducts. ComReg’s present understanding is that much of the installation costs reflect the cost of jointing the cables (most particularly for the larger pressurised cables). Where respondents are able to provide costs for cables and their installation, it would be most helpful if information on individual jointing costs and frequency of joints allowed within the installation costs could be provided.

Q. 4. Do you believe that the underground cabling costs for an access network to be built in Ireland would lie within the ranges given in Tables 1 and 2? Whether within or outside of this range, can you indicate precisely where you consider the costs lie? Please provide detailed information to support your view.

	Gauge		0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4
pressurised cable (main network)	# pairs		200	300	400	600	800	1000	1200	1600	2000	2400	
	Cable cost/km	High	3500	4800	4800	5300	8300	8500	11000	11000	15000	16000	
		Low	2900	3800	3900	4300	6700	6900	8800	9100	13000	13000	
	Installation cost/km	High	2700	2800	3200	3900	4600	6600	7100	8000	8700	9600	
Low		2200	2200	2600	3200	3700	5300	5800	6500	7100	7800		

Table 1

non-pressurised cable (distr. network)	# pairs		10	30	50	100	200
	Cable cost/km	High		480	660	810	1300
		Low		390	530	660	1100
	Installation cost/km	High		3000	3000	3100	3200
Low			2400	2400	2500	2600	

Table 2

5.2 MDF Termination

Respondents are asked to provide their views on the cost of termination of main network cables (of the sizes provided above) to their associated MDFs.

Q. 5. What is an appropriate cost for termination of main network cables on an MDF? Please provide detailed information to support your view.

5.3 Pressurisation Equipment

At sites where the pressurised main cable network terminates pressurisation and remote pressure monitoring facilities are required. Respondents are asked to provide their views on the costs of such facilities and their application (MDF sizes where pressurisation facilities are required are in the 2,000 to 30,000 line range).

Q. 6. What are the appropriate costs for pressurisation and monitoring facilities at MDF sites? Please provide detailed information to support your view.

6 Installed Overhead Cable Cost

ComReg’s preliminary view of the likely ranges within which the costs of overhead cabling lie are provided in the tables below. Respondents are asked to provide their views as to whether these cost ranges are reasonable and, having indicated whether or not the ranges are considered reasonable, to indicate where, in precise terms, the actual cost should lie.

Gauge		0.63	0.63	0.9	0.63	0.63	0.63
# pairs		10	30	30	50	100	200
Cable cost/km	High		1500	1600	1700	2000	4200
	Low		1200	1300	1400	1600	3400
Installation cost/km	High		1600	1600	2100	2100	2200
	Low		1300	1300	1700	1700	1800

Table 3

Q. 7. Do you believe that the overhead cabling costs for an access network to be built in Ireland would lie within the ranges given in Table 3? Whether within or outside of this range, can you indicate precisely where you consider the cost lies? Please provide detailed information to support your view.

7 Network Structural Issues

7.1 Joint Box Distribution

The issue of the costs of joint boxes is dealt with above. Within the model the average cost of joint boxes per kilometre of the network is required. To this end ComReg requests respondents to provide the expected proportions of such boxes in an access network and an estimate of the overall number of boxes which will be required (e.g. average spacing 50m or similar).

Q. 8. What is your view on joint box distribution within an access network to be built in Ireland? Please provide detailed information to support your view.

7.2 Duct route sharing between the main network and the distribution network

The distribution portion of the access network is clearly pervasive in order to provide access to all premises where it may be required. ComReg understands that some portions of the main network may run in routes where the access network may not exist, for example in short portions in the boundaries between service areas of a single MDF or where there are no premises to serve. Respondents are asked to provide their views on what proportion of the main network will share its route with the distribution network.

ComReg's preliminary view is that the proportion of the main network routes which would be expected to be coincident with the route of the distribution network should be of the order of 90%.

Q. 9. Do you agree that route sharing between the main and distribution cabling in an access network in Ireland should be of the order of 90%? Please provide your reasoning and any supporting information.

8 Submitting Comments

All comments are welcome. However it would make the task of analysing responses easier if comments were referenced to the relevant question numbers from this document.

The consultation period will run from 18 March 2004 to 9 April 2004 during which the Commission welcomes written comments on any of the issues raised in this paper.

Having analysed and considered the comments received, ComReg will publish a report on the consultation which will, *inter alia*, summarise the responses to the consultation.

Please note that ComReg will make available at its offices all submissions with the Response to Consultation, subject to confidentiality. ComReg appreciates that many of the issues raised in this paper may require respondents to provide confidential information if their comments are to be meaningful. Respondents are requested to identify clearly material that is considered to be confidential and, if possible, to include it in a separate annex to the response. Such information as is required by law not to be disclosed will be treated as such by ComReg.

Appendix – Consultation Questions

List of Questions

- Q. 1. Do you believe that the installed cost of a pole for an access network to be built in Ireland would lie within the range given above? Whether within or outside of this range, can you indicate precisely where you consider the cost lies? Please provide detailed information to support your view in any case..... 6
- Q. 2. Do you believe that the installed cost of a PCP cabinet for an access network to be built in Ireland would lie within the range given above? Whether within or outside of this range, can you indicate precisely where you consider the cost lies? Please provide detailed information to support your view in any case. 7
- Q. 3. What is your view on the appropriate costs and specifications for joint boxes in an access network to be built in Ireland? Please provide detailed information to support your view. 7
- Q. 4. Do you believe that the underground cabling costs for an access network to be built in Ireland would lie within the ranges given in Tables 1 and 2? Whether within or outside of this range, can you indicate precisely where you consider the costs lie? Please provide detailed information to support your view. 8
- Q. 5. What is an appropriate cost for termination of main network cables on an MDF? Please provide detailed information to support your view. 9
- Q. 6. What are the appropriate costs for pressurisation and monitoring facilities at MDF sites? Please provide detailed information to support your view. 9
- Q. 7. Do you believe that the overhead cabling costs for an access network to be built in Ireland would lie within the ranges given in Table 3? Whether within or outside of this range, can you indicate precisely where you consider the cost lies? Please provide detailed information to support your view. 10
- Q. 8. What is your view on joint box distribution within an access network to be built in Ireland? Please provide detailed information to support your view. ... 11
- Q. 9. Do you agree that route sharing between the main and distribution cabling in an access network in Ireland should be of the order of 90%? Please provide your reasoning and any supporting information..... 11